



# **MEGHALAYA**

## **STATE DEVELOPMENT REPORT**

**2008-2009**

**Planning Department**

**Government of Meghalaya**



# MEGHALAYA STATE DEVELOPMENT REPORT

**2008 - 2009**

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Government of Meghalaya

**HIS EXCELLENCY  
SHRI. R.S. MOOSHAHARY  
GOVERNOR OF MEGHALAYA.**




**May 8, 2009**

### **MESSAGE**

The State Development Report of Meghalaya, prepared by the Planning Department, Government of Meghalaya at the initiative taken by the Planning Commission, New Delhi is the first report of its kind for the State. It has emerged at a critical moment when Meghalaya requires rejuvenation of its energy and ideas, upgradation of the infrastructural and human resource base and expansion of capacities. The Report comprehensively focuses on the vision of the desired development outcomes while attempting an appraisal on the progress of implementation and achievement of the State.

It is my pleasure to acknowledge with great appreciation, the initiative taken by the Planning Commission in having State Development Reports of all States in the country. Such Reports tend to have a wider perspective and consistently stress on inter linkages of States in realization of development goals and thereby strengthen the cause of nation building.

The present effort achieves this objective admirably and I congratulate the Planning Department and the team of contributors for carrying out this exercise with commendable enthusiasm and devotion. This experience has encouraged us to move to the next phase of preparing "District Development Reports" in the spirit of involving people's participation in development at the grass roots level.

  
(R.S. MOOSHAHARY)

**Dr. D. D. LAPANG**  
*Chief Minister*  
**MEGHALAYA**



**May 13, 2009**

## **MESSAGE**

The State Development Report of Meghalaya, prepared by the Planning Department, Government of Meghalaya at the initiative of the Planning Commission, New Delhi is an in-house endeavour and has come at the appropriate time. It is the first report of its kind for the State for which all involved must be commended for their sincerity and dedication. The Report comprehensively provides an appraisal on the progress of implementation and achievement of the State as well as on the development issues of the State in a purposeful manner.

I hope that the Meghalaya State Development Report which has highlighted critical issues will help the State Government take a close look at the problems which have hindered the realization of optimum growth and socio-economic development of the State. The Report rightly underlines the urgent need for enhancing the State's growth rate to bring it at par with the national average. It also points out the emphasis required in addressing disparities.

The Report also provides a snapshot of people's aspirations and gives a road map which could be expanded and refined as the State's vision for future.

I congratulate the Planning Department, the Chief Co-ordinator and the Co-ordinator for carrying this mission with exemplary zeal. I look forward to Meghalaya attaining the high level of prosperity and human welfare which will follow in the wake of its realizing its true potential.

**(Dr. D.D. Lapang)**

**SHRI. RANJAN CHATTERJEE, IAS  
CHIEF SECRETARY,  
MEGHALAYA.**



**May 8, 2009**

## **MESSAGE**

The State Development Report of Meghalaya, prepared by the Planning Department, Government of Meghalaya at the behest of the Planning Commission, New Delhi is the first development report of the State reflecting an indicative status on development, infrastructure and socio-economic parameters. The Report is an attempt to set out the policy action that would be essential to achieve the desired goals.

The Meghalaya State Development Report has highlighted critical issues and recommendations for the State, which will help the State Government to design the road map towards optimum growth and overall socio-economic development in the State. The Report highlights the immediate need of improving the growth rate of the State and of bridging the gaps and disparities that exists in the State.

I congratulate the Planning Department, and in particular, Dr. Shreeranjana, IAS and Shri G. Mawrie for the painstaking and arduous efforts in finalization of the first ever State Development Report of Meghalaya. I am sure such a good beginning will further be improved upon when later reports compare the situation at regular intervals. It is sincerely hoped that deficiencies in development would be overcome by honest actions. I look forward to a better quality of life for the people of Meghalaya and dedicate this report to the cause of Development in the State.

  
(R.CHATTERJEE)

**SHRI. BARKOS WARJRI, IAS  
PRINCIPAL SECRETARY,  
PLANNING DEPARTMENT  
MEGHALAYA.**



**May 8, 2009**

## **FOREWORD**

In order to address the development concerns of the State Governments and to provide information on the current status of development and at the same time giving possible options, the Planning Commission decided to have State Development Reports prepared which would serve as credible documents to help set the agenda for planning, development and economic growth of States. This was aimed at fostering a sense of partnership between the Centre and the States and to jointly assess the development strategies with the presently available financial, human, and material resources. This exercise has also defined issues related to governance and policy options towards providing a better quality of life.

This Report is mainly an in-house effort of the Planning Department and other departments of the State Government. The Report is largely based on secondary resources, on received wisdom and on policy consultations/deliberations. It also reflects an observer's macro-view on the state of development and has expressed opinion in a frank manner. I commend Dr. Shreeranjana and Shri. G. Mawrie in particular and all the principal contributors for their collective effort on this Report.

I hope that the Meghalaya State Development Report, which has highlighted critical issues for the State, will not only encourage debate regarding the road map for the State but will also enable the State Government to take a closer look at the problems facing it and to work towards optimum growth and socio-economic development.

I look forward to Meghalaya attaining a higher level of prosperity, justice and human welfare, which will follow in the wake of it realizing its true potential. This being the first in-house effort, further comments on its improvement is welcomed.



(BARKOS WARJRI)

## Chief Co-ordinator and Editor's note



**Dr. Shreerajan, IAS**  
**Former-Commissioner & Secretary**  
**Government of Meghalaya**

Development is continuous and evolutionary process which aims at realising the full potential of individuals in the context of a society, region or country. It encompasses and denotes the range and diversity of social, economic, cultural, political and eco-spatial dimensions with particular reference to meaning systems, symbols, and beliefs concerning the ultimate meaning of life and history in the given context. In the pursuit of developmental goals, the social ingredients are measured as well-being in health, education, housing and employment etc; the economic component deals with creation of wealth and improved conditions of material life that are intertwined with equitable distribution and inclusive growth; the political dimension includes such values as human rights, political freedom, empowerment, and participation with some form of functional democracy and underlying commitment to ecological soundness and sustainability.

Problems in real life for the majority are the issues of food security and basic needs, of poverty mitigation, shelter, health, true education, which enables decent living conditions and livelihood options. For the vast majority of people in a rural setting, traditional way of life is far from a commercialised approach in which the hill specificity and ethnic way of life is intricately linked to the local environment and context.

Thus, the role of government remains central for policy and enabling space for its people to grow in harmony in society and with nature. However, in the democratic set up, there are informal and formal interactions among institutions, pressure groups and organisations forming an interactive and interesting matrix. Such a matrix at various levels contributes to or constraints the dynamics of development.

Profiling the Status of development through the format of State Development Report is aimed to indicate and understand the developmental efforts and direction of various sectors over the years. **The Meghalaya State Development Report** is a unique experiment of in-house and in-state resource persons with copious references from various secondary sources. The Report has also benefited from earlier efforts of the external agency which could not match expectations and from comments and suggestions of many

illustrious academicians and administrators. Any developmental profile is never perfect and complete as it may miss-out on macro-, micro-issues.

The Report is a collective effort to provide a credible independent quality reference document on the developmental profile, limitations, and strategies for accelerating the growth rate of the State with an aim to lessen disparities and reduce poverty. This SDR has also attempted to discuss the constraints and challenges faced by the State, provide a snapshot of vision, blueprint or a roadmap for its socio-economic progress. This effort, the first of its kind for the state, may be seen from the perspective of scope for improvement in future efforts.

Development efforts call for a continued analysis, understanding and a continued learning as well as for taking corrective steps. 'An intellectually alive, vibrant and vigilant society of which enlightened government machinery is a responsive and responsible part, can be an effective cushion to current developmental efforts and trends where the rich and more powerful in society is not allowed to reallocate and usurp the natural and other resources in their favour and where modern technology does not become a tool to sub-serve disparity promoting processes'.

We dedicate this to the people of the state and the country.

A handwritten signature in black ink, appearing to read 'Shreeranjana', written in a cursive style. The signature is positioned above a horizontal line.

(Shreeranjana)



# **ACKNOWLEDGEMENTS**

The Planning Commission decided to prepare “State Development Report” (SDR) in respect of Meghalaya during 2003-04 to focus on the status of development and desired outcomes to have a medium term perspective for the State. The Report was to define not merely inputs, physical or financial, but to set out the policy action that would be required to achieve the desired outcomes.

Initially, the task for preparation of the State Development Report for Meghalaya was entrusted to the TATA Consultancy Services (TCS) Ltd., New Delhi by the Planning Commission, Government of India. The active involvement of Former Chief Secretary, Shri P.J. Bazeley, IAS (Retd.) and Shri S.K. Tiwari, IAS (Retd.) and senior functionaries in Government as well as leadership such as Shri A.H. Scott Lyngdoh, (Late) Prof. B. Dutta Ray and several others in public life whose names have not been mentioned individually had contributed immensely in deliberations on draft reports. The meeting under the Chairmanship of the Chief Minister, Dr. D.D. Lapang after due consultation decided to make another attempt on improvement of the report. But their presentations of the facts and figures in the Draft SDR as well as the Revised Draft SDR during 2006 and 2007 respectively were not accepted by the State Government as it was not commensurate to the factual position of the State. The draft report of TCS was found to have glaring inadequacies and incorrect representation of facts and figures. Besides, the TCS showed lack of interest in improving the draft and carry it forward. In the compelling circumstances, the State Government in the Planning Department had to take upon itself the task of preparing the SDR in-house.

As such, a chapterised report was circulated during September, 2008 to a panel of experts and academicians for pre-review and for inputs and suggestions toward finalization of the SDR within November, 2008 as the target date. However, due to pre-occupations and other circumstances of the identified panel of experts and academicians, there have been unavoidable delays in receiving the Inputs and comments.

The Meghalaya State Development Report would have not come out in this final form without the constant encouragement of Shri Ranjan Chatterjee, IAS, Chief Secretary, Government of Meghalaya who has the best interest of development of the State in mind and heart. The constant guidance and involvement of Shri Barkos Warjri, IAS, Principal Secretary, Planning is gratefully acknowledged whose valuable insight and inputs were a great support in the finalization of the Report. In this task of finalizing the State Development Report, guidance, encouragement and support of Planning Commission especially the State Plan Adviser(NE), Smti. Jayati Chandra, IAS and Director, State Plan, Shri Sarvan Kumar has been praise worthy.

The painstaking efforts, keen interest, and devotion of Dr. Shreeranjana, IAS towards coordinating the finalization of the Report has been a reflection of exceptional qualities of leadership and coordination. He, being an acclaimed author and development administrator himself, has provided significant inputs to several chapters and has also edited the entire report. His contribution in the matter will always be remembered. Active support of Shri H.B. Dkhar, Secretary, Planning Department, Shri. Robert Lyngdoh, Research Officer, other Officers and Staffs of Planning Department also deserve special mention.

Academicians from the North Eastern Hill University (NEHU), Officials from various Departments concerned of the Government of Meghalaya, and others have provided useful comments and inputs in respect of different chapters. Their active cooperation in providing necessary data and information is gratefully acknowledged.

The Planning Department, Directorate of Programme Implementation & Evaluation and the Directorate of Economics & Statistics provided efficient logistic and content support, as well as information and statistical database involved in preparation of the report. The deliberations of the Meghalaya State Planning Board and presentations of several other Departments in the Think-Tank sessions has also been incorporated in the Report.



**G. Mawrie**  
**Coordinator**

**Meghalaya State Development Report, 2008-09**  
**& on behalf of the Planning Department,**  
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# **Meghalaya State Development Report, 2008-09**

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# ***Meghalaya State Development Report, 2008-09***

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## ABBREVIATIONS

ADCs	Autonomous District Councils
AIIMS	All India Institute of Medical Sciences
ANM	Auxiliary Nurse Midwife
APL	Above Poverty Line
ART	Anti Retroviral Treatment
ASHA	Accredited Social Health Activist
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BMI	Body Mass Index
BPL	Below the Poverty Line
BRGF	Backward Region Grant Fund
BSCs	Block Selection Committees
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CHCs	Community Health Centres
DES	Directorate of Economics and Statistics
DMC	Designated Microscopy Centres
DONER	Union Ministry of Development of North Eastern Region
DPC	District Planning Committees
DPDC	District Planning and Development Council
DRDAs	District Rural Development Agencies
FDAs	Forest Development Agencies
FRU	First Referral Unit
GDI	Gender related Development Index
GDP	Gross Domestic Product
GEI	Gender Equality Index
GEM	Gender Empowerment Measure
GKY	Ganga Kalyan Yojana
GNM	General Nursing and Midwifery
GSDP	Gross State Domestic Product
HD	Human Development
HDI	Human Development Index
HDRs	Human Development Reports
HPI	Human Poverty Index
IAY	Indira Awaas Yojana
ICT	Information & Communication Technology
IDSP	Integrated Disease Surveillance Project
IEC	Information Education and Communication
IFAD	International Fund for Agricultural Development
IIPS	International Institute for Population Sciences
IMCP	Intensified Malaria Control Project
IMR	Infant Mortality Rate
INGON	Impulse NGO Network

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ITBN	Insecticide Treatment of Bednets
JAT	Joint Appraisal Team
JFM	Joint Forest Management
JGSY	Jawahar Gram Samadhi Yojana
LCU	Leprosy Control Units
LHV	Lady Health Visitor
LMPs	Local Medical Practitioners
MACS	Meghalaya AIDS Control Society
MDT	Multi Drug Therapy
MLAs	Members of the Legislative Assembly
MLES	Meghalaya Leprosy Eradication Society
NACO	National AIDS Control Organisation
NAMP	National Anti Malaria Programme
NaRMG	Natural Resource Management Group
NEC	North Eastern Council
NEDFi	North Eastern Development Financial Corporation Ltd
NEHU	North Eastern Hill University
NEIGRIHMS	North East Indira Gandhi Regional Institute of Health and Medical Sciences
NERCORMP	North Eastern Region Community Resource Management Project
NESPYM	North East Society for the Promotion of Youth and Masses
NFHS	National Family Health Surveys
NGOs	Non-Governmental Organisations
NHDR	National Human Development Report
NIPFP	National Institute of Public Finance and Policy
NLCPR	Non Lapsable Central Pool of Resources
NLEP	National Leprosy Eradication Programmes
NORAD	Norwegian Agency for International Development
NPCB	National Programme for Control of Blindness
NPSP	National Polio Surveillance Project
NREGA	National Rural Employment Guarantee Act
NREGS	National Rural Employment Guarantee Scheme
NRHM	National Rural Health Mission
NSAP	National Social Assistance Programme
NSDP	Net State Domestic Product
NSSO	National Sample Survey Organization
PDS	Public Distribution System
PFA	Plan for Action
PHCs	Primary Health Centres
PMRY	Prime Minister Rozgar Yojana
PPP	Public Private Partnership
PQLI	Physical Quality of Life Index
PRA	Participatory Rural Approach
PRAM	Physician Responsible for AIDS Management
PWD	Public Works Department
RCH	Reproductive & Child Health

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RF	Reserved Forests
RIDF	Rural Infrastructure Development Fund
RNTCP	Revised National TB Control Programme
RPDCs	Regional Planning and Development Councils
SARDPNE	Special Accelerated Road Development Programme for the North East
SET	Survey Education Treatment Centres
SGSY	Swarna Jayanti Gram Swarozgar Yojana
SHGs	Self Help Groups
SITRA	Supply of Improved Toolkits to Rural Artisans
SMO	Surveillance Medical Officer
SOE	State of Environment Report
SPIP	State Project Implementation Plan
SRS	Sample Registration System Surveys
STCS	State TB Control Society
STD	Sexually Transmitted Disease
STEPW	Support to Training and Employment Programme for Women
THW	Temporary Hospitalisation Ward
TI	Targeted Intervention
TOT	Training of the Trainers
TPDS	Targeted Public Distribution System
TRYSEM	Training of Rural Youth for Self Employment
TU	TB Units
UHCs	Urban Health Centres
UIP	Universal Immunisation Programme
ULC	Urban Leprosy Centre
UNDP	United Nations Development Programme
VHAM	Voluntary Health Association of Meghalaya
VPDP	Village Participatory Development Planning
WHO	World Health Organization
WWH	Working Women's Hostel
ZBTC	Zonal Blood Testing Centre

# Glossary

**Birth Rate** during a year is the ratio of the number of live births in that year to the population of that year expressed per 1000 population. i.e.

$$\text{Birth Rate} = \frac{\text{Live Births}}{\text{Population}} \times 1000$$

Body Mass Index (BMI) is a measure of nutritional status. It is defined as weight in kilograms divided by height in metres (Kg/m<sup>2</sup>). A cut-off point of 18.5 is used to define thinness or acute undernutrition and a BMI of 25 or above indicates overweight or obesity.

Death Rate during a year is the ratio of the number of deaths in that year to the population of that year expressed per 1000 population. i.e.

$$\text{Death Rate} = \frac{\text{Deaths}}{\text{Population}} \times 1000$$

**Gender related Development Index (GDI)** is an adjustment of Human Development Index (HDI) for gender equity in health, educational attainment and income. It measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is the HDI adjusted downward for gender inequality.

**Gross Enrolment Ratio** refers to the ratio of the population (not taking into consideration the age factor) at particular levels of schooling to the population of children of the relevant age group.

**Human Development Index (HDI)** is a summary indicator of the level of achievement in human well-being. It measures achievements in the basic dimensions of human development – health, education and income. It is normalized to a scale of 0 to 1 where 1 implies that maximum human development is achieved as per the pre-defined norms and 0 implies no achievement at all.

**Infant Mortality Rate (IMR)** is the ratio of deaths of infants below one year to the total number of live births during the year expressed per 1000 live births.

**Labour Force** refers to the economically active population. It includes both the workers and the persons who seek or are available for work. The labour force participation rate is calculated by dividing the total labour force by the population and expressed as a percentage.

**Literacy Rate** in India is defined as the percentage of literates aged 7 years and above out of the total population aged 7 years and above.



**Maternal Mortality Rate (MM Rate)** is calculated by dividing the number of maternal deaths (deaths of women while pregnant or within 42 days of termination of pregnancy from any cause related to pregnancy and child birth) of women aged 15-49 years by the number of living women aged 15-49 years expressed per 1,00,000 women.

**Maternal Mortality Ratio (MMR)** is calculated by dividing the number of maternal deaths of women aged 15-49 years by the number of live births to women aged 15-49 years expressed per 1,00,000 live births.

**Natural Growth Rate** is the difference between the Birth Rate and the Death Rate.

**Net Enrolment Ratio** refers to the ratio of the population of the expected age group at specified level of schooling to the population of children of the relevant age group.

**Workforce** is the number of persons who are usually working. The work force participation rate is calculated by dividing the total number of workers by the population and expressed as a percentage.

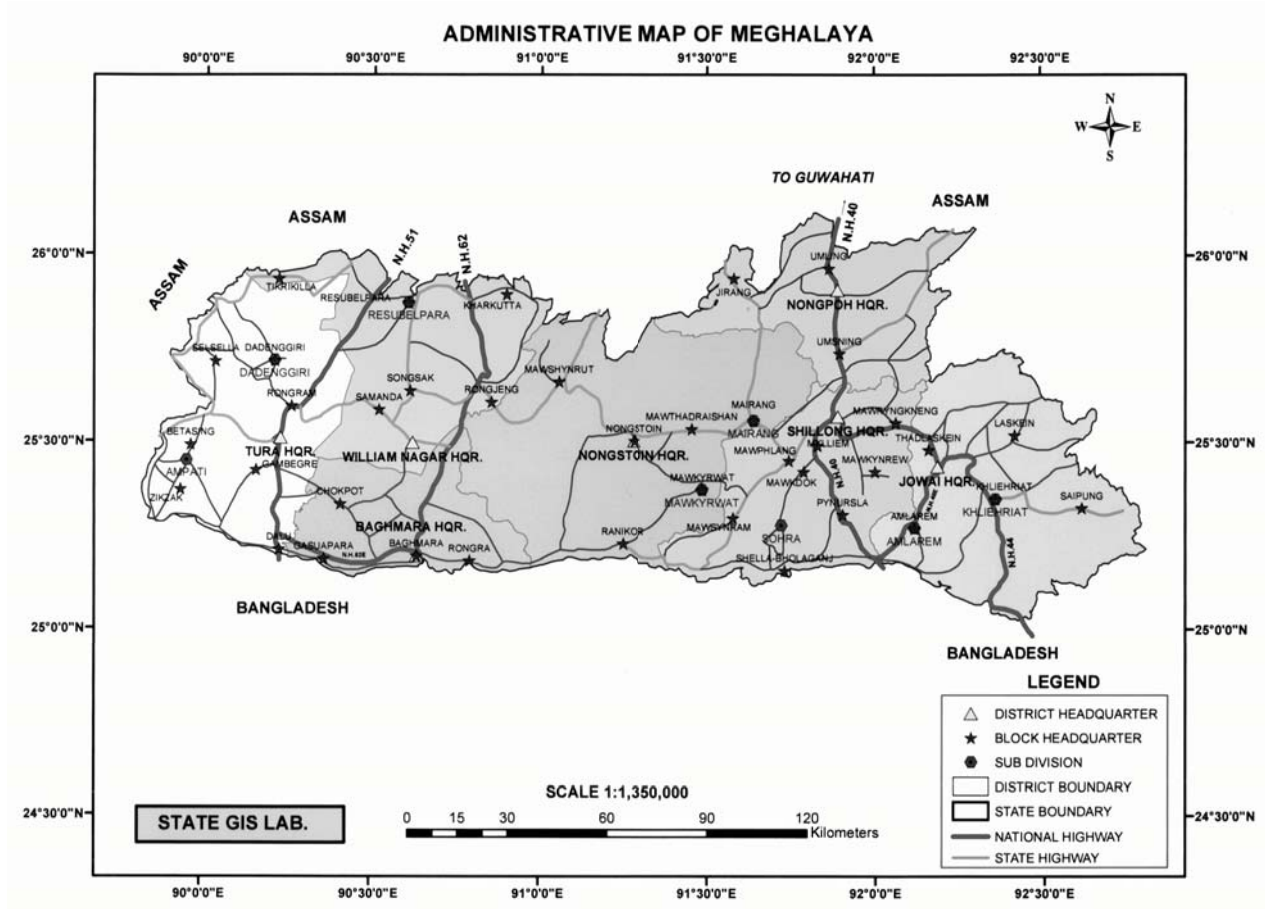
**Unemployment Rate** gives the proportion of the unutilized labour force. It is calculated by dividing the number of persons who are seeking or available for work by the total labour force and expressed as a percentage.

# **CHAPTER I**

## **INTRODUCTION**

## CHAPTER – I

### INTRODUCTION



#### Meghalaya: A Profile<sup>1</sup>

#### 1.1 GENERAL INFORMATION ON LOCATION, POPULATION, POLITICAL ADMINISTRATION AND ECONOMY

Meghalaya emerged as a full-fledged State within the Union of India on 21<sup>st</sup> January 1972. ‘Meghalaya’ (not an indigenous name) meaning ‘abode of clouds’ reflects the salubrity of its climate. The wettest places in the world are also located here. The state has an area of 22429 sq. km. and is located between 24<sup>o</sup>57’ North latitudes and 26<sup>o</sup>10’ North latitudes and 89<sup>o</sup>46’ and 92<sup>o</sup>53’ East longitudes. The temperature varies from 2 degrees Celsius to 35 degrees Celsius depending upon the altitude which varies in hills from 300 metres to 2000 metres above mean sea level. It has predominantly hilly terrain with foothills as plains and flood-prone areas.

<sup>1</sup> This section is adapted from Shreeranjana (2006), Chapter 2

It is bounded by the Brahmaputra valley of Assam in the North and Northwest and Cachar area of Assam in the East; the Surma valley (Bangladesh) borders it in the South and partly in the Southwest. Meghalaya has about 443 Kms. of international border with Bangladesh. The capital of Meghalaya, Shillong was also undivided Assam's capital from 1874 till January 1972. Shillong is located at an altitude of 1496 metres above mean sea level.

The State has a population of 2318822 as per the 2001 census of which 80.4 percent live in the rural areas. The overall population density of 103 (324 all India) per sq. km. has shown increase as against 15 per sq. km. in 1901. The sex ratio continuously declined from 1036 in 1901 to 937 in 1961. Since then it shows an upward trend and stands at 972 in 2001.

**Table 1.1 Administrative Districts in Meghalaya**

Name of the District	Head quarters	Area (sq. km.)	Population (2001 census)	Density of population per sq. km.	Sex ratio
Jaintia Hills	Jowai	3819	299108	78	996
East Khasi Hills	Shillong	2820	660923	241	981
Ri Bhoi	Nongpoh	2376	192790	79	941
West Khasi Hills	Nongstoin	5247	296049	56	968
East Garo Hills	Williamnagar	2603	250582	96	966
West Garo Hills	Tura	3715	518390	141	968
South Garo Hills	Baghmara	1849	100980	54	942
<b>Meghalaya</b>	<b>Shillong</b>	<b>22429</b>	<b>2318822</b>	<b>103</b>	<b>972</b>

Source: Census of India, 2001.

Principal languages are Khasi and Garo, with English as official language in the State. With originally two districts and three subdivisions only, the State has now 7 administrative districts (Table 1.1). Besides these, in order to bring administration closer to the people, it has now 8 Subdivisions and 39 Blocks (7 new Blocks have been created in 2002, one in each district).

The State has a unicameral legislature, consisting of 60 members (29 Khasi Hills, 7 Jaintia Hills and 24 Garo Hills). In addition, there are three Autonomous District Councils in the state, namely, Khasi Hills Autonomous District Council, Jaintia Hills Autonomous District Council and Garo Hills Autonomous District Council. These councils function in accordance with the provisions of the Sixth Schedule of the Constitution of India. These councils have executive, legislative and judiciary wings and are under the control of the Governor of the State. The Autonomous District Councils are democratic institutions which have powers to make laws mainly in respect of 1. land, other than reserved forests; 2. forests, other than reserved forests; 3. use of any land or water resources for agricultural purposes; 4. regulation

of Jhum or shifting cultivation; 5. town or village administration including village or town police, public health and sanitation; 6. appointment and succession of chiefs and their powers; 7. laws relating to inheritance of properties and their regulation; 8. marriage; 9. social customs, traditional practices and customary laws.

There has been a growing debate over the relevance of Autonomous District Councils, which were created as an institution to allow management of natural resources and to protect, reform and pursue customary practices, when there was no separate state for hill regions of Assam. Even with the creation of a full-fledged State, the district council continues to function as a constitutional entity and, for quite some time, has been treated as a State within the State. Though it might have served the initial purpose, in respect of management of resources and codifying the customary laws, particularly in the wake of fast changes society is encountering, its record of accomplishment has given rise to certain misgivings in most quarters. However, it does provide a platform of political training in the State. With the Panchayati Raj Act brought in as another constitutional safeguard, and with devolution of power to the grassroots, an opportunity awaits to evolve a mechanism for correcting the imbalances in the power structure by incorporating mechanisms for more effective decentralization of duties and responsibilities as also for participation in policies and programmes.

Shillong has a bench of the High Court. The North Eastern Council (NEC) serving under the Union Ministry of Development of North Eastern Region (DONER), Government of India coordinates and accommodates infrastructure and production based schemes of intra-regional and inter-state interests. There is an earmarking of 10 percent of the budgetary allocation of sectors in GOI for expenditure in NER. Shortfall on this count forms the Non Lapsable Central Pool of Resources (NLCPR) for high value projects of infrastructure and social development for the states in the region. NLCPR is coordinated by the ministry of DONER. Several Central Government, Military, Para-Military establishments are also located in the State.

The population of Meghalaya is predominantly tribal. The main tribes are Khasis, Jaintias and Garos, besides other plain tribes such as Koch, Rabhas, and Bodos, etc. The Khasis, (the Khyntiams, Jaintias, the Bhois, the Wars sometimes are called the Hynniewtrep as a group) predominantly inhabit the districts towards Eastern part of Meghalaya, belong to the Proto Austroloid Monkhmer race and have been indigenous in these hills for a long time. The western part of the State, the Garo Hills, is predominantly inhabited by the Garos. The Garos belong to the Bodo family of the Tibeto-Burman race. They are also an indigenous population, said to have migrated from Tibet in its racial dispersal. The Garos are also called 'A-chiks'. Garo and Khasi societies have a matrilineal system prevailing.

81 percent of the population of the State live in rural areas and are largely dependent on agriculture for livelihood. The State has a total of 5782 inhabited villages (2001 census). Its population growth during the last decade (1981-1991) showed an increase of 31.80 percent. During 1991-2001 the annual growth of population is 2.29 percent against national rate of 2.14 percent. However, decadal variation in population of the State reveals an increase in the post-independence era which could be owing to a multiplicity of factors including influx, better health facility and reduction in mortality, etc.

The state has rich natural resources including diverse, dense, endemic, and cultivated exotic flora, ranging from tropical and sub-tropical to temperate or near-temperate kind, sustained by heavy and long rains. Dense Forest cover is about 42 percent of the total area; however, much of it is private forest managed and controlled by the District Council. The State Government controls only the area under the reserved forest, which is about 4 percent of the forest areas. There have been reports of large felling of trees in the 80s and 90s leading to consequential problems of livelihood and environmental degradation with consequential fall out on natural conservation. Currently, under the directions of the Supreme Court of India, felling and movement of timber is restricted to the extent of fulfillment of certain conditions. The State also has rich mineral resources; much of it is exploited unscientifically as most of it is under private ownership.

The State receives the heaviest rainfall (varies from 2300mm to more than 14000mm; average annual rainfall is 12000mm) and has vast potential for exploiting water resources for irrigation, hydropower and fisheries; but its efforts in this direction have been inadequate and at best, can be regarded as moderate. Scientific exploitation of natural resources will require detailed resource inventory and heavy initial investments. Responses in this direction from Government have not been adequate to provide stimulus for the growth and development of the State. The State could not attract investment from outside as there is lack of conducive environment and a balanced approach towards the investment from outside the region, due to the historical and perceived reasons of fear, exploitation. Besides rational protectionism mixed with in various potential areas of development are needed.

Though there has been some improvement over the years, the State has a long way to go in respect of basic services to improve health, education and economy, when judged by the parameters of the Human Development Index and other socio-economic indicators. Among the States and UTs in the country, Meghalaya ranked 22<sup>nd</sup> in Human Development Index (HDI) in 2001, 21<sup>st</sup> in Index of social and economic infrastructure, 16<sup>th</sup> in per capita consumption of electricity, 25<sup>th</sup> in road density, 30<sup>th</sup> in per capita utilization of credit, 19<sup>th</sup> in per capita income, 13<sup>th</sup> in Infant Mortality Rate and 24<sup>th</sup> in Literacy Rate.

As such, the State has to take appropriate steps to improve its position in all sectors. It is also ironical that motor vehicles per thousand population in the state is 40, whereas primary school per thousand is only 3 and hospital beds per lakh population is 137. Besides, there is astonishing disparity in rural and urban area parameters.

### **1.2 SOME UNIQUE SOCIO ECONOMIC FEATURES OF THE NORTH EASTERN REGION AND OF MEGHALAYA**

In a region so diverse, yet interrelated in its characteristics, it will be dangerous to make generalizations. However, basic features of the region can be briefly mentioned as below to get some perspectives on issues that apply to the region in general, and Meghalaya in particular.

1) **Diversity in geological, physiographic, agro-ecological and climatic variations:** The region has six agro-climatic sub-zones (5 sub-zones in Meghalaya). Contrasting variations exist, for example in Khasi and Jaintia hills on one hand and Garo hills areas on the other in most of these respects.

2) **Abundant water resources:** The region has abundance of water resources, the potential is not fully harnessed for hydro-power, fishery, ecotourism, adventure tourism and cave tourism. In Meghalaya, heaviest rainfall needs to be utilized for harvesting and recharging its aquifers. Its perennial streams and swollen rivers are strong water resources begging for potential tapping. Its total ground water potential of 1226.44 million cubic meter (MCM) provide only 1041.99MCM as utilizable for irrigation and at around 3000 MW of which only 185.2 MW has been tapped so far.

3) **Abode of Bio-Diversity:** The NE region contains about 20-25 percent of the forest cover of the country; and is the richest for bio-diversity. It is an ecological 'hot spot'-with 51 types of forest, 35 endemic plant genera, 2500 flowering plant species, 600 varieties of orchids out of 1500 present in India; also, out of the 500 different species of mammals known in India at least 160 are from the region while around 65 percent of mammalian genera recorded in India, are found in the region (IFAD, 1995). The State of Meghalaya is home to nearly 300 orchid varieties. The State also boasts of 450 species of birds and 110 species of mammals. The State also claims to be the abode of 700 odd varieties of medicinal plants. In Meghalaya, 40 endemic species out of 115 plant species from 67 families are threatened with extinction; and 6 species are endangered; 30 types of orchids are currently threatened with extinction; and 6 species are endangered; 30 types of orchids are currently threatened (IFAD, 1995).The State is home to some of the rare varieties of paddy, banana, and citrus plants, and is a storehouse of diverse germ-plasm reserve.

4) **A predominantly agricultural economy with 80 percent population dependent on it and only about 11 percent of the land area being under cultivation.** The broad pattern of rainfall varies from 2200 mm-14500 mm with varied temperature range of 2°C to 38°C.The low consumption of fertilizer (NPK 27:12:1 as against 4:2:1) could become its strength by promoting organic and natural farming if well packaged and practiced. Besides agriculture, the allied activities of fishery, livestock, piggery, poultry, and sericulture has immense potential strength. The region has good tradition of handicrafts and weaving.

5) **Rich in mineral resources:** The State is rich in coal, limestone, clay and kaolin, uranium and silimanite, besides phospherite, glass sand, granite, quartz and feldspar. The estimated reserve of coal and limestone is 640 million tones and 5000 million tones respectively. The production of coal in 2003-04 was about 5.4 million tones of which 0.88 million tones were exported to Bangladesh; production of limestone in the same year was 0.72 million tones of which 0.18 million tones were exported to Bangladesh. These figures may be a conservative estimate (at least by 50 percent) owing to revenue leakages/implications and underhand play in the sector including the transport business involved in the sector.

6) The region has 98 percent of its borders as international boundaries with China, Bhutan, Bangladesh, Myanmar (IFAD, 1995). Hence, its sensitivities and vulnerability to external forces for the security and integrity of the country is understandable. Meghalaya has a long and extremely porous borders with Bangladesh and is used by forces inimical to the country and region as transit routes.

7) A mosaic of ethnic and cultural diversity presents a social landscape of Aryans, Dravidians, Indo-Burmese, Indo-Tibetan, Proto-Austroloid and other stocks. In NEER, there are 217 recognizable tribes, more than 100 with significant population (IFAD, 1995). There are more than 75 major population groups and subgroups speaking approximately 400 language and dialects (Madhav, 1998). Meghalaya has small percentages of about 5% of other tribes and communities such as Koch, Rabhas, Hajong, Baites, Lalungs, etc.

8) A high population growth mainly due to influx across the southern boundaries (also natural) straining demographic and social texture, and causing 'fear of losing identity' (Madhav, 1998) and livelihood among a considerable section of the indigenous/local populace.

9) Traditional trade linkage in the pre-independence era with East (Myanmar) and South (present day Bangladesh) and its severance subsequently has generated a demand and need to have access through Bangladesh to Calcutta and other ports and the opening of border trade with neighboring countries.

10) The way of life and society is rooted in a traditional and customary approach in the hills. Traditional land tenure systems prevail without elaborate documentation and survey in hills and in Meghalaya. System of Matrilineal society is prevalent among the Meghalaya's chief tribes.

11) Feeling of isolation and alienation has persuaded the psyche owing to the British policies and subsequent political interests and owing to slow pace of developmental efforts.

12) Sparse population in hills and poor basic infrastructure, hill area specificities of isolation, marginality, ecological and ethnological vulnerability, and heterogeneity of socio-economic factors becomes ground realities.

13) A rapid spread of Christianity, particularly among tribal communities in the hills.

14) Active youth movement; and a disturbed law and order situation. Mizoram and Meghalaya, however, are relatively peaceful.

### **1.3. PERCEIVED PROBLEMS BY PEOPLE IN THE REGION/STATE**

It may be desirable to appreciate and enlist what people, mostly educated and opinion makers articulate as the difficulties and problems faced by the populace in the region.

- Psychological (perhaps real) fear of losing identity due to influx and immigration;
- Disruption of law and order; insurgency, vicious circle of economic stagnation and breeding of violence; realization of futility of an armed terrorist struggle and necessity of



- stable and secured environment is gaining ground to some extent and in some areas;
- Lack of an integrated vision for progress and development;
  - Severance of its natural markets across eastern and southern, and to some extent, northern borders; the region was uniquely disadvantaged by partition;
  - Necessity to restructure the institutional arrangements and infrastructures associated with the policy-making decisions in the NER;
  - Primitive agricultural economy, shifting cultivation in hills, low productivity and lack of market linkages. 'The productive sectors like agriculture is showing a negative trend' (Madhav, 1998) in the region;
  - Absence of genuine and fruitful productive exercise – a condition of inaction or slow action or absence or work culture;
  - Development agenda not in terms of social structure; lack of genuine participation in planning, policy and decision making; the linkages of people's institutions with governance has been weak to adversarial, lack of meaningful relationships;
  - Lack of proper understanding of the society, culture and polity, and within that structure the problem of evolving location specific responses; and
  - Absence of resources-management perspective for ecological security and sustainable development.
  - Absence or dysfunction of tertiary level institutions such as district councils, panchayats, village council and reluctance of states to share resources and functions has created disillusionment in the NER (Madhav, 1998).
  - Faulty formulation and implementation of plans and programmes; sick public sector undertakings owing to mismanagement; absence of basic requirements, despite heavy assistance from the center, including justice; and 'pervasive corruption' (Madhav, 1998) are problems frequently mentioned seeking redressal.

### 1.4 PROBLEMS: OTHER ADDED DIMENSIONS IN MEGHALAYA

- ❖ The issues and the process of accommodation and consensus of diverse interest groups: such as absence of consensus on resource management and required approach towards land, forest and water management including desirable reforms in these areas for people centered and progress oriented policies.
- ❖ An environment of cautious approach of governance which may mean inaction, or slow-action; or weighed action, sometimes vested or interested action or even inaction.
- ❖ Non-institutional consultations, mainly personality-based consultations resulting in mushrooming of floating organisations and assertions, each trying to outdo or overdo others; alienation of traditional systems from decision making and governance.
- ❖ Inadequate focus on development and poor community participation.
- ❖ Barring a few recently evolved NGOs there is a dearth of experienced and capable developmental NGO in the state. Poor organizational capacities of NGO sector including traditional organizations.
- ❖ Absence of effective programmes to channel the energies of youth, towards adventuresome but socially fruitful political, academic and economic pursuits.

- ❖ Dilemmas of development: ‘assimilation versus assertion’. “The old ways have been smashed; the new ways are not viable. People are caught in the deadlock of development.....they are expatriates in their own country.....forced to get by in the no man’s land between tradition and modernity” (Sachs, 1992).
- ❖ Tokenism in development reflected by
  - o Absence of location specific solutions in view of diversity and lack of involvement of people for mutual learning;
  - o Mostly inappropriate techniques and technology;
  - o Inadequate investment both by government and private organizations or in joint sectors;
  - o Poor extension support and backward and forward linkages in developmental sectors;
  - o Centralized planning; and lack of meaningful experimentation; initiating non adapted programmes, slow to lack lustre implementation, and abandoning programmes without meaningful impact studies (IRDP), pervasive adhocism.
  - o Institutional failures or inadequacy of safeguards for indigenous people.
  - o ‘Blaming attitude’ and ‘lack of commitment’ to serve the people in indigenous middle class and elite.
  - o New economic activities, marginalization of rural populace; spread of more western-consumerist life style and aspirations, increasing competitions and usurpation of resources and opportunities.
  - o Lack of reforms and efforts to revise traditional laws for changing with times. For example, in view of matrilineal system the status of male child and inheritance rights becomes a ticklish issue of identity, etc. in Meghalaya. On the other hand, democratic full participation of women in decision making in family and affairs of village remains a challenging task. Further, land reforms, ceiling, individual and farming rights, etc. have hardly been attended to for a meaningful resolution.
  - o Emergence of an exploitative and pervasive culture; intermediaries in power and market centres; quick money culture and extortion.
  - o Lack of effective decentralization and empowerment efforts.

## **1.5 Trends in Population Growth**

Meghalaya is predominantly a tribal state and a majority of its population resides in villages. Most of these villages are very small and widely scattered. As per 2001 census, the State had a population of 2.31 million, which was about 0.2% of the country’s total population at that time. The population density is 103 persons per square kilometre. Nearly 80.4% of the State’s population is rural whereas the remaining 19.6% is urban. The tribal population of the State is about 85.5%.

An analysis of the population trends in Meghalaya indicates that the decadal growth rate of population has been gradually increasing since 1951. Furthermore, the growth in Meghalaya has been higher the national average since 1961. The highest growth rate (32.86%) was exhibited during 1991. Due to the increase in population, the density of population has gone up in Meghalaya from 15 persons per square kilometre in 1901 to 103 in 2001.

## MEGHALAYA STATE DEVELOPMENT REPORT

Year	Male	Female	Total		Decadal Variation	
			Meghalaya	India	Meghalaya	India
1901	167,256	173,268	340,524	238,396,327	-	-
1911	195,706	198,299	394,005	NA	15.71%	-
1921	211,216	211,187	422,403	251,321,213	7.21%	-
1931	243,993	236,844	480,837	278,977,238	13.83%	11.00%
1941	282,666	273,154	555,820	318,660,580	15.59%	14.22%
1951	310,706	294,968	605,674	361,088,090	8.97%	13.31%
1961	397,288	372,092	769,380	439,234,771	27.03%	21.64%
1971	520,967	490,732	1,011,699	548,159,652	31.50%	24.80%
1981	683,710	652,109	1,335,819	683,329,097	32.04%	24.66%
1991	907,687	867,091	1,774,778	846,387,888	32.86%	23.86%
2001	1,176,087	1,142,735	2,306,069	1,028,830,774	29.94%	21.56%

Source: Statistical Abstract India 2003

**Table 1.2: Trends in Population Growth in Meghalaya**

### 1.6 DEVELOPMENT STATUS:

**1.6.1. Growth Rate:** Meghalaya's growth rate during the 10th Plan at constant 1993-94 prices has been estimated at 5.86 percent with growth of 3.09 percent, 7.90 percent and 6.15 percent in agriculture, industry and services respectively. The growth target of Gross State Domestic Product (GSDP) in the case of Meghalaya is projected at 7.3 percent with Agricultural growth rate at 4.7 percent. The growth rate in respect of Industry and Services are projected at 8.00 percent and 7.9 percent respectively for Meghalaya.

**1.6.2. Socio – economic indicators :** The gross cropped area and the net area sown as in 2004-05 was 2.65 lakh hectares and 2.19 lakh hectares respectively, of which the area sown more than once is only 0.46 lakh hectares. The net irrigated area (2002-03) stands at 59,000 hectares. The total area of wastelands in the State is 3.41 lakh hectares which constitutes 15.21 percent of the total geographical area of the State. The food grain and horticulture productions in the State during 2006-07 were 2.70 lakh M.T. and 3.97 lakh M.T. respectively. The State also produces three varieties of silk – eri, muga and mulberry. The average production over the last five years of cocoons is 260 M.T. of eri and 335 M.T. of muga while the 5-year average of yarn production is 2 M.T. of eri and 90 M.T. of muga. However, between 60 to 70 percent of the cocoons produced are transferred to Assam for conversion. As on 31-03-2008, 3428 villages have been electrified constituting about 60 percent of the total number of villages in the State. The per capita consumption of electricity (2005-06) is 317.77 kwh. The birth rate and death rate in 2005 was 25.1 and 7.5 per thousand respectively while the infant mortality rate was 49 per thousand. The Maternal Mortality Rate is 450 per lakh population and the Total Fertility Rate is 2.1. As in 2005-06, there were 568 doctors, 1232 nurses, 188 pharmacists, 687 ANMs and 172 lab technicians. There were 3166 beds (2004-05) available for medical care and the bed-patient ratio was 1:730. There are 4 primary health care centres per lakh of population. The literacy rate of Meghalaya as per 2001 census was 62.6 percent (male 65.4 percent and female 59.6 percent). The literacy rates for rural and urban areas are 56.3 and 86.3 percent respectively. As of 2005-06, there were 3 primary schools per thousand population, 8 middle schools per ten thousand population and 28 high and higher secondary

schools per lakh of population. The teacher-pupil ratio stands at one teacher for every 34 students at the primary school level, 24 for middle school level and 25 for high/ higher secondary school level. There are 16 urban centres in the State with a population of 4.54 lakhs constituting over 19 percent of the State's population. The decadal growth rate of urban population is 37.59 percent as against the State's decadal population growth of 30.65 percent. Urban poor constitutes about 22 percent of the total urban population. Out of the total habitation of 9236 in the State, 4192 habitations have been fully covered constituting about 45 percent.

**1.6.3. Poverty Scenario:** According to the estimate of Planning Commission, the population Below Poverty Line (BPL) during 2004-05 is 27.80% in the case of India. However, the household survey conducted by the State Government in 2002 finds that 48.9 % of the households in Meghalaya are Below Poverty Line families. Measurement of poverty critically depends on the poverty line and proper survey and there is need for appointing a panel of experts to devise a proper methodology to define and determine the poverty line for Meghalaya. The National Institute of Rural Development (NIRD), Guwahati has attempted to conduct a study to find out the root cause of poverty and to suggest solutions to this problem.

The major reasons for prevalence of poverty in Meghalaya are :-

(i) The operational land holding in Meghalaya is pre-dominantly small and marginal farmers with an area of below 2 hectares. Stagnation of agricultural production, soil erosion and lack of new economic opportunities are deterrent factors that caused rural poor farmer in the State to languish in poverty.

(ii) Rural areas in Meghalaya are characterized by limited opportunities, low level of skill development, poor infrastructure, etc. There are also wide rural-urban disparities in terms of level of human development opportunities as viewed from access to amenities and other social services.

(iii) Major reasons contributing to poverty in the North East appears to be ignorance, inadequate core infrastructure, inadequate market openings, over dependence on agriculture, lack of skills, etc., which makes them apprehensive to face the challenges that emerge in the new economy.

## 1.7. SUMMING UP

The brief profile of Meghalaya discussed in the foregoing subsections serves as a background against which we evaluate achievements in aspects of development. The subsequent chapters of this Report portray the picture of the level of development in the state. The features and problems outlined above are a snapshot for quest of development. Meghalaya yearns to find a place amongst developed states and achieve its potential. The rich natural resource and human endowment of the state craves for fuller and meaningful expression. Therefore, the challenge ahead is to harness the resources to the full potential and more importantly, to bring the fruits of development to the people, especially the poor and the less privileged.

## A VIEW OF SHILLONG





**LANDSCAPE OF  
CHERRAPUNJEE**



**AQUATIC ART  
ON LIMESTONE**



**TERRAIN OF KHASI HILLS**



**TURA PEAK**



**CANE SUSPENSION BRIDGE OVER SIMSANG RIVER**



# CHAPTER II

## A HISTORICAL PERSPECTIVE

## CHAPTER – II

### A HISTORICAL PERSPECTIVE

The Present day Meghalaya is geographically the outcome of Khasi & Jaintia Hills District, Khasi States and Garo Hills inhabited predominantly by the Khasi, the Jaintia and the Garo ethnic groups. It was part of Tribal areas defined under the Sixth Schedule of erstwhile Assam.

#### 2.1. Historical Backdrop <sup>1</sup>

##### (a) Khasi & Jaintia

The ancestors of the present day Khasis were perhaps one of the immigrant tribes. Their physical features indicate they are Mongoloids. However their eyes do not possess the typical Mongoloid fold of the eyelid suggesting that they were admixture of other racial stocks. Perhaps, somewhere in the prehistoric period, the original Proto-Australoids of South-East Asia were admixture with the Mongoloid immigrants from the Western and South China. Khasi megaliths, stone tools, betel-nut chewing habit and the importance they attach to betel-leaf and betel-nut are also indicative of their Proto-Australoid admixture. Their hoes, stone implements, besides, their language give strong indication of their immigration to the present site from South-East Asia. Their language, which is a variation of Mon-Khmer' dialects, is considered a branch of Austric languages. Austric languages are spoken in India by the Mundas, Santhals, Hos etc. The name of the Khasi language group, 'Mon-Khmer' is derived from the 'Mons' of South Burma and South-West Thailand, and the 'Khmer' of Cambodia. 'Mon-Khmer' languages include Khasi, Nicobarese, Palaung and Was in Burma and, Sakai and Samang in Malaya.

It is possible that the Khasis settled in the Khasi and Jaintia Hills coming from the South-East Asia *via* Burma or straight from Burma. In Manipur also, Khasi Megaliths etc. were found. Some ethnologists believe that Manipur was on the route of the immigrant Khasis from Burma. In the absence of radiocarbon dating, nothing can be said of the historical period to which these stone evidences relate.

Alternatively, they interbred with the Pro-Australoids in Assam or more probably in the hills of their present residence. In the absence of conclusive ethnological, anthropological, linguistic

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<sup>1</sup> Meghalaya-Land and People (1991)

evidences and scientific analysis of archaeological finds nothing can be told for certain whether the Khasis were autochthons or immigrants. Their legends indicate both the possibilities. They were in Greater Assam at least prior to Ahoms and Tais as also long before the Aryan infiltration in Assam in the 4<sup>th</sup> Century A.D. The names of the rivers, peaks and other landmarks invariably bear Khasi names. Monoliths and Cromlechs found at Noakhali, Demoria, Sonapur, Beltola, Rani-gudam, Palasbari etc. in the Assam Valley are said to be evidences of Khasi colonization.

The Khasis seem to have possessed a fairly advanced material culture since ancient times, perhaps even before the 4<sup>th</sup> Century A.D. They knew agriculture, metal works, weaving, and pottery. This is obvious from the indigenous original Khasi words, such as nar (iron), rynnong (brass), ksiar (gold), tyrnem (Hammer), mohkhiew (hoe), wait (dao), sum (spear), ryntieh (bow), khnam (Arrow), shalyntem (wheel), jain (cloth), kynphad (cotton), ing (house), jingkhong (door), jingsop (roof), lyntang (plank), shang (basket), pdung (winnowing tray), kria kynruh (sieve), thiar (granary), thied (to buy), die (to sell), iew (market), etc. Except horse, which was brought to India by the Aryans, they had all the domestic animals of South East Asia.

#### **(b) The Garos**

According to a Garo legend which is remembered even today, they came to their present home in the Garo Hills directly from Tibet in the pre-historic past. Their legendary heroes, Japa Jalinpa and Sukpa Bongipa led their ancestors in this long march. After crossing the Brahmaputra they moved to the Assam Valley. There they were resisted by the king of that region, but with the help of a prince who married a Garo maiden they could survive and stay there. The prince, however, subsequently for some reasons, turned against the Garos. Then the Garos had to leave the place and move to a place in the Kamrup District. Some settled there and others went to the southern hills. Till this day, the Garos believe Tibet was their original home.

There is, of course, a good deal of resemblance of the Garo language with the language of the Tibetans. Like the Tibetans, the Garos revere the 'gong'. They also attach great value to the Yak's tail. In fact, the Garos have their own word for the Yak, which is 'Matchik' or Tibotni matchu, that is 'Tibetan cow'. The Yak is not found in the Garo Hills or in any other part of Greater Assam. However their physical features bear little resemblance to the Tibetans. Their religions, beliefs, customs, birth, marriage and funeral practices greatly differ from those of the Tibetans.

In the pre-historic times, there was a great influx to Burma through Assam from Western China *via* Tibet. Perhaps the ancestors of Garos were in that conglomeration. Then in about 400 A.D. or still earlier, they had to leave the Irrawady and Chindwin Valleys in Burma for Assam, being driven out by some stronger tribes.

**2.2 Prelude to the State<sup>2</sup>** : The British Cabinet Mission, which visited India prior to Independence, advocated the constitution of an Advisory Committee for matters pertaining to the administration

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<sup>2</sup> Meghalaya-Land and People (1991)

of the tribal areas of the country. In appreciation of the recommendations and in consideration of the aspirations of the tribal people, the Constituent Assembly of India resolved on 24<sup>th</sup> January, 1947, to constitute an Advisory Committee. This Advisory Committee subsequently formed a Sub-Committee for the North Eastern Frontier (Assam) Tribal and Excluded Areas. The Sub-Committee submitted its report to Sardar Vallabhbhai Patel, Chairman of the Advisory Committee envisaging a scheme for incorporating the *Sixth Schedule* to the Constitution providing for Autonomous District Councils for the hills areas of Assam. The proposals were carried by the Constituent Assembly following prolonged debate amidst considerable opposition. Thus followed the birth of the Autonomous District Councils in the districts of Garo Hills, Khasi & Jaintia Hills, Mikir Hills, North Cachar Hills and Lushai Hills of the then composite State of Assam.

Prior to the Constitution came into force there were 25 Khasi States, which were under the Syiems and acceded to the Domain of India individually between 1947 and 1948 immediately before the commencement of the Constitution of India by instrument of accession signed by the Syiems of the Khasi States and the then Governor General of India late C. Rajagopalachari.

The part of Tribal areas as per Sub-para 2 of para 20 of the Sixth Schedule to the Constitution of India that comprises the territories of Meghalaya are United Khasi and Jaintia Hills District and the Khasi States and also the Garo Hills. Further, The Parliament by Act No.55 of 1969 enacted The Assam Re-organisation (Meghalaya) Act, 1969 to provide for the formation within the State of Assam an Autonomous State to be known as Meghalaya. The said Act came into force with effect from 12<sup>th</sup> January, 1970. Section 3 of the said Act provides (1) on and from the appointed day, there shall be formed within the State of Assam an Autonomous State to be known as Meghalaya which shall subject to the provisions of Sub-Section(2) comprise the following tribal areas namely:

(i) The United Khasi-Jaintia Hills District as described in Sub-Paragraph (2) of paragraph 20 of the Sixth Schedule to the Constitution (exclusive of the proviso thereto) but excluding the areas transferred to the Mikir Hills autonomous district by the notification of the Government of Assam No.TAD/R/31/50/149, dated the 13<sup>th</sup> April, 1951 and Section 3 of the Assam Reorganisation (Meghalaya) Act, 1969 (The Act No.55 of 1969) provides formation of the Autonomous State of Meghalaya. As per section 3, the Meghalaya Autonomous State shall comprise the tribal areas namely the United Khasi –Jaintia Hills District as described in sub-paragraph 2 of para 20 to the sixth schedule is unambiguous and the United Khasi-Jaintia Hills District was stated to comprise Khasi States as well as Khasi Jaintia Hills District. The Autonomous State of Meghalaya as per Act No.55 of 1969 formed consisting of Khasi and Jaintia Hills District as well as Khasi States and the Garo Hills District.

(ii) The Parliament by Act No.81 of 1971 enacted the North Eastern Areas (Re-Organisation) Act, 1971 to provide for establishment of States of Meghalaya etc., by reorganisation of the

existing State of Assam. The said Act came into force with effect from 31<sup>st</sup> December, 1971. Section 5 of the said Act provides for formation of the State of Meghalaya and reads as under. On and from the appointed day there shall be formed a new State to be known as the State of Meghalaya, comprising-

- (a) The territories which immediately before that day were comprised in the Autonomous State of Meghalaya formed under Section 3 of the Assam Reorganisation (Meghalaya) Act, 1969 (55 of 1969) and
- (b) So much of the territories comprised within the Cantonment and Municipality of Shillong as did not formed part of the Autonomous State and thereupon the said territories shall cease to form part of the existing State of Assam

Section 9 of the said Act amended the first schedule to the Constitution of India and provides for territories of the State of Meghalaya as specified in Section 5 of the Act No.81 of 1971. As per section 5 of the said Act after the formation of the State of Meghalaya pursuant to the formation of the Autonomous State of Meghalaya comprising the area as specified in sub-para 2 of para 20 of the Sixth Schedule, Act No 55 of 1969 the said territories shall cease to form part of the existing Assam.

As per the constitutional provisions as well as the Act No.55 of 1969 and Act No.81 of 1971 State of Meghalaya comprises the erstwhile twenty five States as well as United Khasi and Jaintia Hills Districts and the territories shall cease to form part of the existing State of Assam.

Two years after the formation of the Autonomous District Councils, the hill people felt that the provisions of the Sixth Schedule were not adequate to meet their aspirations and desire to manage their own affairs and to safeguard their interests. During 1954 the leaders of the Autonomous District Councils of the Lushai Hills, the North Cachar Hills, Mikir Hills, the Garo Hills and the United Khasi Jaintia Hills, in their conference at Shillong raised the demand for a separate Hill State. In the general elections of 1957, the demand for a separate State for the Hills area of Assam became the major issue under the banner of the Eastern India Tribal Union.

On 24<sup>th</sup> December, 1969, the Meghalaya Autonomous State Bill was passed by both Houses of Parliament, on the same day. The Autonomous State of Meghalaya within Assam was inaugurated by the Prime Minister, Shrimati Indira Gandhi at Shillong 2<sup>nd</sup> April, 1970. It was, however, soon found that the functioning of an autonomous State within Assam was not workable. The Meghalaya Legislative Assembly after long drawn deliberation demanded full statehood. Thirteen years later this dream was met. On 10<sup>th</sup> November, 1970, Prime Minister, Shrimati Indira Gandhi made a historic statement in Parliament announcing that the Autonomous State of Meghalaya would be raised to a full State. Parliament passed the North Eastern Areas (Re-organisation) Act, conferring full statehood on Meghalaya on 30th December, 1971.

### 2.2.1 Birth of a State

Prime Minister, Shrimati Indira Gandhi inaugurated the full State of Meghalaya on 21<sup>st</sup> January, 1972 at Polo Ground, Shillong, thus fulfilling the long cherished political aspiration of the Hills People of the Khasi, Jaintia and Garo Hills.

The word '*Meghalaya*' was loosely used for a title of a book to indicate the hilly region in the North East. When the State was being considered for formation, the word was adopted for naming the State, as the areas were proverbially associated with clouds and rain.

Meghalaya, which is a Sanskritised word, literally means the '*Abode of the Clouds*'. The capital of the State is Shillong, one of the loveliest all-time hill resort in the east, often known the world over as the '**Scotland of the East**'.

### 2.3 Traditional Socio- Political Systems in Meghalaya<sup>3</sup> :

In the **Khasi and Jaintia Hills** the traditional chiefs are Syiems, Lyngdohs, Sirdars Wahadars, Dolloi, Pator and Rangbah Shnongs or Village Headman. They look after the administration of the syiemships, elaka and villages according to the customs and traditions. These traditional socio-political systems, are self-governing institutions and by and large, function in a democratic manner.

The organization of the Traditional Khasi Institutions is a four-tier structure -

- i. Ka Dorbar ka Hima Pyllun (Full State Durbars).
- ii. Ka Dorbar ki Laiphew Shnongs (Durbars of the thirty States/villages coordinated the affairs of the constituent village.
- iii. Ka Dorbar ki Kyntoit or Ka Dorbar Pyllun is a small council .
- iv. Ka Dorbar Shnong (Village or local Dorbar, which is the smallest council of people at the village level. It meets frequently, has administrative, financial and judicial functions.

However, certain exceptions like the '*Sanda Tynger*' is the Council comprising of the various neighbouring villagers in the War area of Meghalaya bordering Bangladesh.

In the **Garo Hills**, the institution of Nokma ship and the village council are the two traditional institutions. However the Nokma does not enjoy autocratic power as all the decisions are taken at a joint assembly of the village elders. In the Garo Hills each household acts as a socio-economic unit in the absence of specialized political and economic institutions. Traditionally, the institution of Nokma used to be the pivot of the village organization around which the basic network of the entire society was interwoven. The activity in the village was guided by this informal system and the success of any development strategy depended on how well it integrated with this informal

<sup>3</sup> Dr. Shreerajan, IAS-Credit related Issues in Meghalaya (2006)

mechanism and organization of the village. However, with increased economic activity and private ownership, and the emerging alienation of land against traditional system the village institution is now transformed toward empowerment by a suitable model of democratic and traditional form of representative.

#### **2.4. Land Tenure System in Meghalaya<sup>4</sup> :**

The chief characteristic of the society is matrilineal system. Property is inherited through the youngest daughter/female relative, and therefore, property ownership mostly vests with female members. Thus enforcement of security by lenders for loans given in the name of male borrowers leads to problems at times. The three predominant hill tribe groups in Meghalaya, each administered by a District Council, have different land holding and tenure system which are based on traditional practices and rights.

**2.4.1 In the Garo Hills area,** the community of land ownership and enjoyment is in vogue. All the village inhabitants are entitled to cultivate whatever land they require, but traditionally no individual member enjoys absolute ownership rights over the land cultivated by him. As soon as he stops making effective use of the land, his rights cease to exist and the land goes to the joint possession of the village community. However, after seeking no-objection from the clan/community, individual Pattas are issued by the District Council which have legal and permanent individual ownership rights.

**2.4.2 In the Khasi Hills area,** the majority of the land belong to people and not the rulers nor the Government. The land tenure and sharing pattern is slightly elaborate and complex. The landed property is classified under '**Ri Raid**' (community owned land or 'public land') and 'Ri kynti' (private land')

**Ri Raid :** Ri Raid lands are community owned lands. No individual has any proprietary rights over such lands but can be allotted right to use and occupancy. A person acquires heritable and transferable rights on the Ri Raid Land by way of construction of a permanent building or buildings, or cultivation of permanent crops and plants like fruit trees or converting it into wet paddy cultivation, fish ponds, etc. The clans then have proprietary, heritable and transferable rights to these lands. These may include Ri Raid lands that are given to clans for any services rendered by them to the community.

Upon transfer, the transferee of these lands acquires the same rights over these lands as were held prior to the transfer. Any person, who has been given a portion of the Ri Raid and has developed it, has the right to sell/reclaim the expenditure incurred on the development/structures made on land when it passes or is transferred to another person. He may sell the produce of land

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<sup>4</sup> Dr Shreerajan IAS-Credit Related Issues in Meghalaya (2006)

but cannot sell the land as such. The owner has the right to sell the house property attached to the land. In any event ownership rights of Raid land reverts back to the community if unutilized by its owner.

**Ri Kynti** : Ri Kynti lands are private lands. The different classes of Ri Kynti lands are : Ri Kur, Ri Nongtymmen, Ri Maw, Ri Seng, Ri Khain, Ri Duwat, Ri Khurid, Ri Bitor Ri Dakhol, Ri Shyiang, Ri Phniang, Ri lapduh, Ri Lynter, Ri Spah, Ri Longdung, Ri Pud, Ri Kut and Ri Lyngdoh, Ri Syiem and Ri Khain Raibuh.

The Syiem, the Sordars/Sirdarsor Nongsynshar have no right to sell or mortgage or transfer to any land other than the Ri Kynti or land privately owned by them. In case the Syiem or Headman should decide to do any of the above he must do so with the explicit consent of the Shnong (community) or the raid who have authority and powers of management vested in them according to customary laws and practices.

**2.4.3 In the Jaintia Hills**, there are two classes of land, one, the Hali lands, literally meaning “Irrigated Paddy Lands” and the other High lands. These two main classes of land are further subdivided into many different classes. The Hali lands comprise of the Raj lands, the Service lands, Village Puja lands, private lands and Patta lands. The High lands are divided into private lands and the unclaimed lands or government wastelands. Raj lands were the property of the former Syiems of the Jaintia Hills. After the abolition of the office of the Syiem by the British, these land were taken over the British and assessed by them for land revenue. The customary procedures of the Jaintias provided for the granting of these lands on lease to individuals. The occupancy rights would cease if these lands were unattended for three years.

The British regularized these customary procedures and issued periodic leases of these lands often for a period of 10 years. Services lands were given to the Dolois, Pators and other chiefs and officials as remuneration for their services to the administration of the area.

Private lands are held by individuals and are transferred at the will of the owner. These are not assessed for revenue. Patta or lease lands were allotted and settled by the British during their regime. The power to allot these lands to individuals or institutions now rest with the Khasi Hills Autonomous District Council. This is, however, in respect of the paddy fields only because the settlement of the building site has been discontinued by the District Council.

The State has however not completed the land revenue survey. Paper evidence for the tribal property is issued from various sources like District Councils, Syiem, Village Headman etc. this multiplicity sometimes creates doubts and problem as to the authenticity of the title deeds and their enforceability in the court of law. However, the customary notion about usage, rights and apportionment is being contextualized to modern day developments and realities in order to facilitate credit, and other documentation and registrations under schematic, projectised or personalized needs.



Government of Meghalaya enacted the Meghalaya Transfer of land (Regulation) Act in 1971, (Meghalaya Act. 1 of 1072) which regulated the transfer of land from a tribal to non-tribal and from non-tribal to another non-tribal. Section 1 of the said Act also exempts any transfer of land as security for any loans given by banks including the Co-operative Societies. Such banks/Co-operatives is required to be notified under the Act subject to certain conditions. In view of all these any piece of land owned by private individuals can be mortgaged to banks by the owner.

In large areas of the State, however, the ownership of the land rests with the community/village authorities/clans.

The Meghalaya Credit Operations and Miscellaneous Provision Act 1976 has made adequate provision to facilitate credit flow for agricultural purposes. The following are some of the important provisions of the Act which provides for creation of charge and mortgage by banks.

- o It shall be lawful for agriculturist to alienate his land or any of his interest and execute charge or mortgage on such land or interest in favour of the banks a security for availing bank loan as per Section 3 of the Act.
- o According to Section 4 (1), it shall be lawful for agriculturist to create a charge on immovable property owned by him or crops raised by him in favour of the bank notwithstanding the fact that he may not be owner of the land.
- o As per Section 5 (1), Charge a land can be mortgaged to a bank by a simple declaration by the borrower.
- o Where different mortgages/charges have been created, mortgage or charge executed in favour of the bank will have priority over others, as per Section 6 (1),
- o According to Section 7 (1) of the Act, Register of the charge/mortgage shall be deemed to have been done if the bank sends the documents to the Deputy Commissioner or Sub-Registrar. Deputy Commissioner/Sub Registrar will record the facts/declaration in the register.
- o As per Section 8 (1), the bank will also give intimation of the charge or mortgage to the District Council/Revenue Officer and the District Council/Revenue Officer shall make a note of the particulars of mortgage in record of rights.
- o The officer of the State Government can issue order for recovery of the loan on request made by the banks and such order shall be deemed to be a decree of a civil court and shall be executed in the same manner as decree of such court, as per Section 10(2) of the Act.
- o As per Section 11 (1) of the Act, banks shall have power to dispose off the property through Public auction and in case no person has offered to purchase, Banks can acquire the same.

- o Section 11 (4) of the Act imposes a restriction on the purchase of land by a non agriculturist, or above the prescribed ceiling or acquisition of land by a person not belonging to a particular tribe or Scheduled Caste or for fragmentation of land.

However, under Section 4A.(b) of the Meghalaya Transfer of land (Regulation) Act, 1971, it has been clearly provided that in respect of the land that cannot be disposed off to a tribal, an application may be forwarded to the Deputy Commissioner of the respective District for acquisition of land by the Government, and the Deputy Commissioner, may, by order, take over the land on payment of compensation as specified in the Land Acquisition Act, 1894.

## **2.5 VI<sup>th</sup> Schedule of Constitution and Autonomous District Council.**

Shillong, which was the seat of the Government of the erstwhile composite State of Assam, is now the seat of the State of Meghalaya. Part X of the Constitution of India provides for the administration of the Scheduled and Tribal Areas. Article 244(2) provides that the Sixth Schedule shall apply to the administration of the Tribal Areas in the States of Assam, Meghalaya, Tripura and Mizoram. This means that the tribal areas in these states will be governed not by the order provisions of the Constitution relating to the States and Union Territories of India but by the provisions of the Sixth Schedule. The Sixth Schedule contained a self contained Code for the governance of the tribal areas. Paragraph 21 of the Sixth Scheduled empowers Parliament to make any changes in the provisions of the Sixth Schedule without going through the procedure laid down in Article 368 for the amendment of the Constitution.

Autonomous District Council were created in tribal areas for protection of tribal identities, customs and rights under the provisions of the Sixth Schedule to the Constitution of India, there are three such Councils in the State of Meghalaya namely :

1. The Garo Hills Autonomous District Council seated at Tura covering the East Garo Hills Districts, West Garo Hills District and South Garo Hills District.
2. The Khasi Hills Autonomous District Council seated at Shillong covering the East Khasi Hills, Ri-Bhoi and the West Khasi Hills Districts.
3. The Jaintia Hills Autonomous District Council seated at Jowai covering the Jaintia Hills

Even after the State was created in 1972, these entities continued to exist. Under the Sixth Schedule of the Constitution, the District Councils enjoy Legislative, Executive and Judicial Powers mainly over the following items :

1. Land other than reserve forests.
2. Forests other than reserve forests.
3. Use of any land or water course for agricultural purposes.
4. Regulation in the practice of Jhum or other forms of shifting cultivation.

5. Establishment of village or town administration including village or town police and public health and sanitation.
6. Appointment and Succession of Chiefs and their powers.
7. Establishment of village or town Committees or Councils and their powers.
8. Regulation of laws on inheritance of property.
9. Marriages.
10. Social customs.

**Legal Entity of District Councils:** The Rules of 1951 framed under paragraph 2 (7) of the Sixth Schedule provides for the transaction of business pertaining to the administration of the autonomous district. These Rules were amended from time to time to meet the requirement of the respective District Councils. The Rules stated that the District Council is a body corporate and shall have perpetual succession and a common seal, and shall sue or be sued by name. The District Councils have three wings, the Legislative, the Executive and the Judiciary.

**Role of Legislative Wing :** Every member of the council shall before taking his seat, make and subscribe before the Judge of the Council or some person appointed on this behalf by the Governor, an oath of affirmation that that he will bear true faith and allegiance to the Constitution of India as by law established and that he will faithfully discharged his duties. This form of oath or affirmation is the same as that prescribed in the Third Schedule of the Constitution for similar representatives of the people.

All questions at any sitting of the council shall be determined by a majority of votes of the members present and voting, other than the Chairman or a person acting as such however shall not in the first instance, but shall have and exercise a casting vote in case an equality of votes.

The Council shall have the power to act notwithstanding any vacancy in the membership, and any proceedings in the council shall be valid even if it is discovered subsequently that some persons not entitled to sit as members did sit and voted or otherwise took part in the proceedings.

The quorum to constitute a meeting of the district council shall be six members or one-third of the total members of such council, whichever is greater. If at any time during the meeting of the council there is no quorum the Chairman or the person acting as such shall either suspend or adjourn the meeting until there is a quorum.

**Role of Executive Wing:** There shall be an Executive Committee of the District Council, with the Chief Executive Member and other members, to exercise the executive functions of the Council. The executive functions of the council shall be vested in the Executive Committee. There shall be a Secretary to the Executive Committee who shall be appointed by the Chief Executive Member. He shall not be a member of the district council.

The Chief Executive Member shall be elected by the District Council and the other members shall be appointed by the Governor on the advise of the Chief Executive Member from amongst the members of the district council. The Chairman and the Deputy Chairman are not eligible to hold the Executive Committee to hold office either as Chief Executive Member or as Member of the Executive Committee.

The Executive Committee is in actual fact the Government in the autonomous district as far as the subjects, which are entrusted to the district council, are concerned. All orders of instruments made or executed by the Executive Committee shall be expressed to be made by or by order of the District Council. Every such order shall be signed by the Chief Executive Member or the other Executive Members authorized in writing by the Chief Executive Member.

The Executive Committee shall dispose of all matters falling within its purview. The Committee however has to obtain final approval of the District Council on any matter or cases involving any important change in the administrative system of the autonomous district or any important departure from accepted policy or practice. The Committee shall also refer to the Council all proposals for making regulations, rules or laws as authorized by the Sixth Schedule; cases seriously affecting the peace or good government of any autonomous district or likely to affect the relationship with such area; cases affecting the relations of the government with the autonomous area, and also all correspondence of importance with the government and all important appointments. The Executive Committee has the power to take immediate action in case of an emergency in respect of any of these matters, except when the Council is in session. Every such case shall have to be laid before the Council in its next session.

**Role of Judiciary Wing:** Paragraph 4 and 5 of the Sixth Schedule provides for the administration of justice in the autonomous district. These provisions empowered the District Council to constitute Village Courts or Courts for the trial of suits and cases between the parties all of whom belong to scheduled tribes within the autonomous areas. In such cases other courts in the state have no jurisdiction and are excluded. The District Councils are empowered to appoint suitable persons to be members of Village Council Courts and Presiding Officers of such Courts. The Council may also appoint officers required for the administration of laws enacted by the district councils. The Governor may confer, on the Courts constituted by the council or the officer appointed for such purposes, the power for trial of suits or cases arising out of any law in force in the autonomous district. The Governor may also confer on these Courts the power for trial of offences punishable with death, transportation for life, or imprisonment for a term not exceeding five years, under the Indian Penal Code or any other law applicable in the autonomous district. The Governor may also confer such powers as he deemed appropriate to the District Councils and the courts constituted by them, under the provisions of the Code of Civil Procedure or the Code of Criminal Procedure. On such conferment of powers the Councils, the Courts, the Officers appointed, shall have jurisdiction to try the suits, cases or offences.

The High Court shall have an exercise jurisdiction over the suits and cases empowered under paragraph 4 and 5 of the schedule. Under these powers the District Councils enacted their own Rules for the administration of justice. The United Khasi Jaintia Hills Autonomous District (Administration of Justice) Rules 1953 were notified on 18.12.1953. the Jaintia Hills District Council adapted these Rules for Jaintia Hills autonomous areas on 16.8.1967. Similarly the Garo Hills District Council brought into force the Garo Hills Autonomous District (Administration of Justice) Rules 1953.

Under these Administration of Justice Rules three classes of Courts were constituted by the District Councils. (i) The Village Courts (ii) the Subordinate District Council Courts and Additional Subordinate District Council Courts and (iii) the District Council Court. The Composition of these Courts from the village level right up to the district level and also their powers and procedure have been prescribed in detail in these rules.

**Powers of Village Courts :** At the village level the complexion of the court reflects the tribal traditions of the tribes for whom the district council is meant. Accordingly in the Khasi & Jaintia Hills where the Khasis and the Jaintias are the common stock, the persons constituting the courts are the traditional village heads and functionaries. Whereas in Garo Hills the matter is slightly different. In Khasi & Jaintia Hills the traditional Chiefs and Headman elected according to custom are eligible to be members of the village courts. These are the Dolloi, Sirdar Raid, Basan, Lyngdoh, Lyngskor or the Headman of the village. The Village Court shall constitute of not less than two members and not more than six members. The Chief Executive Member or a member of the Executive Committee is barred from being members of the court. These traditional chiefs or heads function as the chairman of the village courts and one of the members elected as the vice-chairman. The jurisdiction of the court extend to the hearing and trials of suits and cases arising within the territorial limits of the village. Cases of a civil nature in dispute for an immovable property, falls within the jurisdiction of the village court only if its location is within the village. All other cases qualifies only if the parties reside or hold land in the village. The village court can try offences of petty nature, simple assault and hurt, affront and affray, petty theft and pilfering, drunkenness or disorderly brawling, public nuisance and simple cases of wrongful restrain.

In Garo Hills the village court consist of the Lasker of the Village or in a non-Lasker village a member of the village council nominated by the District Council. A Lasker is a head of a village or a group of villages. Besides the Lasker the court consist of two members of the village council elected by the village council by a majority of votes. The District Council may whenever it deems necessary appoint three persons from amongst the members of the village council to sit as a bench for the trial of any particular class or classes of suits and cases. The Lasker or member nominated by the District Council in a non-Lasker village shall function as ex-officio president of

the village court. The District Council may nominate other person as president in place of the lasker. The jurisdiction of the village court extend to the hearing and trial of suits and cases arising within the territorial limits of the village. It can try suits and cases in which both parties belong to a scheduled tribe or tribal resident within its jurisdiction. It can try cases of civil and miscellaneous nature failing within the purview of village tribal laws and customs; Criminal cases falling with the purview of tribal laws and customs and offences of petty nature, simple assault and hurt, affront and affray of whatever kind, drunken or disorderly brawling, public nuisance, and simple cases of wrongful restraint.

Village Courts are not competent to try offences in respect of which the punishment of imprisonment is obligatory under the Indian Penal Code. They are not competent to pass sentence of imprisonment in criminal cases. They have to power to impose a fine upto a limit of Rs. 50/-.

The leader of the largest party/group returned to the Council is appointed by the Governor as the Chief Executive Member. On the advice of such C.E.M., a number of Members are appointed by the Governor as Executive Members. The C.E.M. and the E.Ms constitute the Executive Committee of the Autonomous District Councils and exercise its Executive Powers.

**Role of District Council in development works:** The District Councils of the United Khasi-Jaintia Hills and the Garo Hills were formed in 1952, and the Jaintia Hills District Council was carved out of the former in 1967. Through the years the District Councils has adopted a more populist outlook and this has diluted its role to protect promote and preserve tribal custom, usage and tradition. On the other hand they take up development works without infrastructure, resources in men and money.

For the purpose of development the State government support the Councils with grant-in-aid to finance the Council's own development schemes to a limited extent. Specific schemes are also entrusted to the Councils for implementation by the Government. The schemes are mostly confine to Land reforms and construction of buildings for the Council own needs. Further, under Article 275(1), the Ministry of Tribal Affairs release developmental fund through the State Government of the Autonomous District Councils. This fund is routed through the State Plan allocation under grant-in-aids to the 3 (three) Autonomous District Councils for implementation of their own Development Schemes, under the heading Financing own Plan Schemes and Construction of Building respectively. The approval outlay for the year 2008-09 is fixed at Rs. 575.00 lakhs as grant-in-aid under Article 275(1) for the purpose of Welfare and Development of Scheduled Tribe. The management of primary education also, had to be taken over by the Government under sub-paragraph (2) of paragraph 16 of the Sixth Schedule from all the three District Councils.

**With the Government implementing schemes through their own departments and the Block Development Officers, the Councils has very little role in development to avoid duplication, wastage and mis-utilisation of funds.**

**2.6 The Planning organization and machinery of the State**<sup>5</sup> responsible for the formulation of the Five Year Plans, Annual Plans and all allied matters in the State is represented by the Planning Department. It is a coordinating and directive body between the Planning Commission and the State Government on all matters relating to planning and development for the State of Meghalaya.

**Planning** as an organised endeavour aims at promoting development and encompasses a wide range of thrust in economic and social spheres. The main task of planning may be expressed by the concepts and strategies which contains the focus on what would benefit the people.

The primary goals of planning are to achieve stakeholder consensus regarding the objectives for the developmental programmes and managing funds. Planning for rural development implies both the economic betterment of people as well as greater social transformation. In order to provide the rural people with better prospects for economic development, increased participation of people in the rural development programmes, decentralization of planning, better enforcement of land reforms and greater access to credit are envisaged. Current thought to untangle the legacies of past with modern economic society, perhaps suggest that the development be dovetailed with reformed from customary system of more democratic action for a meaningful participation of deriving the desired benefits. The State needs to push this forward.

The Planning Department works out the mechanism by which the resources and development aspirations are balanced and achieved. As per the Rules of Executive Business of the Government of Meghalaya, the Role and Function of the State Planning Department and its various facets may be viewed at <http://www.megplanning.gov.in>. Various Committees have been set up for each sectoral planning and development matters.

**2.6.1.** For Rural Development Programme there now exist the **Block Development and Monitoring Committee**<sup>6</sup> (BDMC) in all the Community and Rural Development Blocks, a broad based single compact committee which superceded the earlier guidelines by merging the Block Development Committee and the Block Selection Committee which shall meet at least once in every quarter to discuss the facilities being created under the basic Minimum Services, Centrally Sponsored Schemes or State Government Schemes<sup>7</sup>. Problems of social security, social assurance, social policy in the broad sense, closely depend, in classical discussion, on the antithetical character of equality and efficiency. Social equality should be one of the central proclaimed goals of planning to connect with vast redistribution from productive social groups and a general levelling of society.

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<sup>5</sup> Dr Shreerajan(2008): 'Planning organisation and machinery in Meghalaya'  
[http://www.megplanning.gov.in/planning\\_machinaries.pdf](http://www.megplanning.gov.in/planning_machinaries.pdf)

<sup>6</sup> The Constitution and function of the Block Development and Monitoring Committee may be seen at **appendix 1**

<sup>7</sup> For more information on Rural Development Programmes in Meghalaya the suggested site is [www.megcnrd.gov.in](http://www.megcnrd.gov.in)

The task ahead is to address regional disparity within the state and disparity that exists in the society.

**2.6.2. The Backward Regions Grant Fund<sup>8</sup>** is designed to redress regional imbalances in development. The fund will provide financial resources for supplementing and converging existing developmental inflows into 250 identified districts. Ribhoi District, West Garo Hills District and South Garo Hills Districts are implementing this programme in Meghalaya. The existing Rashtriya Sam Vikas Yojana (RSVY) has been subsumed into the BRGF Programme. The erstwhile districts under RSVY will receive their full allocation of Rs. 45 crore per district as per norms of RSVY. Thereafter, they will shift to the BRGF mode of funding. A village based, participatory planning process is envisaged in the scheme.

**2.6.3.** The Planning Commission introduced **The Border Area Development Programme<sup>9</sup> (BADP)** which was started during the Seventh Plan with the twin objectives of balanced development of sensitive international border areas through adequate provision of infrastructural facilities and promotion of a sense of security amongst the local population. The programme was revamped in the Eighth Plan (1993-94), and extended to States which have an international border with Bangladesh. The nature of the programme was changed from a schematic programme with emphasis on education to a State level Programme with emphasis on balanced development of border areas. Meghalaya is one of the seventeen States covered by this programme. The planning process for the preparation of comprehensive perspective and annual plans for Villages and the Blocks on participatory basis are envisaged on the lines of the guidelines issued by Planning Commission and contained in the Report of the Expert group on the Planning at the Grass root Level (Ministry of Panchayati Raj, 2006). Preparation of these village and block plans should be completed at the earliest, so as to enable the State Governments to effect appropriate integration with District Plans and the Annual Plans of the State.

**2.6.4. Planning in respect of Agricultural** reliance is influenced by two major factors: population growth and income growth. The experience of the last 36 years shows that carefully planned and administered economic assistance, combined with the fundamental efforts of the State and its people, will in the long run establish a dynamic, self-sustaining agricultural system. The Planning Commission brought out a manual for **Comprehensive District Agriculture Plan (C-DAP)** to facilitate States in preparation of DAPs. The main features of C-DAP manual, inter-alia, are: bottom-up approach in planning; establishment of Agriculture. Planning unit at Village, Block and District level; integration of village Agriculture Plan into Block into District into State Agriculture Plan active involvement of PRIs at all levels in preparation and approval of the DAP; inter-linkage

<sup>8</sup> Information on this programme may be viewed at <http://brgf.gov.in>

<sup>9</sup> Log on to [www.megbad.gov.in](http://www.megbad.gov.in) for more information



of DAP with SREP and PLP. C-DAP Manual have been made available to the States for RKVY and an amount of Rs.10 lakh per district for reparation of DAPs has been released.

A new programme, viz. **National Agriculture Development Programme<sup>10</sup> (NADP)**/ Rashtriya Krishi VikasYojana (RKVY) for which funds would be provided to the State Government as 100 percent Central Assistance has been launched. The Programme aims at achieving 4% annual growth in the agriculture sector during the XI Plan period, by ensuring a holistic development of Agriculture and allied sectors. The RKVY is applicable to the entire State Plan for Agriculture and allied sectors and seeks to encourage convergence with schemes like NREGS, SGSY and BRGF, etc. The State Government is required to prepare a State Agriculture Plan and also each district of the State is required to prepare its own District Agriculture Plan. During 2007-08, the Government of India had released an amount of Rs. 5.67 crore under Stream I of RKVY and another amount of Rs. 0.70 crore for preparation of District Agriculture Plans, at the rate of Rs.10 lakh for each of the seven districts of the State as **Central Assistance**.

**2.7 Other Master Plans:** (a) **Agriculture Planning and Information Bank<sup>11</sup> (APIB)** is a joint project developed for the East Khasi Hills District of Meghalaya by the North Eastern Space Applications Centre(NESAC) in collaboration with the Department of Agriculture, Government of Meghalaya. It is a single window access to knowledge related to agriculture and allied sectors useful for the farmers, extension personnel and planners. A team of Scientists/Engineers from NESAC with the support of District Agriculture Officer (DAO), Agriculture Extension Officer (AEO) under the guidance of Project Director, APIB conducted a primary survey through a structured questionnaire (designed in Khasi language) and got feedback from farmers and extension personnel in the district, and a comprehensive report on the information needs expressed by them was brought out. This report formed the basis for the subsequent development of the APIB. It contains information modules on natural resources, provides block-wise details of the Land resource Development Plan (LRDP), current Land Use Practices, Soil Type map , Ground Water Prospective map and Watershed map. **Following five themes provide the Natural resources potential, development, appropriate land use planning for the District of East Khasi Hills block-wise:**

- Land Resource Development Plan (LRDP)
- Land use Land Cover (LU/LC)
- Soil
- Ground Water
- Watershed

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<sup>10</sup> For more information log onto [www.megplanning.gov.in](http://www.megplanning.gov.in) For more information on this programme log onto <http://agricoop.nic.in/Rkvy/agenda251108.pdf>

<sup>11</sup> For more information log on to <http://megapib.nic.in/> and [http://megapib.nic.in/about\\_apib.htm](http://megapib.nic.in/about_apib.htm)

The Agriculture Department was to work upon completing such APIB in collaboration with NESAC and other districts also for rest of the district and state APIB.

**(b) Various Sectoral Meeting of NEC & DONER <sup>12</sup>** : Various Sectoral Summit Meetings on Roads, Railways, Power, Tourism, Aviation, Education, Agriculture and allied , Rural credit, Arts and Culture, Business Summits within and outside the country etc coordinated by NEC and Minister of DoNER brought to the fore need for perspective plan and masterplans for concerned sectors. In particular, Infrastructure related masterplans was stressed for each State. The concerned Sectors must address these as a priority and without delays in the matter.

### Summary and Conclusion:

Meghalaya emerged from tribal areas of Assam as defined in the 6<sup>th</sup> Schedule of the Constitution. Various ethnic systems, traditions and customs put identity as a quest with simultaneous approach to dream of modern developed norms of society.

Meghalaya, being one of the 6<sup>th</sup> Schedule Areas where the provisions of 73<sup>rd</sup> and 74<sup>th</sup> Amendment of the Constitution do not apply, follows a different development and planning approach in formulation of Annual and Five Year Plans. The present development planning structure consists of mainly the Planning Board at the State level and the District Planning and Development Council (DPDC) at the district level. In 2004, another level of planning organization was added namely the two Regional Planning and Development Councils (RPDCs) which are largely non functional. Presently the State Planning Board and the DPDC are getting more broad based but requires more reformed transition and transformation towards a meaningful decentralisation of authority and responsibility.

In the Panchayati Raj States (73<sup>rd</sup> and 74<sup>th</sup> amendment of the Constitution States), besides, the organized structure, the provisions clearly spell out a direct role for the people through the Panchayats in planning, formulation and implementation of development projects, revenue generation and devolution of Finances and power and responsibility for implementation. This is backed up by delegation of powers to the Panchayats in monitoring of development schemes and in relation to 29 subjects contained in the Eleventh Schedule.

The formulation of district plan by the DPDCs in Meghalaya is largely based on departmental proposal submitted by the district offices with inputs from MLAS and MDCs etc. The district plans prepared by the DPDCs are essentially edited compilation of departmental proposals to fit in the cast of budget or notional financial outlays. In the formulation of the State plan, while theoretically

<sup>12</sup> <http://mdoner.gov.in/index1.asp?linkid=126>

the document should incorporate district plans forwarded by the DPDCs, often the plans are formulated and compiled by the various sectoral heads, deliberated with the Planning Board and fine tuned by the Planning Department from the sectoral proposals of various Government Departments in line with guidelines set out by the State Government and the Planning Commission. In doing so the essential advisory and feedbacks of State Planning Board, and other State level entities are taken on board to the extent desirable and considered necessary.

There is an urgent need to redesign institutions to empower and ensure participation of people in Planning the development. The State needs to evolve such meaningful action frame for various sectors in participatory and synergistic manner to make inclusive growth and development a reality.



**A KHASI COUPLE**



**A GARO COUPLE**

**LAND  
AND  
PEOPLE**



**A JAINTIA COUPLE**



**U KIANG NONGBAH MEMORIAL, SYNTU KSIAR, JAINTIA HILLS**



**MONOLITHS AT NARTIANG**



**Borang (Tree Top Watch Tower)**

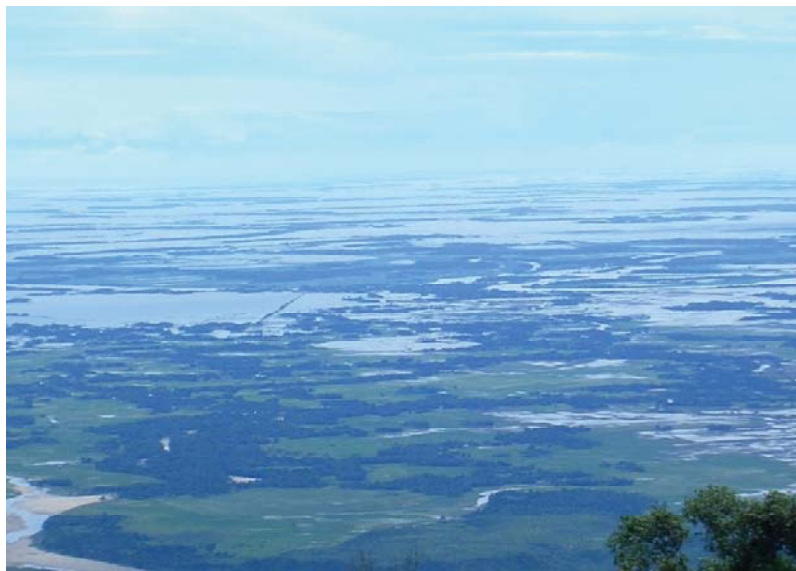


**Nokrek Peak**



**NOHKALIKAI  
WATERFALLS**

**DOUBLE DECKER  
ROOT BRIDGE  
(NONGRIAT)**



**VIEW OF FLOODED  
SYLHET PLAINS**

# **CHAPTER III**

## **DEVELOPMENT & MANAGEMENT OF NATURAL RESOURCES**



## CHAPTER III

## DEVELOPMENT AND MANAGEMENT OF NATURAL RESOURCES

**Introduction**

Meghalaya is one of the smaller States of the country. The man to land ratio is quite favourable as compared to some of the other States and the population density as per the 2001 census is approximately 103 persons per square kilometre. As per the land use statistics for 2005, a large part of the geographical area of the state is under forests. The net sown area is about 230,000 hectares, which is only 10.33 percent of the total geographical area of the State. More than 7 percent of the area is fallow.

**Table -3.1 Land Use Pattern**

Land Use	Area in '000ha	Percentage
Total geographical area	2,243	
Reporting area for land utilisation	2,227	100.00
Forests	951	42.70
Not available for cultivation	223	10.01
Permanent pastures and other grazing lands	0	0.00
Land under misc. tree crops & groves	155	6.96
Culturable wasteland	441	19.80
Fallow lands other than current fallows	162	7.27
Current Fallows	65	2.92
Net area sown	230	10.33

*Source: Land Use Statistics, Ministry of Agriculture, GOI, 2005*

**3.0 Natural Resources**

Meghalaya is a land of abundant natural resources. It is a storehouse of many important minerals of economic significance including coal, limestone, clay and silimanite. Coal and limestone at present are the most widely exploited. These minerals are a source of significant earnings for the State. Water resources in the State include its lakes, rivers, streams, bheels and ground water. Meghalaya has been endowed with lush green forests

**3.1. Soils<sup>1</sup> :-** The soil formation in the State (pedogenesis) has been influenced by the geology, relief and climatic conditions prevailing in the region. There are four distinct categories of soil in the State. The red loamy soils are found in the central Garo Hills region and upland zones in the Khasi and the Jaintia hills. The laterite soils are found in a broad belt extending from west to east in the northern parts of the State. Red and yellow soils with a fine texture ranging from loam to silty loam are found in the foothill regions along the east-west belt. These type of soils are suitable for rice and fruit cultivation. The northern, western and southern parts of the plateau feature

<sup>1</sup> Source: Reference: Meghalaya Land and People, R. Gopalakrishanan

alluvial soils. These soils vary from sandy to clayey loam with varying amount of nitrogen content. These are rich in potash but have low phosphate content.

Soil erosion is a major problem in the State. An estimated 120 tonnes of soil per hectare are eroded every year. The most prominent cause of soil erosion in the State is Jhum cultivation and unscientific quarrying and mining. Nearly 1.102 million hectares in Meghalaya have been categorized as problem areas in terms of risk of soil erosion.

**3.2 Water Resources:-** The State is among the wettest regions in the world and the water resources support a rich aquatic biodiversity and provide potable and irrigation water to the inhabitants of the State. Some of these water bodies also represent potential resources for the development of inland fisheries.

In the Garo Hills, the important rivers of the northern system from west to east are the Kalu, Ringgi, Chagua, Ajagar, Didram, Krishnai and Dudnai. The important rivers of the southern system are Daring, Sanda, Bandra, Bhogai, Dareng and Simsang. Other rivers are Nitai and the Bhupai.

In the central and eastern section of the plateau the important northward flowing rivers are Umkhri, Digaru and Umiam and the south-flowing rivers are Kynchiang (Jadukata), Mawpa, Umiew, Myngot and Myntdu<sup>2</sup>.

The total ground water resource potential is estimated to be of the order of 1226.44 Million Cubic Meters (MCM). Out of these, nearly 1041.99 MCM are estimated to be utilized for irrigation. Another, 184.88 MCM is assessed to be suitable for drinking purposes<sup>3</sup>.

The water resources in the State are currently threatened with contamination, siltation and pollution. The most serious threat to the water resources in the State is from unscientific coal mining. The acid mine drainage from mines and leaching of heavy metals have contaminated many water bodies in the vicinity of these coalmines. A study has been carried out by the Centre for Environmental Studies, North-Eastern Hill University, Shillong, on the effect of coal mining in the Jaintia Hills<sup>4</sup>. The study revealed that the colour of the water in the rivers in the mining areas had turned brownish to yellowish orange. The water in these areas was found to be highly acidic, and silt and suspended solids were deposited at the bottom of these water bodies. A high concentration of sulphate (between 78 to 168 mg/L) was also reported. It may be concluded that the situation of water bodies near mining sites in the other districts would be no better.

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<sup>2</sup> Source: WebIndia123.com

<sup>3</sup> Central Ground Water Report 1981 on the website of North East Data Bank.

<sup>4</sup> Sumarlin Swer and O. P. Singh

<sup>5</sup> Source: The Geospatial Resource Portal: (<http://www.gisdevelopment.net/>)

**3.3 Biodiversity:** The Meghalayan subtropical forests form one of the wettest eco-regions of the world with rainfall in some areas measuring up to eleven meters. The region has been considered among the richest botanical habitats of Asia. Even today, the Meghalayan hills support a vast variety of plants, mammals, birds and insects. These hills house several primitive tree genera such as Magnolia and Michelia and for families such as Elaeocarpaceae and Elaeagnaceae. The most bio-rich sites identified in Meghalaya are the Nokrek biosphere reserve in Garo Hills and the Balaphakram National Park along with some other parts of the Khasi and Jaintia hills.

The Sacred Groves of Meghalaya are a unique feature of the State. They have been preserved by the communities through the ages due to their religious significance. Apart from religious activities or rituals any production extraction is strictly prohibited. These forests are very rich in biodiversity and harbour many endangered plant species including rare herbs and medicinal plants, including the famous Himalayan Yew. A baseline floristic survey revealed that at least 514 species representing 340 genera and 131 families were present in these sacred groves. In Meghalaya, all the different classes of plant life, namely Parasites and Epiphytes, Succulent Plants and Trees and Shrubs, are found to occur naturally. The insect eating pitcher plant or *Nepenthes khasiana*, a botanical wonder, is also endemic to Meghalaya. Meghalaya is also the home to an amazing variety of fruits, vegetables, aromatic plants, medicinal plants and condiments and spices. Not surprisingly, Meghalaya is considered by many to be among the most species rich eco-region in the Indian subcontinent.

**3.3.1 Forests:-** As per the State Forest Report 2005, the total forest cover of the State is 9496 square kilometers, which is over 70% of the total geographical area of the State. Of these, 6491 square kilometres represent dense and moderately dense forests while open forests cover 10,384 square kilometres. The forests types in Meghalaya are classified under the tropical type and the temperate type, mainly based on the altitude, rainfall and composition of the dominant species<sup>5</sup>. The tropical forests are further subdivided into evergreen, semi-evergreen and moist and dry deciduous forests. These forests are a source of many valuable products including some highly valued varieties of timber like teak, sal, titachap hollock, bela, gobra, chaplash, birch, walnut and mahogany. The other forest products include bamboo, bay leaves, cinnamon, citronella, honey, wax and lac.

### 3.3.2 Forest Types<sup>6</sup>

The Brahmaputra valley sandwiched between eastern Himalayas in the north and the Garo, Khasi, Jaintia hills of Meghalaya in the south is a meeting ground of the temperate east Himalayan flora and the wet evergreen and wet deciduous flora. The Khasi-Jaintia hills function as a corridor of the Southeast Asian flora into the Indian subcontinent through the Arakan arc. The variation of altitudes and rainfall patterns with generally high precipitation, have played a significant role in defining the ecological diversity of this region. Meghalaya has forests of the tropical and temperate type, depending mainly on the altitude, rainfall and composition of the dominant species.

#### 3.3.3. Tropical Forests:

Tropical forests in the State are found in areas with elevations of upto 1200m. These forests are characterized by warm, humid climates. The average rainfall ranges from 100-250 cm. The tropical forests in Meghalaya are further subdivided into many subtypes such as evergreen, semi-evergreen, moist and dry deciduous forest, etc. **Tropical Evergreen Forests:** These forests usually occur in high rainfall areas and near the catchment areas. They are generally fragmented and seldom occur as contiguous belts. These forests form a closed evergreen canopy and support dense and impenetrable herbaceous undergrowth. The tropical evergreen forests support much of the State's immense biodiversity. **Tropical Semi-evergreen Forests:** The tropical semi-evergreen forests occur in the northern and North Eastern slopes of the state with elevations of upto 1200 meters. These areas feature an average annual rainfall of about 1.5 to 2 meters and experience a relatively colder winter. These forests are characterized by lesser species diversity as compared to the evergreen forests. **Tropical Moist and Dry Deciduous Forests:** The tropical moist and dry deciduous forests do not naturally occur in the state but are mostly the sub-climax type or man-made forests. These forests occur mostly in areas with lower elevations and an average annual rainfall below 1.5 meters. These forests are characterized by profuse flowering and seasonally shed their leaves. Forest fires are common in these forests. The trees of the deciduous canopy are always tall and straight with a spreading crown. Deciduous forests cover 2459.55 square kilometers and are distributed through out the State. The largest concentration is in the West Khasi Hills where they covers 1568.67 square kilometers. These forests support many trees of economic significance including: *Shorea robusta* (Sal), *Tectona grandis* (teak), *Terminalia myriocarpa*, *Sterculia villosa*, *Logerstroemia flos-reginae*, *L. Porviflora*, *Morus laevigatus*, *Artocarpus chaplasha*, and *Gmelina arborea* both as natural and as plantations. Other species such as *Schima wallichii*, *Artocarpus gameziana*, *Tetrameles nudiflora*, *Lannea coromandelica*, *Salmalia malabarica*, *Erythrina stricta*, *Premna milliflora*, *Vitex peduncularis*, *Albizia lebbeck*. *Lucida*, *Terminalia bellirica* etc. are also found in abundance in these forests.

<sup>6</sup> Source: Meghalaya official state portal

**3.3.4. Temperate Forests:**

The temperate forests occur in areas with higher elevations. These areas feature severe cold winters and ground frost is a common phenomenon. They also experience heavy rainfalls of between 2 to 5 meters.

**3.3.5 Grasslands and Savannas**

Class	East Khasi	West Khasi	Jaintia	West Garo	South Garo	East Garo	Ri-bhoi	Total
Subtropical Pine	112	341	55	-	-	35	542	1,085
Tropical Semi-evergreen	171	222	503	481	292	454	337	2,460
Tropical moist/dry deciduous	782	1,569	828	1,257	716	956	860	6,968
Tropical dry deciduous and bamboo mix	128	677	382	317	177	110	-	1,792
Degraded	577	852	463	656	111	360	364	3,384
Grasslands	183	265	129	-	29	25	-	630

**Table 3.2: District wise classification of forests**

Grasslands of Meghalaya are primarily the result of deforestation and are not of a climax type. These cover large parts of the state and can be seen through out the Shillong platea , especially around Riango, Ranikor, Weiloi, Mawphlang, Mawsynram, Cherrapunji, Shillong, Jowai, Jarain, and Sutnga in Khasi and Jaintia Hills and major parts of West Garo Hills. Grasslands cover a total of 3383.78 square kilometers.

**3.3.6. Sacred Groves**

The scared groves of Meghalaya are isolated pockets of forests that have been preserved through the ages due to ancient beliefs and myths attached to them. These occur mostly in the Khasi and the Jaintia hills. These are used mostly for religious ceremonies and all other uses are restricted. They fall mostly under the temperate type and have evolved through millions of years. The vegetation wealth preserved in these forests is incomparable to any other type of forests in the State. Many of the endangered species of the State are presently confined to these sacred groves only. Fagaceae members dominate over others in these sacred forests. Epiphytic flora is quite abundant and dominated by ferns and orchids. These forests are home to some rare species of orchids and many important medicinal plants including the Himalayan Yew (*Taxus Wallichiana*). The sacred groves cover an area of about 1000 square kilometers. These are located in strategic watersheds and still play an important role in the ecosystem of these areas.

The sacred groves of Meghalaya are quite unique in many ways. These forests are generally much larger than the other sacred groves with some of them measuring upto 900 hectares. A total

of 79 sacred groves have been reported <sup>7</sup>. These forests therefore perform a number of ecosystem services. Rodgers (1994) <sup>8</sup> has reported the following categorization of sacred groves in Meghalaya, which was formulated by Durbar of the Khasis in 1925:

- **Ki Law Lyngdoh:** forests under the control of the traditional religious leaders (now known as village councils). No public use of these forests is permitted.
- **Ki Law Kyntang:** forests of great sacred value. These are reserved for sacrificial and religious ceremonies.
- **Ki Law Niam:** religious forest (These may not be different from the above).
- **Ki Law Adong:** forest protected for non-commercial use, e.g. water.
- **Ki Law Shnong:** forest resources for village use.

Brandis (1897)<sup>9</sup> has reported the existence of Sacred Groves in the Garo Hills also. Bamboo reserves dedicated to deities have also been reported from the Garo Hills. The Garo people traditionally perform ancestral worship in these sacred forest patches.

During the last few decades, many of these forests have also been destroyed and put to agricultural and other uses. The degradation of these forests have been attributed primarily to the eroding social and religious values that had earlier helped in preserving these forests<sup>10</sup>.

At present, the Law Lyngdoh at Mawphlang and Mawsmal and The Law Kyntang in Jaintia Hills are perhaps the only sacred grooves in the state that are well preserved. While a number of other sacred groves in the state have been documented by the NAEB, Regional Center, Shillong, but so far little has been done to preserve them.

**3.3.7. Recorded Forest Area:** The state has a recorded forest area of 9,496 square kilometers, which is 42.3% of the state's geographical area and 1.2% of the country's forest area. Out of these, 6807 hectares are Reserved Forests and 1240 hectares are Protected Forests. While 1127.23 sq. km are classed forests, the remaining 850300 hectares are Un-classed Forests. The State Forest Department exercises control over merely 12% of the state's Recorded Forest Area.

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<sup>7</sup> Tiwari, B.K., Barik, S.K. and Tripathi, R.S. 1999 Sacred Forests of Meghalaya.

<sup>8</sup> Rodgers, W.A., 1994. The Sacred Grove of Meghalaya

<sup>9</sup> Brandis, D. 1897. Indigenous Indian Forestry

<sup>10</sup> Ritwick Dutta Community Managed Forests: Law, Problems and Alternatives

Fig. 3.1 : Forest Cover Map of Meghalaya

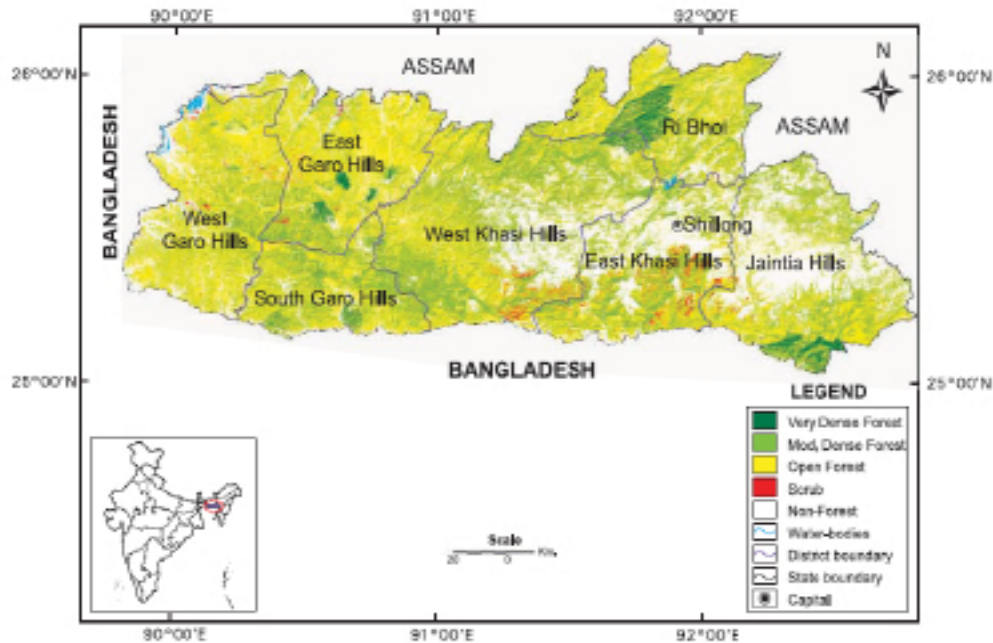


Fig. 8.18 : Forest Cover Map of Meghalaya

Source: SFR 2005

The Reserved Forests are managed by the State Forest department under prescriptions of the working plan prepared for such forests by the Working Plan Unit of the Department. The protected forests are managed for preserving the important catchments areas. Forests other than Reserved Forests are being managed by the respective Autonomous District Councils. The Councils mainly manage three different types of forests, namely: the old un-classed forests over which they exercise full control, the forests owned by clans or communities and the private forests. For the third category of forests, i.e. private forests, the role of the ADCs is limited to the collection of royalties when timber from these forests is exported outside their own area.

Forest Class	No.	Area (sq. km)
Reserved Forest	24	678.260
Proposed Reserved Forest	1	2.400
National parks	2	399.482
Wildlife Sanctuaries	3	34.200
Protected forests	4	12.180
Green Blocks	1	0.210
Parks and Gardens		0.500
<b>Total</b>		<b>1127.232</b>

Table 3.3 Classification of Forest (Source: SFR 2005)

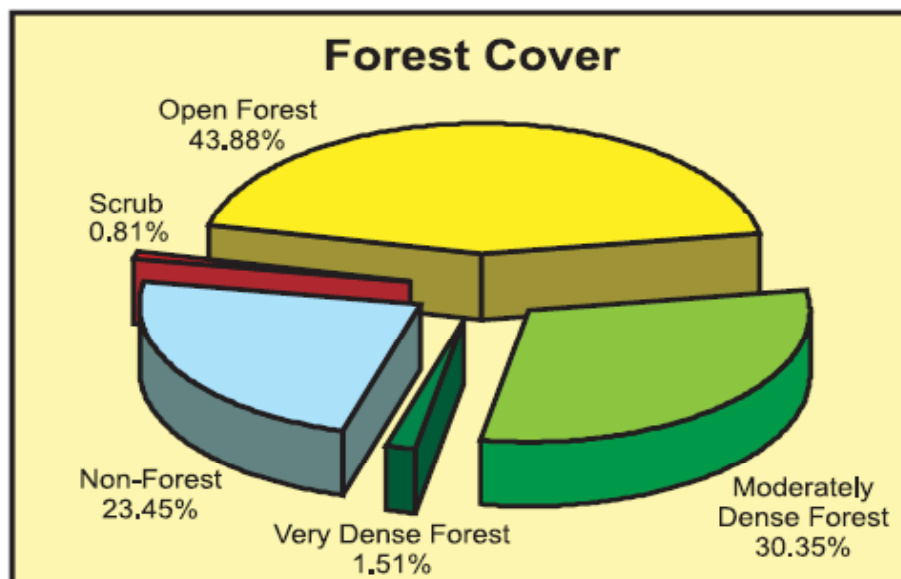


Fig. 3.4 Forest Cover (Source: SFR 2005)

(area in Km<sup>2</sup>)

2003 Assessment (Data of Nov. 2002 & Jan.-Feb. 2003)	2005 Assessment (Data of Nov.-Dec. 2004 & Jan. 2005)					Total 2003
	VDF	MDF	OF	Scrub	NF	
Very Dense Forest	265	0	0	0	0	265
Modernity Dense Forest	8	6,778	0	0	0	6,786
Open Forest	65	30	9,706	41	32	9,874
Scrub	0	0	36	133	0	169
Non Forest	0	0	100	7	5,228	5,335
<b>Total 2005</b>	<b>338</b>	<b>6,808</b>	<b>9,842</b>	<b>181</b>	<b>5,260</b>	<b>22,429</b>
Net Change	73	22	-32	12	-75	

Table 3.5 : District-wise forest cover

Number of Districts :7

(area in Km<sup>2</sup>)

District	Geographic Area	2005 Assessment						
		Very Dense Forest	Mod. Dense Forest	Open Forest	Total	Percent Of G.A.	Change	Scrub
East Garo Hills <sup>TH</sup>	2,603	46	668	1,535	2,249	86.40	-8	14
East Khasi Hills <sup>TH</sup>	2,820	0	817	1,019	1,836	65.11	-2	80
Jaintia <sup>TH</sup>	3,819	101	973	1,152	2,226	58.29	42	11
Ri-Bhoi <sup>TH</sup>	2,376	128	773	1,098	1,999	84.13	30	1
South Garo Hills <sup>TH</sup>	1,849	25	731	919	1,675	90.59	20	0
West Garo Hills <sup>TH</sup>	3,715	0	884	2,090	2,974	80.05	-20	23
West Khasi Hills <sup>TH</sup>	5,247	38	1,962	2,029	4,029	76.79	1	52
<b>Total</b>	<b>22,429</b>	<b>338</b>	<b>6,808</b>	<b>9,842</b>	<b>16,988</b>	<b>75.74</b>	<b>63</b>	<b>181</b>

Source: SFR 2005



### 3.3.8. Forest and Tree Cover

As per the State of Forest Report 2005, prepared by the Forest Survey of India, Meghalaya has a total forest cover of 16,988 square kilometers. This is 75.74% of the state's total geographical area. Out of these 265 square kilometers (1.51% is of the state's geographical area ) is very dense forest; 6786 square kilometers or 30.35% of the state's geographical area represent moderately dense forests; open forests cover 9,874 square kilometers constituting 43.88% of the state's geographical area. About 0.8 % area is scrub. The non forest area is about 5335 square kilometers or 23.45% of the state's geographical area. Meghalaya has 2.3% of the country's forest cover. In addition, the state has another 405 square kilometers of tree cover. The total Culturable Non Forest Area (CNFA) is assessed to be 6,756 square kilometers. The CNFA has an average tree density of 15.1 trees per hectare.

**Table 3.6**

('000 Hectares)

Year	Reserved Forest	Protected Forest	National Park	Un-Classed	Total
1	2	3	4	5	6
1994-1995	71.31	1.24	26.75	850.30	949.60
1995-1996	71.31	1.24	26.75	850.30	949.60
1996-1997	71.27	1.24	26.75	850.30	949.60
1997-1998	71.27	1.24	26.75	850.30	949.56
1998-1999	71.27	1.24	26.75	850.30	949.56
1999-2000	71.27	1.24	26.75	850.30	949.56
2000-2001	71.27	1.24	26.75	850.30	949.56
2001-2002	71.27	1.24	26.75	850.30	949.56
2002-2003	71.27	1.24	26.75	850.30	949.56
2003-2004	71.27	1.24	26.75	850.30	949.56

Source : Principal Chief Conservator of Forest, Meghalaya

(Area in Square Kilometers)

District	Geographic Area	Forest Cover				Scrub
		Dense Forest	Open Forest	Total	Percent	
East Garo	2,603	1,038	2,737	3,775	84.79%	8
South Garo	1,849					
East Khasi	2,820	997	1,557	2,550	90.43%	29
Jaintia	3,819	890	1,047	1,937	50.72%	117
Ri-bhoi	2,376	656	1,107	1,763	74.20%	68
West Garo	3,715	1,002	1,590	2,592	69.77%	3
West Khasi	5,247	1,098	1,869	2,967	56.55%	34
<b>Total</b>	<b>22,429</b>	<b>5,681</b>	<b>9,907</b>	<b>15,584</b>	<b>69.48%</b>	<b>259</b>

**Table 3.7 : Forest Cover 2001 Assessment (SFR 2005)**

The highest forest cover in terms of percentage forest area exists in the East Khasi Hills District (90.57%), which accounts for nearly 16% of the total forest cover in the state. Jaintia Hills at 50.75% has the lowest forest cover in the state.

### 3.3.9. Change in Forest Cover

The forest cover change matrix indicates a net decrease of the forest cover of about 47 square kilometres between the assessment periods 1999 and 2001.

While open forests increased by 197 square kilometres, dense forests decreased by 244 square kilometres. There has been 63 sq km addition of forest cover over 2003 report in the SFR 2005.

**Table 3.8 : Forest Cover Change – 1987-2005**

(Area in Sq. km)

Assessment Period	Dense	open	Total	Forest cover change over 1987 (16466 sq Km)
1999	5925	9708	15633	- 833
2001	5681	9903	15584	-1082
2005	7146	9842	16988	+522
Change in 2001 Over '99	-244	195	-49	
Change in 2005 Over '01	1465	-61	1404	

Source: SFR 2005

An analysis of the periods between 1987 and 2001 indicates that the forest cover in Meghalaya has been gradually decreasing since 1987. Except for the year 1991, which showed an increase of 231 square kilometres, all the other years' assessments have indicated a decrease in the forest cover. The sharpest decline was recorded in 1989. However of late there has been some improvement which may be due to restrictions and direction of the Supreme court order.

### 3.3.10. National Parks and Wildlife Sanctuaries

Meghalaya has 2 National Parks, the Balpakram National Park and the Nokrek National Park. Meghalaya also has 3 Wildlife Sanctuaries namely, the Nongkhylllem Wildlife Sanctuary, the Siju Sanctuary and the Baghmara Sanctuary.

The Balpakram National Park was established in the West Garo Hills on 15 February 1987 and is spread over an area of more than 220 square kilometers. The vegetation in this park consists primarily of tropical moist deciduous type with moist hill Sal as the dominant species. Mammals found in the Balpakram National Park are binturong, clouded leopard, leopard cat, wolf, sloth bear, elephant, loris and the serow. This park is also home to the python, the hornbill and the hoolock etc. During the month of April, the Balpakram plateau is covered with beautiful wild flowers and swarms of richly coloured butterflies. The area is also one of the venues of man-elephant conflict. Elephants commonly visit nearby villages and cause considerable damage to crops, particularly during the dry season, which often infuriates the local villages prompting them to attack elephants<sup>11</sup>.

<sup>11</sup> Kumar, Y. and Rao, R.R. (1985). Studies on Balpakram Wildlife Sanctuary in Meghalaya

The Nokrek National Park is also located in the West Garo Hills District, 60 kilometres from William Nagar and is spread over 68 square kilometers. The forests in this park are mainly tropical semi-evergreen and moist deciduous. This park is home to many mammals like the capped langoor, clouded leopard, leopard cat, fishing cat, golden cat, Pangolin, wild buffalo, elephant, serow and the tiger. The birds commonly found here are the hornbill, peacock, pheasant and hollock etc. This National Park is also home to the python. The mother germo plasm of Citrus-indica has also been discovered in Nokrek, which has resulted in the establishment of the National Citrus Gene Reserve here.

The Siju Wildlife Sanctuary was established on 30 March 1979 in the Garo Hills and covers an area of 518 hectares. The vegetation consists mainly of hardwood species ranging to moist evergreen type. It is a haven for many rare and protected birds and animals including some rare species of bats. Important fauna include the Indian elephant (*Elephas maximus*), gaur (*Bos gaurus*), barking deer (*Muntiacus muntjak*), sambar (*Cervus unicolor*), wild boar (*Sus scrofa*), common langur (*Presbytis entellus*), white-browed gibbon (*Hylobates hoolock*), different species of monkeys the tiger (*Panthera tigris*), and the leopard (*Panthera pardus*). The banks of the Simsang River is also the winter home to the Siberian ducks. The area has remained relatively undisturbed due to its inaccessibility.

The Baghmara Sanctuary located in the South Garo Hills is the home of the famous Pitcher Plant (*Nepenthes Khasiana*).

Nongkhylllem Wildlife Sanctuary is located in the Ri-Bhoi district of Meghalaya and covers an area of 29 square kilometres. There are over 1000 taxa of vegetation in the Sanctuary and surrounding forests. It is also a haven for nearly 30 species of mammals, birds, amphibians and reptiles listed in schedule-1 of the Wildlife Protection Act. Globally endangered species found here are the Asian Elephant, Himalayan Black Bear, Royal Bengal Tiger, Clouded Leopard, Indian Bison, etc. There are about 400 species of birds in this area. Few endangered species of birds are the Swamp Partridge, Brown Hornbill, Rufous Necked Hornbill and Manipur Bush Quail. As per the official website of the Ri-Bhoi district, the main problem faced by the sanctuary is poaching and hunting. Community hunters comprising large groups of villagers cause the most damage as they come fully armed and kill everything in sight. This practice is carried out as a yearly ritual<sup>12</sup>.

The total area protected area under the protected area network is nearly 300 square kilometers. Meghalaya, incidentally, is among the states with the highest concentration of elephants in the country<sup>13</sup>.

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<sup>12</sup> Source: <http://ribhoi.nic.in/>

<sup>13</sup> Source: Forest Survey of India 1999 and webindia123.com

### 3.3.11. Flora

Because of the diverse topography, abundant rainfall and varying climatic conditions, the state harbours diverse vegetation types that range from tropical and sub-tropical forests to subtropical grasslands at higher elevations. Each of these vegetation types contains wide variety of plant lives that include orchids, epiphytes, bamboos, rattans and a large number of trees, shrubs and herbs. A large variety of agricultural and horticultural crops are also cultivated in Meghalaya. The fruits, vegetables, aromatic plants, medicinal plants and condiments and spices are grown at different elevations and all these cultivated varieties add to the state's rich wild biodiversity. The total vascular plant diversity of the state described so far is 3331 <sup>14</sup>.

#### Orchids

Meghalaya is often called an orchid enthusiast's paradise. The subtropical forests of Meghalaya are home to perhaps the richest variety of orchids. Of the 1250 orchid species found in India, Meghalayan forests are home to more than 300 species. The Khasi hills alone have about 250 species of orchids. The orchids of Meghalaya have distributions extending up to Sikkim, Bhutan, Nepal and China on one hand and Burma and Thailand on the other. Some orchid species however are found exclusively in Meghalaya. Many orchid varieties are found in the sacred groves of Meghalaya. The important orchid species found in Meghalaya are Lady's Slipper, Blue Vanda, Leopard Orchid, and Foxtail Orchid.

#### Ornamental Plants

Many Décor plants are found in Meghalaya including, Dahlia, Canna, Gladiolus, Begonia, Tropaeolum, Aster, Polargonium, Antirrhinum, Crinum, Celosia, Kniphofia, Impatiens, Chrysanthemum, Petunias, Pansy, Calendula, Sweet peas and Salvia. Many climbers like Bougainvillea, Rosa, Jasminum, etc are also commonly found.

### 3.3.12. Fauna

Meghalaya is well known for its tremendous faunal wealth. It is considered by many biologists to have been the gateway through which many species of Indo-Chinese origin, particularly mammals migrated to Peninsular India. 50% of the total number of mammal genera found in the entire Indian sub-continent can be seen in Meghalaya and its adjoining states in the Northeast. Out of these Meghalaya and some adjoining areas is the exclusive home to nine genera of mammals, such as Tupaia, Rhizomys, Cannomys, Chiropodomys, and Micromys etc. In all, about 450 species of birds and 110 species of mammals are found in Meghalaya

<sup>14</sup> S.K. Barik, K. Haridasan, Dona M. Sangma, N.J. Lakadong and V. Manners (2007) Developing medicinal plant sector of Meghalaya: An action plan. Meghalaya State Medicinal Plant Board, Shillong and National Medicinal Plant Board, New Delhi.

**Mammals:** Some species of different families of mammals namely Primates, the Cats, Civets, Mongooses, Dogs, Bear, Weasels, Bats, Rodents, Elephants, Gaur, Wild Buffalo, Serow, Deer, Pigs and Pangolins are seen roaming in the forests of Meghalaya. In Meghalaya we come across apes as well as monkeys and lemurs. The only type of apes found in Meghalaya as also in India is Hoolock Gibbon. In Meghalaya, we have both macaques and langurs. Of the macaques, Rhesus Macaque and Assamese Macaque are found. The Golden Langur is a very rare species of Meghalaya and is on the verge of extinction. They inhabit the evergreen forests of Meghalaya. Among lemurs, the Slow Loris is found in Meghalaya.

**Birds:** Magpie-Robin is a favourite bird to be seen in Meghalaya. The joyful notes and vivacity of the Red-vented Bulbul make it very popular in Meghalaya. The Hill Myna is usually found in pairs or in flocks in the hill forests of Meghalaya. In Meghalaya Sal forests, the Red Jungle Fowl is common but their population is dwindling fast. The Large Pied Hornbill and the Great Indian Hornbill are found in Meghalaya. The Great Indian Hornbill is in fact the largest bird in Meghalaya. The Peacock Pheasant can be seen in the forests of Garo and Jaintia Hills. In cultivation fields and woodlands of Meghalaya, the Large Indian Parakeet is common. The Common Green Pigeon is found in flocks in woodlands of Meghalaya. The Black-necked Stork is a common bird on marshland, bheels, lakes and rivers in Meghalaya - usually found solitary, wading in shallow water. Blue Jay is a common bird, usually found around cultivation fields near human habitations. The Kalij Pheasant is very fond of thick undergrowth in ravine forests, and frequents cultivation around Hill villages in Garo Hills, Jaintia Hills and Khasi Hills. Among the Indian Great Horned Owls, the species found in Meghalaya is *bengalensis*.

**Reptiles and amphibians:** The most commonly found amphibians in Meghalaya are frogs and toads. In Meghalaya four types of reptiles are found - Lizards, Crocodiles, Tortoises and Snakes. Among the non-poisonous snakes found in Meghalaya, the following may be mentioned: Python, Blind snakes, Copper head, Green tree racer, Red necked Kulback. The poisonous snakes in Meghalaya include: Indian cobra, King cobra, Coral snake and Vipers. In Meghalaya, the fish species diversity is rich because of the presence of diverse waterbodies such as streams, rivers and bheels. Major carps such as *Labeo rohita*, *L. kalbasa*, *L. gonius*, *Katla-katla*, *Cirrhinus mrigala* are the prized and most coveted fish species. Amongst the minor carps, *Barbus*, *Stigma*, *B. sarana*, *B. ticto*, *B. conchonius*, *B. phutuna* are also found. The jheels usually contained Joelfishes like *Channa striatus*, *C. punctatus*, *C. marulius*, *Anabas spp.*, *Clarias sp.* Some of the species of fishes in Meghalaya show cold hill stream adaptation.

**Butterflies:** Varied climate and multiple plant life of near temperate to sub-tropical ones as also a richly diverse topography makes Meghalaya a natural storehouse of beautiful butterflies. About 250 species of butterflies are found in Meghalaya, out of about 1,000 species seen in India. Some of the most exquisite varieties of butterflies of Meghalaya, which are admired all over the

world are, Blue Peacock, the Kaiser-E-Hind, Leafs-Butterfly, the Dipper, and the Bhutan Glory. The Yellow Orange Tip has been recorded from Barapani during June. The Vagrant has been recorded from Nongpoh during February. The Common Blue Bottle has been recorded from Cherrapunjee, Mawphlang, Laitkor and Shillong during July to November. The Red-Breast Jazebel has been recorded from Nongpoh and Shillong during October.

### 3.4 Medicinal Plants<sup>15</sup>

The World Health Organisation (WHO) estimated that 80% of the population of developing countries relies on traditional medicines, mostly plant drugs, for their primary health care needs. However, plant based therapeutics are becoming popular in developed countries as well because of their lower cost and lesser side effects. In India they are used extensively in home remedies as well as in the Ayurveda, Siddha and Unani systems of medicine. Many substances used in the modern pharmaceutical industry are also of plant origin.

International market of medicinal plants is over US\$60 billion per year, which is growing at the rate of 7%. India, at present, exports herbal material and medicines to the tune of Rs. 446.3 crores, which has the potential of being raised to Rs. 3000 crores in the next few years. China and India are two great producers of medicinal plants together having more than 40% of global biodiversity. With the revival of Indian traditional systems of medicine including Ayurveda in the recent years, there has been a growth in the domestic demand for medicinal plants. The market of traditional medicines in India is estimated to be nearly Rs. 4000 crores, out of which the Ayurvedic products market alone accounts for about Rs. 3500 crores. There are nearly 7800 manufacturing units in India producing traditional plant based medicines. The promotion of medicinal plants can help achieve the three-fold objective of economic progress, inexpensive health care and preservation of biodiversity .

Meghalaya is known to be the home of 834 out of the 6000 medicinal plants found in India. There is an enormous scope for the state to emerge as a major supplier of medicinal plants to satisfy domestic as well as international demand. Many of the herbal plants have great marketability in a semi-processed form and are currently a major item of illegal exports to other countries, routed mainly through Bangladesh. Their systematic cultivation and promotion of drying/processing know-how has the potential of being developed into a promising rural industry and a tool of poverty alleviation in the state. The State Industrial Policy has identified the promotion of commercially viable medicinal plants as a thrust area. The description of some important medicinal plants found in Meghalaya is given below.

<sup>15</sup> S.K. Barik, K. Haridasan, Dona M. Sangma, N.J. Lakadong and V. Manners (2007) Developing medicinal plant sector of Meghalaya: An action plan. Meghalaya State Medicinal Plant Board, Shillong and National Medicinal Plant Board, New Delhi.

***Rauvolfia serpentina***: Is also known as sarpagandha. It is the source of the alkaloid reserpine, which is considered a sympathomimetic agent, one that targets that sympathetic nervous system. Reserpine has been found to lower blood pressure in very low doses. The estimated domestic demand is 588.7 tonnes per annum and the market price is estimated to be Rs. 155 per kilogram. The natural reserves of this plant are declining and the plant is currently endangered. It is also listed in the Red Data Book.

***Solanum khasianum***: Is commonly known as Ban-bhindi, Kandhari, Kantkari or Badi Kandhari is a rich source of splosodine used for the commercial production of steroidal drugs. It influences central nervous system.

***Taxus wallichiana***: Also known as Himalayan Yew. The bark, needles, leaves and twigs of *Taxus baccata* also known as yew are the source of a chemical compound that is used in the synthesis of taxol. Taxol has shown exciting potential as an anti-cancer drug particularly in the treatment of breast and ovarian cancers. This plant is in great demand in the international market and fetches a very good price. The plant is endangered and is listed in the Red Data Book.

***Swertia chirata***: Commonly known as chirayata is a bitter tonic. It is useful in stomach ailments. The estimated domestic demand is 1284.7 tonnes per annum and estimated market price is Rs. 280 per kilo. The plant is endangered and is listed in the Red Data Book.

***Asparagus racemosus***: Commonly known as Shatavar. The root of the plant is known to be useful as an antiseptic, diuretic and against dysentery. The estimated market price is Rs. 30 per Kilogram and the estimated domestic demand is 16,658.5 tonnes per annum.

***Berberis aristata***: Common name Daruhaldi is antipyretic, antiperiodic and diaphoretic. The estimated demand is 1829.4 tonnes per annum. The market price is about Rs. 10 per kilogram.

***Nardostachys jatamansi***: Known as Jatamansi is a very common ingredient in herbal medicines and cosmetics. The root and rhizome are the commonly used parts. It is a stimulant, intestinal tonic and useful in palpitation of heart. The estimated market price is Rs. 185 per kilogram. The plant is endangered and is listed in the red data book.

### 3.5. Prioritized Medicinal Plants of Meghalaya

Meghalaya with its wide ranging altitudes, forest types and resultant agroclimatic conditions offers habitats for a very large number of medicinal plants. The richness is also the result of the people's traditional knowledge on them. They differ widely in their habit and habitat requirements. Though the flora is well known and many ethnobotanical publications have been brought out, a consolidated account of the medicinal plant diversity is still lacking. This is all the more essential when we consider different tribes inhabiting different districts with their diverse traditional practices. Altogether 834 medicinal plant species have so far been reported. The medicinal plant species of Meghalaya have been prioritized based on trade and high income, conservation value

and use in traditional systems of medicine. One hundred twenty one species were priority listed for trade and commercial purpose as follows: ten top priority species, twenty three Priority I species, thirty eight Priority II species, twenty three Priority III species and thirty seven Priority IV species. The medicinal plant species for institutional and home gardens were also identified. The top ten medicinal plants important from the trade point of view for Meghalaya are listed in Table.

**List of Top Ten Prioritized Medicinal Plant Species  
for Trade and High Income in Meghalaya.**

Sl. No.	Botanical name	Common name	Areas of occurrence
1.	<i>Cinnamomum tamala</i>	Tejpat/bay leaf	Sohra, West Khasi Hills, Ri-Bhoi and War areas of East Khasi Hills
2.	<i>Piper longum</i>	Pippali	Throughout the state
3.	<i>Aloe barbadensis</i>	Gheekwar	Throughout the state
4.	<i>Rauvolfia serpentine</i>	Sarpagandha	Garo Hills , Ri- Bhoi
5.	<i>Symplocos racemosa</i>	Lodh/ lodh pathani	Garo Hills , Ri- Bhoi, Grampanni
6.	<i>Swertia chirayita</i>	Chirayita	Shillong, Jowai
7.	<i>Acorus calamus</i>	Vaach	Marsh, Tropical
8.	<i>Homalomena aromatica</i>	-	Ri Bhoi, East Khasi Hills and Garo Hills
9.	<i>Rosa damascena</i>	Gulab phool	Shillong, Jowai
10.	<i>Saraca asoca</i>	Ashoka	Garo Hills , Ri- Bhoi

S.K. Barik, K. Haridasan, Dona M. Sangma, N.J. Lakadong and V. Manners (2007) Developing medicinal plant sector of Meghalaya: An action plan. Meghalaya State Medicinal Plant Board, Shillong and National Medicinal Plant Board, New Delhi.

**3.6 Developing Medicinal Plant Sector in the State**

Despite the enormous potential of the medicinal plants, the production and marketing of medicinal plants is informal, inefficient and sometimes secretive. People are reluctant to take up large scale farming of medicinal plants. Some of the most important reasons preventing farmers to take up cultivation of medicinal plants are as follows:

**Research and development initiatives:** The entire process of collection and processing of medicinal plants is informal. There has been precious little research and development activity in this area. Systematic cultivation of medicinal plants has distinct agronomical requirements. Research and development activities are therefore required in the area of appropriate selection and identification, propagation methods, cultivation techniques, harvesting, quality control, post-harvest treatment and storage. It is also important to focus the research on plants that are not already in abundant supply and for which the state does not have to compete with other states especially Uttaranchal and Himachal Pradesh.



**Training and dissemination of know-how:** Research and development activity must be followed up with training programs aimed at dissemination of know-how among farmers in the state. Harvesting and processing of medicinal plants often requires “delicate labour” which women are capable of providing. Women as such must be specially targeted in such training programs. The fact that women contribute a large part of the labour in agricultural activities in the State, especially in the Jhumia community, underscores the importance of women in such programs.

**Quality control and international standards:** Indigenous materials are being used by societies all over the world for health and beauty care. The worldwide acceptability depends upon the processes that are adopted in distilling the active ingredients. This has to be done in hygienic conditions without resorting to the use of such reagents in materials which themselves are either banned or not acceptable elsewhere in the world. There are internationally accepted quality control processes and standards, which will first have to be understood and applied.

**Availability of quality planting material:** Regular, consistent supply of good quality planting material and other essential inputs is critical to the success of medicinal plant cultivation. This is a promising area to seek private sector involvement.

**Food security issues:** For long, the farmers in the state have been grappling with food security issues. Producing sufficient good grain for the family is the farmer’s primary concern. The cultivation of medicinal plants often involves long gestation periods. It may therefore be difficult to persuade the farmers in the state to take up cultivation of medicinal plants unless sufficient support is provided to address the farmers’ food security concerns. In addition, institutional measures such as crop insurance will also have to be introduced to mitigate the risks associated.

**Supply chain management and marketing:** Any effort aimed at promoting cultivation of medicinal plants will invariably be counter productive if unless assured markets are made available to the farmers to dispose their produce. Currently there are no regular markets for medicinal plants in the state and farmers may initially require handholding through extension services to help them sell their produce.

A large proportion of medicinal plants are collected largely from the wild. Non-sustainable harvesting of these plants has resulted in the depletion of many of the species. Many of these plants e.g. the *Swertia chirata*, *Taxus Wallichiana* and *Nardostachys jatamansi* are currently threatened and are listed in the Red Data Book. Some of these plants, such as the *Taxus Wallichiana* are also exported illegally to other states and to Bangladesh. Multidisciplinary intervention needs have been emphasized for development of medicinal plant sector in Meghalaya.

In order to develop the medicinal plant sector, the coordination of all the agencies is critical, particularly the land-based departments, industries, research organizations and pharmaceutical companies. Besides, the interventions have to be multidimensional, ranging from policy

development to technology development and from extension to product marketing. Some of the actions required for the development of the sector have been classified under short (0-3 years), medium (0-5 years) and long - term (0-10 years) plans and are listed in Box.

**Box: Short, medium and long term plans**

**Short-term plans**

- Market study on demand and supply of important commercial species.
- Compilation of existing agrotechnology (propagation & cultivation) in the form of a manual.
- A manual on post harvest technologies available and value addition prospects of selected species.
- Creating Home and institutional garden packages.
- Development of policies for medicinal plant conservation.
- Training and extension activities such as awareness creation, seminars, exhibitions, workshops, exposure visits, field tours, documentaries and videos and publications.
- Capacity building and human resource development in participating institutions, drug testing laboratories, folk healers, manufacturers, traders and cultivators.
- Strengthening the existing labs and farms.

**Medium term plans**

- Documentation of traditional health practices in the state.
- Domestication, nurseries and raising of quality planting stock.
- Enumeration of medicinal plants of the state.
- Establishing demonstration farms and plantations in different agroecosystems.
- Preparation of People's Biodiversity Register for each village and networking.
- Popularizing Herbal gardens.
- Pilot projects on cultivation practices (good agricultural Practices).
- Pilot project on post harvest technology (Good manufacturing practices).
- Pilot projects on value addition (Good Manufacturing practices).

**Long term plans**

- Conservation initiatives like establishment of MPCAs and Medicinal plant Reserves.
- Establishment and maintenance of gene banks, medicinal plant gardens and germplasm banks.
- Strengthening network for trade and marketing of medicinal and aromatic plants and products.
- Linking and enforcing the international policy and legal frameworks (CBD,WTO,FAO, etc).
- Establishment of value addition centres and involving the self help groups in these activities
- A dedicated Website for medicinal plants of Meghalaya.
- Incorporating medicinal plants and traditional practices in the education curricula.
- Introduction of medicinal plants in working plans and PA management plans.

**3.7. Major Threats to Biodiversity in Meghalaya**

The forests of Meghalaya, which are home to rich biodiversity and are centres of origin of several crop species, are now facing threat of degradation. A large section of the forests in the state have been cleared for shifting cultivation and for timber extraction . Large scale unscientific coal and

limestone mining has also been a cause of concern for loss of biodiversity. Some of the major threats to biodiversity in the state are discussed in the following paragraphs.

### **Habitat Loss, Degradation, and Fragmentation**

Habitat loss, land degradation, and fragmentation are among the prime causes of loss of biodiversity in the state. Deforestation due to Jhum cultivation, mining and extraction of timber have considerably altered the natural landscape of the state. There has been a significant loss of forest cover in the past and many large continuous forests have been fragmented into smaller patches. This has caused the reduction in population size of many species in the state. Many threatened categories of species such as *Ilex khasiana* are now facing the risk of extinction.

Fragmentation of the forests has the greatest impact on the elephant population. Meghalaya has the highest concentration of elephant population in the country and with the destruction of their natural habitats and alteration of their migratory tracts, the elephants are frequently straying into human settlements causing increased man-animal conflict. There have also been reports of elephants straying into Bangladesh from the Garo Hills and have caused damage to life and property in Bangladesh.

All species have specific food and habitat needs. The more specific these needs and localized the habitat, the greater the vulnerability of species to the loss of habitat to agricultural land, livestock, roads and cities. In the future, the only species that survive are likely to be those whose habitats are highly protected, or whose habitat corresponds to the degraded state associated with human activity<sup>16</sup>.

### **Contamination and Silting of Water Bodies**

The water bodies in Meghalaya are home to a large variety of fishes, amphibians and invertebrate. The contamination of the water bodies due to Acid Mine Drainage originating from coalmines and leaching of heavy metals threatens to damage the fragile ecosystem existing in the state's myriad water bodies. Amphibians such as frogs and toads with their porous skins are especially sensitive to human induced environmental changes. In addition, silting of rivers, lakes and streams due to massive soil erosion is also a major cause of concern for aquatic biodiversity.

While uncontaminated water bodies in the state have a high diversity of aquatic life and insects, the same cannot be said of contaminated water bodies. Acid Mine Drainage threatens to eliminate

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<sup>16</sup> National Academics Press

many aquatic insects such as Mayflies, Plecoptera and Caddis flies. Of these Mayflies are most sensitive <sup>17</sup> to these changes.

### **Smuggling of Timber and Other Forest Produce**

Biodiversity in the state is threatened due to smuggling of timber and other forest produce. Timber and other forest produce are illegally exported to other states as well as to Bangladesh. There are reports of spiralling illegal trade in the Himalayan Yew with Bangladesh. Unauthorized saw mills have come up in the neighbouring districts of Bangladesh. However, there has been a substantial decrease in these activities following the Supreme Court of India's intervention in 1996.

### **Poaching**

On the basis of data collected by the Wildlife Protection Society of India, an NGO, poaching is being carried out on an increasingly organized scale in Meghalaya. The state's border is a common poaching ground for elephants. The poachers hunt elephants from atop Machans <sup>18</sup>. Other than the man-animal conflict, elephants are poached for ivory, ribs and for meat. The other animals commonly poached include, small Indian civet, wild boars, barking deer, water monitor lizard, pangolin, common otter, leopard, sambhar etc.

### **Mega Hydroelectric Projects**

The state has a vast hydroelectric potential. Many mega hydroelectric projects are in the pipeline for construction to bring about development in the state by raising revenues through the sale of electricity. However, these mega projects would also threaten the rich biodiversity of the state if adequate conservation and mitigation efforts are not launched with full seriousness.

### **Man-animal Conflict**

Destruction of the elephant's natural habitat and migratory tracks, especially in the areas bordering Assam, coupled with a reported increase in the elephant population has resulted in elephant problem in many areas of the State. There are frequent reports of elephant intrusions resulting in the destruction of fields and other property. This has aggravated the man-animal confrontation, and villagers in those areas have become hostile against elephants. There have also been reports of elephants from Meghalaya straying into Bangladesh from the Garo Hills. These animals had reportedly attacked people in Bangladesh. Due to this, Bangladesh had threatened to eliminate these animals, evoking vehement appeals from conservators in India and elsewhere.

One of the most fundamental means to avoid man-animal conflict is to protect existing elephant habitat from further degradation and fragmentation. Important elephant corridors should be

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<sup>17</sup> Sumarlin Swer and O. P. Singh

<sup>18</sup> The Assam Tribune, 29/01/2003

identified and protected. In addition, sensitization of the local population must be done to avoid retaliatory attacks on elephants. Other means to avoid elephant intrusions may include, construction of elephant-proof barriers (trenches and electric fencings), deploying trained elephants (kunkis) and specially equipped squads<sup>19</sup>, Seismic sensors and alarm systems may be deployed in frequently raided villages to track elephant movements. In addition to these traditional measures, some of the other measures that have been experimented elsewhere in the world include creating buffers of “reduced attractiveness” around fields. These buffers may contain rows of crops that the elephants find unpalatable such as chillies and tobacco. Research has also been carried out to explore the possibilities for manipulating elephants’ behaviour using playback of vocalization. Experiments have also been carried out in Assam with some pungent varieties of chilli to repulse elephants. Chilli smoke bombs and ropes smeared with chilli can also be used to keep the elephants away<sup>20</sup>.

### **3.8. Mineral Resources**

#### **3.8.1 Introduction**

Meghalaya has rich mineral deposits. The most important minerals found in the state are coal, limestone, clay and Kaolin and silimanite. Notwithstanding the controversies surrounding its reserves and extraction, Uranium, of late has also assumed importance. Other minerals found in the state include phospherite, glass sand, granite, quartz and feldspar, gypsum, base metal, gold and iron ores. Coal and limestone are the only minerals being mined in the state at present. Mineral resources have a great bearing on the economy of the state and the life of its people. They have also affected the distribution of population in the state.

#### **3.8.2 Mineral Resources Occurring in the State<sup>21</sup>**

##### **Coal**

Meghalaya has rich deposits of coal that occur in every district of the state. The total estimated inferred reserves of coal in the state are of the order of 640 million tonnes. Of these, Garo Hills alone has some 359 tonnes. The coal found in the state is mostly of sub-bituminous type and is commonly known as tertiary coal. It has low ash content and a very high calorific value, but suffers from high sulphur content. It has a large number of uses including: power generation, fertilizer industries, smokeless coke, cement industries, textile industries, paper industries, rubber industries and brick burning and pottery industries.

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<sup>19</sup> Project Elephant - One Hundred-Twenty First Report on Action Taken by the Ministry of Environment & Forests presented to the Rajya Sabha on 4th February 2004.

<sup>20</sup> Source: “Chilli bombs to combat elephants” BBC News World Edition

<sup>21</sup> Source: Tables and Data – Directorate of Mineral Resources, Meghalaya

**Table – 3.9 Production of Coal**

Period	Jaintia Hills	Garo Hills	Khasi Hills	Total
2004-05	36,10,603	4,01,088	6,33,499	53,45,190
2005-06	37,79,738	11,20,525	5,65,451	55,65,714
2006-07	40,45,710	11,74,635	5,66,307	57,86,652
2007-08	43,59,878	13,70,263	8,11,004	65,41,145
2008-09 (April – January)	23,86,242	10,90,170	7,58,496	42,34,908

Source: DMR, GOM

The most prominent coalfields in the State are west Dadengiri, Siju, Balpakram, Pyndengrei, Langrin, Mawlong-Shella, Laitryngew and Bapung. The total production of coal in the state was 5,439,268 tonnes during the year 2003-2004. Jaintia Hills is the largest producer of coal in the state. It produced 3,918,037 tonnes of coal in the same year accounting about 72% of the total production of coal in the state. Garo Hills produced 1,058,440 tonnes while Khasi Hills produced 462,791 tonnes of coal in that year.

**Table 3.10 Export of Coal to Bangladesh**

Period	Jaintia Hills	Garo Hills	Khasi Hills	Total
2004-05	3,77,791	21,627	5,07,702	9,07,300
2005-06	3,96,841	18,192	3,39,981	8,14,014
2006-07	1,60,248	73,947	4,69,565	7,03,760
2007-08	3,10,254	82,199	6,03,685	9,96,138
2008-09 (April – January)	1,31,917	52,447	5,52,177	7,36,541

Source: DMR, GOM

Despite the large reserves of coal in the State, there is low domestic consumption due to absence of industries. A large quantity of coal produced in the state is exported to other states and Bangladesh. The total export of coal to Bangladesh during the year 2003-2004 was 875,577 tonnes. The export of coal to Bangladesh has risen in the past few years. The state exported 767,637 tonnes and 755,032 tonnes of coal to Bangladesh in the years 2002-2003 and 2001-2002 respectively.

### Limestone

The state has very large deposits of limestone, especially along the southern border of Meghalaya. The total inferred reserve of Limestone in the state has been estimated to be about 5,000 million tonnes. The limestone found in the state is of high quality and varies from cement grade to chemical grade. Chemical analyses have confirmed its suitability for steel, fertilizer and cement industries. In the chemical industries, it can be used in the production of precipitated calcium carbonate, calcium carbide, bleaching powder etc.

**Table 3.11 Production of Limestone (in Metric tonnes)**

Period	Jaintia Hills	Garo Hills	Khasi Hills	Total
2004-05	1,83,091	55,197	4,16,685	6,54,973
2005-06	5,80,901	51,452	4,11,812	10,44,165
2006-07	8,88,264	42,383	12,02,080	21,33,727
2007-08	12,95,837	59,030	7,98,200	21,53,067
2008-09 (April – January)	12,62,957	52,751	16,97,843	30,13,551

Source: DMR, GOM

Some important deposits are in Cherrapunjee, Mawlong-Ishamati, Komorrah, Shella, Borsora in Khasi Hills, Siju and Nangwalbibra in Garo Hills, Lumshnong, Sutnga, Nongkhlieh, Syndai and Lakadong in Jaintia Hills.

The ten functional cement plants in the State, 4 (four) in Jaintia Hills, 2 (two) in East Khasi Hills, 2 (two) in East Garo Hills and 2 (two) in Ri-Bhoi Districts, having a total installed capacity of 6240 TPD, are the major in-house consumers of Meghalaya Limestone. Besides these, Limestone of Meghalaya is also expected to be utilized in the 24 (twenty-four) numbers of cement Plants in the pipeline with total capacity of about 93590 TPD.

**Table 3.12 Export of Limestone to Bangladesh ( in Metric Tonnes)**

Period	Jaintia Hills	Garo Hills	Khasi Hills	Total
2004-05	Nil	Nil	1,72,760	1,72,760
2005-06	Nil	Nil	1,35,383	1,35,383
2006-07	Nil	Nil	5,92,859	5,92,859
2007-08		Nil	5,37,696	5,49,957
2008-09 (April – January)		Nil	14,55,506	15,16,683

Source: DMR, GOM

The total production of Limestone in the State during 2003-2004 was 721,750 tonnes. The production of limestone in 2002-2003 was 640,992 tonnes and in 2001-2002 was 584,963 tonnes. While there has been a gradual increase in the production of limestone, the export of limestone to Bangladesh is gradually declining. The State exported 181,068 tonnes of limestone to Bangladesh in 2003-2004. The exports in the years 2002-2003 and 2001-2002 were 215,472 tonnes and 241,405 tonnes respectively.

### **Clay and Kaolin (China Clay)**

White Clay deposits are found to occur in various parts of the State. The sedimentary or Lithomargic clay occurs in the Tertiary Formation, while Kaolin (China Clay) is associated with the Archaean gneissic rock. Physico-chemical tests have confirmed the suitability of Meghalaya Kaolin for ceramic, paper and rubber industries.

Fire Clay reserve of over 6 million tonnes with refractory characteristics is found to occur in Garo Hills. It is considered suitable for manufacture of Firebricks and Refractory industries.

Sedimentary white Clay or Lithomargic Clay is found in Cherrapunji and Mahadek in Khasi Hills,

Larnai and Tongseng in Jaintia Hills and Nangwalbibra and Rongrengiri in Garo Hills. The mineral may be used in whiteware industry. A probable reserve of about 90 million tonnes of this Clay has been estimated.

Kaolin or China Clay with total estimated reserve of 4.5 million tonnes occurs around Mawphlang, Smit and Laitlyngkot in Khasi Hills, Thadlaskein, Shangpung, Mulieh and Mynsgat in Jaintia Hills and Darugiri in Garo Hills.

**Table 3.13 Clay and Sillimanite**

(In '000 Metric Tonnes)		
Period	Clay	Sillimanite
1970-71	16	3
1975-76	6	5
1980-81	16	4.4
1985-86	4	3.9
1990-91	NR*	3.1
1995-96	NR*	Nil
NR – Not Reported.		

Source: DMR, GOM

There are no significant mining activities in respect of clay being reported after 1985-86. A small quantity of extraction was reported before that.

### **Sillimanite**

One of the best Sillimanite deposits of the world is found in the Sonapahar region of West Khasi Hills, where it is found in lensoid bands as well as float ore. The float ore is in the form of massive boulders up to 100 tonnes each.

The Sillimanite deposits occur in association with corundum, within the quartz- Sillimanite Schist, which forms a broad band that can be traced discontinuously over the area. Black mica is also found present in the sillimanite rock. The high alumina-content of the rock makes this mineral a natural refractory mineral of great commercial value.

The total inferred reserve of Sillimanite in Sonapahar is estimated at 0.045 million tonnes. Small deposits in the form of float boulders have also been found in Mawpomblang Village in the Khasi Hills. However no extraction activities are currently underway in respect of this mineral.

### **Phospherite**

Phospherite is used mainly in fertilizers. Nodules of Phospherite occur at the base of the Kopili Shale of Eocene age in Meghalaya. A phosphate deposit is located in the Sung Valley at the border of Khasi and Jaintia Hills Districts; besides, some Phosphatic nodules are also located in Rewak area of Garo Hills. The rock containing Phosphate in the Sung Valley is known as Apatite Magnetite rock, which has 15% to 30% of Phosphate-content. The reserves of Phosphatic rock as estimated by Geological Survey of India is about 5 million tonnes.



## **Glass-Sand**

Glass-Sand or Silica-Sand occurs in the Khasi Hills and the Garo Hills. The biggest reserves of the mineral in the State are in Umstew, Khasi Hills, about 43 kilometers from Shillong along Shillong-Cherrapunjee road. Other minor reserves are in Kreit in the Khasi Hills and Tura in the Garo Hills. The total reserve of Glass-Sand in Meghalaya is of the order of 3 million tonnes.

The sand contains a slightly high proportion of iron, which is not suitable for the production of first grade glassware. However bottles or sheet glasses may be manufactured from these sands where colour is not the sole consideration. The Silica-Sand can also be utilised in the manufacture of sodium silicate. The Assam Glass Factory at Guwahati uses this Glass-Sand and finds it suitable for the purpose.

## **Multi-coloured Granite and Black Granite**

Deposits of multi-coloured Granite have been located in the area around Nongpoh, Myllem and Mawkyrwat as well as in the area around Mendipathar - Songsak road. This granite is suitable for use as dimensional and decorative stones. The total reserves of granite are estimated to be of the order of 25 million cubic meters.

In addition, Jenjal and Hallidayganj appear to have promising deposits of Black Granite, suitable for making polished blocks and slabs.

## **Quartz and Feldspar**

Both Quartz & Feldspar are components of ceramic industry. These minerals are found to occur side by side in *Pegmatite Veins* in several localities of the Khasi and Garo Hills of Meghalaya. These minerals have been used in pottery industries in Meghalaya and Assam. The total indicated reserves of Quartz & Feldspar deposits in Meghalaya are estimated at 0.076 and 0.096 million tonnes respectively.

## **Gypsum**

Minor deposits of Gypsum are reported to occur in Mohendraganj and Harigaon in West Garo Hills where it occurs as minute crystals in the gypsiferous shale. The concentration of Gypsum in shale is 0.07%. Due to the uneconomic concentration of gypsum in the host rock, this reserve has not been accorded much importance. There has not been much effort to estimate the reserves of gypsum in the State.

## **Gold**

Gold tenors were recorded in three boreholes of the twelve boreholes drilled for detailed investigation in Tyrsad, Khasi Hills. The maximum thickness of gold bearing rock was recorded at 2.90 meters. In the core samples, the gold-content is found of the order of 0.8 gram/tonne to 62 gram/tonne, which is economically unviable for extraction. Traces of Gold have also been reported from rocks around Tyrsad in the Khasi Hills.

## Uranium

In 1984, India's Atomic Minerals Division found huge uranium oxide deposits at Domiasiat and then at Wahkhen, both in the West Khasi Hills, close to the State's border with Bangladesh. In 1992, the division completed its investigation and presented a final assessment of the deposit. The total deposits of uranium in the State are estimated to be about 13,500 tonnes and Meghalaya at present accounts for nearly 16% of India's uranium reserves. The deposit at Domiasiat is estimated to be about 9,500 tonnes while that at Wahkhen is estimated to be about 4,000 tonnes. The quality of uranium ore at Domiasiat and Wahkhen is much better than at India's other uranium mining area namely Jadugoda in the northern state of Jharkhand. While the recovery percentage at Jadugoda is about 0.02 to 0.06, the percentage is as high as 0.1 in Domiasiat. There could even be more uranium in Meghalaya but since mining operations have not commenced on the existing deposits, the Atomic Minerals Division has stopped exploring more reserves <sup>22</sup>.

## Base Metal

Geological and Geophysical investigations as carried out by the Geological Survey of India in a Shear Zone from Tyrsad to Barapani in the Khasi Hills have not indicated any rich zones of sulphide mineralisation, but established the occurrence of copper, zinc, nickel and cobalt, in the Shillong group of rocks and metadolerite of the area. At Umpyrtha of Khasi Hills, the polymetallic base metal mineralisation within the Archaean gneissic complex occurs discontinuously for about 5/6 KMs zone from Umpyrtha to Patharkhmah.

In the Umpyrtha block, the zones of polymetallic sulphide mineralisation indicate the presence of copper (1% to 1.5%) and zinc (2.25%) along with traces of molybdenum and tungsten. Copper, lead and zinc have been found to occur in the form of disseminated, specks rocks in Umpyrtha on the northern fringe of Khasi Hills, 60 km away from Guwahati. The probable reserve of these metals is estimated to be about 180,000 tonnes.

Banded-haematite quartzites have been found in association with the gneissic complex at Aradonga, Athiabari and Nishangram areas of Meghalaya. However no major mining work has yet been undertaken.

### 3.9. Revenue Receipts from Major Minerals

The State generated Rs. 862,509,004 as revenues from the extraction of major minerals in the year 2003-2004. A majority of these receipts came from royalties on coal amounting to Rs. 844,283,333. Royalties and dead rent on limestone fetched Rs. 10,862,059 in the same year and mineral cess amounted to Rs. 4,327,299. Revenues receipts from major minerals in the years 2001-2002 and 2002-2003 were Rs. 633,589,926 and Rs. 561,057,697 respectively.

<sup>22</sup> A BBC News report quoting a senior UCIL official

**Table 3.14 Revenue Receipts from Major Minerals.**

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09 (April – Feb)
Royalty on Coal	8878.02	9477.41	10158.90	11420.39	9213.87
Royalty/Dead Rent on Limestone	113.56	234.18	644.66	827.56	812.18
Mineral Cess	33.62	43.97	98.54	116.55	590.90
Mining Lease Fess	0.18	0.92	0.28	0.41	0.10
<b>Total</b>	<b>9025.38</b>	<b>9756.48</b>	<b>10902.38</b>	<b>12364.91</b>	<b>10617.05</b>

Source: DMR, GOM

### 3.10. Some Issues Related to Mining

Meghalaya has tremendous mineral wealth. However the State has not been able to derive optimum benefit from this wealth. The level of mineral exploitation is poor and the captive utilization is low. Some of the major impediments to the growth of mining in the state are listed below.

#### Unscientific Mining Methods

In Meghalaya, most of the coal reserves are on private lands. Private individuals therefore control most of the mining activities in the state and government has little control over coal mining in the state except collection of royalties from the sale of coal.

The mining method employed in Meghalaya is the age-old rat-hole method. In this method a narrow hole is made for the extraction of coal and as coal is extracted, the hole gets deeper and deeper. Depending upon the availability of coal, long horizontal burrows are also dug up. Small handcarts are used to carry the coal to nearby dump from where it is transported on trucks. This method is very inefficient and perilous. The rate of recovery of coal in rat-hole mining is very low as compared to opencast mining.

#### Environmental Consequences

Unscientific coal mining in the State has caused major damage to the environment. One of the most perceptible damages caused by rat-hole mining is the degradation of land. There are thousands of rat-hole pits abandoned after extraction of coal in the State. These pits get filled up with water during rain. This water percolates into ground water or floods into rivers and streams and pollutes the water resources in the State.

In addition, the soil extracted from these mines washes away into nearby streams and lakes causing siltation and increasing the risk of floods. The sulphur present in the coal makes the water acidic and has converted many agricultural fields in the state into unusable infertile land. Besides, the tracks made near the coalmines to transport the coal to the nearby roads cover a much larger area and cause a lot more damage.

#### Socio-economic Consequences of Mining

Mining activities have also caused migration from Nepal and Bangladesh into the State. These workers are employed with mine owners for paltry wages and with few facilities. These labourers

work under very hazardous conditions and medical attention in case of ill health and accidents is difficult to find.

Since the mining operation is concentrated with a few individuals, the benefits from the natural wealth of the state accrue to a select group of individuals and not to the public at large. Some mine owners in Jaintia hills have benefited from extensive coal mining on their lands but a large population is suffering from the adverse consequences of the mining. Besides, there is a visible gap between the rich and the poor. This rich and poor divide has been attributed to the unrest in some areas, especially among the youth.

### **Damage to Roads**

Miners often use old army disposed off Shaktiman trucks to transport the coal. These four-wheel driven trucks have a greater traction and are often overloaded due to which they cause extensive damage to the roads in the areas where they ply. The PWD roads in and around Sutnga Village near Jowai suffer extensive damage due to the heavy traffic movement. The Rat-holes dug very close to the roads also cause the roads to sink, causing extensive damage to the roads.

### **Health Hazards**

By contaminating rivers, streams, lakes and other sources of fresh water in the State, unscientific mining activities pose a serious threat to the health of local inhabitants. Mining also adds dust to the air thereby imperilling the health of the local inhabitants. Pollution from increased vehicular traffic due to mining activities, suspended particulate matter and gaseous emissions make matters worse.

## **3.11. Impediments to Development and Management of Mineral Resources**

### **Land Tenure System**

Due to the prevailing land tenure system, the government owns very little land in the State. This makes it very difficult for the government to regularize mining in the State. This also hampers any real assessment of the adverse effects of unscientific mining on private land or to take measures to mitigate these adverse effects.

### **Controversies Surrounding Uranium Mining**

Sizeable deposits of very high quality uranium have been found at Domiasiat and at Wahkhen in the West Khasi Hills near the border with Bangladesh. These deposits constitute nearly one-sixth of India's total uranium reserves. It is estimated that there could be more reserves but no further exploration is being carried out. Uranium Corporation Of India Limited (UCIL)'s effort to mine uranium in the State have met with resistance over fears of radiation related health hazards in the villages near the mining sites.

### **Industry-environment Conflict**

Meghalaya has some of the largest limestone deposits in the country. A significant percentage of the limestone in the state lies in the state's many limestone caves. These caves are extraordinary and have significant aesthetic as well as environmental appeal. According to a survey by the ZSI,

some of these caves are the only known home to some of the rare species of bats<sup>23</sup>. These caves also provide significant tourism potential and have elicited interest among cavers and adventurers across the world. The development of cement and other industries that use limestone may provide impetus to limestone mining in the State. However, it also threatens to damage the country's largest limestone cave network, thereby eroding the state's tourism potential and jeopardizing the biodiversity of the State.

The proposed ACC cement plant near Balphakram National Park in the Garo Hills met with stiff resistance from environmentalists as it threatened to disturb a crucial elephant corridor that passes through the Siju Sanctuary. The Indian Bureau of Mines, Nagpur (IBM) has been entrusted to find out whether the two cement plants that have come up in Lumshnong in Meghalaya's Jaintia Hills District are endangering Krem Kotsati, the country's longest cave chain<sup>24</sup>.

**Transport Infrastructure**

The transport infrastructure in the State is poor. This hampers the movement of minerals within and outside the State and discourages the mineral based industry in the State. The State is landlocked and does not have a railhead either. The State has deposits of black and multicoloured granite. There is however little domestic consumption of granite in the State as natural materials such as Bamboo and straw is the preferred material for construction in most areas. The mineral however cannot be exported to other states for want of infrastructure and connectivity.

**Absence of Local Industries**

While the State produces substantial quantities of coal and limestone, their captive consumption in the State is low. The State exports raw limestone to Bangladesh. The State could benefit if the same limestone is processed in chemical, cement or other industries and value added products exported. The State currently has five cement plants and two more are expected to come up. Similarly due to the low level of industrialization in the State, the consumption of other minerals in the State is also low.

**Security Perception**

The general security perception and fears of insurgency in the State are major hurdles for the growth of mining in the State. A lease granted to Coal India Limited recently for mining in the Garo Hills could not be operated amidst fear of insurgency. Officials of Coal India Limited, which is the largest public sector undertaking in the Garo Hills region, have been subjected to abduction and extortion.

Natural Resource Management Groups (NaRM-Gs) of NERCORMP Project

- Equal participation of both the Gender from each household to form the group as village development committee
- Participation in decision, development, economic activity and environmental protection
- Increase in NTFP
- Improved preservation and regeneration of Flora and fauna
- Improved biodiversity conservation
- Improved volume and quality of water;
- Better access to the fruits of development.

Source: NERCORMP

<sup>23</sup> Neeraj Vagholikar, Kalpvriksh in <http://www.indiajungles.com/>

<sup>24</sup> The Telegraph, February 6, 2005

### **3.12. Role of Women in the Management of Natural Resources**

Gender roles in Meghalaya, especially those emanating from the matrilineal structure of society, have put women in a stewardship role in relation to natural resources - especially land, wildlife, forest and water resources. Women have to depend on natural resources for food and condiments, fuel, fodder, and water. Degradation of these resources have an adverse impact on women's lives as they find it increasingly difficult to run their households. This is particularly true for the shifting cultivator population of the State, wherein women have a much bigger role to play in feeding the families. Their survival and that of their families depend directly on their making use of the natural resources. Women therefore better understand the importance of natural resources and the need to preserve them

The role of women is therefore critical in promoting a sustainable use of the natural resources. Any program targeted at promoting sustainable use of natural resources must take into account the role of women as managers of natural resources and as agents of change. Women tend to be more receptive and capable of forming cohesive groups for managing natural resources. Some areas where women's role must be considered are discussed hereunder:

#### **3.12.1. Watershed Management**

Watershed development helps in sustainable development of natural resources and is therefore beneficial to the community at large, especially women. It can enhance the productivity of the land resources and thereby helps improve the economic condition of communities. Experience has proven that all-women watershed management committees have been extremely effective.

#### **3.12.2. Forest Management**

Collection, processing, storing and consumption of forests products is primarily the responsibility of women. They contribute a majority of the labour requirements in these activities. The involvement of women is therefore instrumental for any program aimed at proper management of the extraction of forest produce. Women's involvement in Joint Forest Management Programme can substantially improve the efficiency of the programme. Therefore, the Meghalaya Joint Forest Management Regulation, 2003 prescribes adequate woman members in the Executive Committee of the Joint Forest Management Committees.

#### **3.12.3. Non-renewable Resource Management**

Women depend upon fuel wood gathered from the forests for their household energy requirements. Alternative sources of energy such as biogas, solar energy, small hydropower etc. can be explored to reduce the strain on forests. Women's participation can help improve the effectiveness of these programmes.

#### **3.12.4. Organic Farming**

Organic farming is growing in popularity the world over. All kinds of agricultural products are being produced organically, these include food grains, meat, dairy, eggs, fibres and processed food products. Organic farming management relies on developing natural means to enhance plant

productivity and to disrupt habitat for pest organisms. It includes the purposeful maintenance and replenishment of soil fertility. The reduced use of synthetic pesticides or fertilizers can avoid several problems associated with these products such as environmental pollution. The State should work on introducing “Organic System Plans” in selective pockets of the State. Women’s involvement in these plans can help to make their implementation more effective. Women can also be involved in activities like vermiculture, which are complimentary to organic farming. The certification process for shifting cultivation products, which are essentially organic would help the shifting cultivators of the State.

### **3.12.5. Medicinal Plants**

Women are often engaged in the collection and processing of medicinal plants. Most of these plants require “delicate handling” which is often provided by women. The role played by women therefore has a greater bearing on sustained and profitable harvesting of these medicinal plants and must be taken into account for deriving a strategy for the extraction and use of medicinal plants.

## **3.13 Conclusions and Recommendations**

### **3.13.1 Minerals**

Keeping in view the sub-optimal exploitation of minerals and the adverse effects of unscientific mining on the environment of the state, there is a need to gradually regularize the mining activities in the State. The ownership of land is at the heart of the bottleneck for efficient exploitation of this valuable resource. Currently, most minerals are being exploited privately by individual landowners. These private mine owners, are unable to deploy modern technology and tools for efficient and cost effective extraction due to the want of scale and investment capability. The contradiction between the ownership of land and the ownership of minerals contained inside the earth will require policy and legal intervention wherein some clarity will have to be brought in to enable investors to invest and effectively exploit this resource.

While that may take some time, landowners could be brought together in the form of cooperatives on the line of any of the successful cooperative models in the country like Amul or sugar cooperatives of Maharashtra. These cooperatives could then opt for introduction of new technology and methods to make exploitation and marketing of minerals efficient and cost effective. Downstream operations like washing of coal produced to reduce ash content for which the market prospects are quite good, will happen only in the second phase which will have to wait till the policy and legal issues are resolved or the cooperative movement is perceived to successfully work.

In order to reduce the adverse ecological impact of mining, all mining activities should gradually be brought under the purview of an Environment Management Plan duly approved by the Environment and Forest Departments on the lines of the rest of the country. This assumes greater significance in light of the adverse effects of coal mining discussed earlier. Socio-economic and

ecological impact analysis must precede all fresh mining initiatives in the state. This is necessitated due to the environmental concerns raised in relation to the limestone quarrying in the State.

### **3.13.2 Women's role in Natural Resource Management**

The significance of women's participation in the management of natural resources is well understood. In order to motivate and prepare the women of the state to play a more constructive role in the sustainable use of natural resources, workshops and training sessions can be organized for rural women. These training sessions and workshops should be aimed at acquainting women with new technologies. Women's self-help groups should be promoted to facilitate effective interaction with women for this purpose. These self-help groups should be encouraged to create a formal database of their traditional knowledge, which can be utilized to derive context specific strategies for conservation of natural resources. This may also require providing micro credit facilities to take up specific projects. Women self-help groups of Meghalaya have successfully implemented several programs for conservation of natural resources under such schemes as the International Fund for Agriculture (IFAD-NERCORMP & MRDS) and the National Afforestation Programme (NAP). Their success can be replicated by utilizing experience and knowledge gained by these self-help groups. A platform may be created for promoting interaction between members or representatives from these self-help groups with other women groups in the State.

### **3.13.3 Water Resources**

The Integrated watershed management exercise needs to be undertaken based on principles of size specific planning. The integrated watershed development guidelines as prepared by the Government of India, Ministry of Agriculture and Environment and Forests, could be taken as base documents, for creating Meghalaya specific watershed management guidelines. These could then be used by implementing agencies for implementation and monitoring of watershed management programs. External experts should be engaged for preparing the guidelines and the guidelines should cover the full cycle of the program.

### **3.13.4 Biodiversity**

Planning should be based on land capability. While land capability classification is a macro level exercise, site specific planning is a micro level. Both macro and micro level plans can be facilitated through the use of GIS and remote sensing systems. As far as possible, the existing forests should be preserved to prevent further loss of biodiversity. In biodiversity rich areas, habitat improvement works should be undertaken. These can be done in consultation with the specialist institutions, like the Wildlife Institute of India.

Planning for biodiversity conservation should be done in a manner that assists endemic species proliferation and conservation of threatened categories of species.



### **3.13.5 Development of Medicinal Plants**

#### **Industry Linked Research and Patenting**

Further research and development must be carried out in the processing of medicinal plants keeping in view the industrial use of such products. As part of the TRIPS agreement and its incorporation in the WTO, protection against patenting indigenous knowledge by industry and multinationals has become weak and tenuous. It is therefore important that indigenous knowledge is protected through explicit agreements with downstream industry, which will use this know-how after conversion into either generic processes for drug manufacture or specific products. These in turn can be patented in a manner that will enable this knowledge to be protected, exploited and enhanced for the national good. There should be an increased focus on exporting value added products like herbal medicines and drugs rather than raw material. The state must emerge as a supplier of important herbal medicines and drugs rather than being recognized as just another supplier of raw medicinal plants. This will help create a local industry for the treatment and processing of medicinal plants.

#### **Stringent Quality Controls**

At present, there is too little control in the country over the quality and genuineness of the herbal drugs produced and sold. Unlike allopathic drugs, herbal products do not have to pass the scrutiny of the Drug Controller of India. As a result the medicines based on traditional systems are gradually losing faith. Stories are afloat of the spurious herbal medicines produced by some of the well-known herbal drug companies in India <sup>25</sup>.

It is therefore extremely essential that a policy should be introduced to test the quality, safety and effectiveness of the herbal medicines produced, if the state were to be recognized in the national and international market as a supplier of medicinal products.

#### **Traditional Medicine Hospital Infrastructure**

At present, traditional knowledge is not available through formal channels. The State should initiate steps to formally introduce this traditional knowledge after converting it into scientific facts through the medical educational system and then making it available in State hospitals. Selected herbal medicines can be verified for their effectiveness in certain ailments and can be prescribed either in place of or along with allopathic medicines.

#### **Proposed Action Plan for developing Medicinal Plant sector<sup>26</sup>**

A precise action plan as suggested in the “Developing Medicinal Plant Sector in Meghalaya:

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<sup>25</sup> Suman Sahai, Medicinal Plants for Modern Health Care

<sup>26</sup> Same as in 14 / 15

An action plan” is reproduced below.

Broad areas	Proposed Action	Stakeholders/ Implementer	Possible source(s) of support	Project Duration	Plan Term	Priority
Identification and documentation	Survey of the plants and herbarium studies	NEHU. BSI along with the colleges	MoEF, NMPB	5 years	Medium	I
	Population characterization and screening of the medicinal plant species	NEHU along with the colleges	MoEF, NMPB and DST	5 years	Medium	I
	Validation of traditional medical practices	NEHU, local colleges, NBRI and CDRI along with folk healers	NMPB and ICMR	5 years	Long	II
In situ conservation	Establishment of MPCAs	Forest Department	MoEF, NMPB	5 years	Long	I
	Establishment of Medicinal Plant Reserves	Forest Department	MoEF, NMPB	5 years	Long	I
	Encouraging the protection and propagation of medicinal plants within the existing PAs and RFs through prescription in the respective management plans or working plans	Forest Department	-	-	Long	II
Ex situ conservation	Establishment of germplasm banks, field gene banks and demonstration herbal gardens at different locations of the state	Forest Department, NMPB, SMPB, Identified Schools and Colleges, Agriculture and Horticulture field sites	MoEF, NMPB	5 years	Long	I
Propagation and cultivation	Cluster – based cultivation of prioritized species	Cultivators and SMPB	NMPB, NABARD, NEDFi	5 years	Long	I
	Establishment of medicinal plant demonstration farms in selected clusters	Cultivators, NGOs and SMPB	NMPB	5 years	Medium	I
	Organizing Producers into Farmer Interest Groups (FIGS) and Farmer Associations	SMPB and Agriculture Department	-	-	Long	I

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	Development of seed banks and seed orchards for authentic seed source and quality planting material to support cultivation.	Forest Department and Agriculture/ Horticulture Departments	NMPB	10 years	Long	I
	Establishment of tissue culture facilities for mass production of virus free quality planting material	SMPB	DBT, NMPB	5 years	Long	II
	Establishment of advanced nurseries for production of quality planting material	Forest Department, Horticulture Department, NGOs like RRTC	NMPB	5 years	Long	I
	Popularize and ensure to follow good cultivation and collection practices	SMPB	SMPB	2 years	Short	I
	Facilitate the development of agrotechnology for the species presently collected from the forest	ICAR, RFRI and Silviculture Division of Forest Department	MoEF, NMPB	5 years	Long	III
	Introduce a mechanism for registration of Cultivators, Traders and Manufacturers in the state	SMPB	-	-	Short	I
	Popularizing the Institutional and Home medicinal gardens	SMPB, FRLHT	-	-	Short	I
Processing, Post-harvest technologies and Value addition	Establishment of Processing and Value addition Centres	SMPB, Private entrepreneurs, SHGs and Village Councils, JFMCs	NMPB, DHFW, DBT, CSIR and DST	5 years	Long	I
	Strengthening and supporting the existing Medicinal Plant firms, Processing and manufacturing units	Existing medicinal plant firms and SMPB	NMPB	2 years	Short	I
Quality control	Recognize the sources of seeds and ensure supply of Quality Planting Material (QPM)	Forest Department	-	-	Long	II
	Selection of right species, authentication, superior germplasm of selected species to ensure the supply of quality planting material	Forest department with the help of experts	-	-	Long	I

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	Ensuring quality control at cultivation stage	SMPB	-	-	Long	II
	Ensuring quality control at value addition stage	SMPB	-	-	Short	I
	Establishing new labs and Strengthening of existing Drug Testing Laboratories (for determination of quality products at the propagation (Quality Planting Material) and harvesting level or Commissioning an agency for quality testing	Health Department, NEHU	DBT, DST, CSIR	3 years	Short	I
	Ensure international quality of production, processing and value addition and introduce certification	SMPB	SMPB	5 years	Medium	II
Marketing	Assessing the Market Demand for Specific Medicinal plants	SMPB	SMPB	1 year	Short	I
	Addressing the legal and policy issues for smooth trading of medicinal plants	Forest Department	-	-	Short	I
	Involving big Pharmaceutical houses by way of facilitating the establishment of processing and drug manufacturing units in the state	SMPB and NMPB	-	-	Long	I
	Organizing Buyers and Sellers meet	SMPB	SMPB/NMPB	5 years	Medium	II
	Marketing linkage and Market intelligence	SMPB, APEDA, NERMAC	-	-	Long	I
Linkages	Linkage with the schemes of Ministry of Health	SMPB, Stakeholders and MoH	Vanaspati van, Renovation of labs and Folk healers training schemes of MoH	5 years	Medium	I
	Linkage with FDAs and JFMCs	SMPB, Stakeholders, Forest Department and NAEB	NAEB	5 years	Long	I

	Linkage with R&D Institutions	SMPB, RRL, RFRI, CDRI, NBRI, NEHU, ICAR, FRLHT	-	-	Long	I
	Linkage with NGOs and private organizations	SMPB and Non Governmental Organizations	-	-	Long	I
	Linkage with Financial Institutions	SMPB, NABARD, NEDFi	-	-	Long	I
	Linking and enforcing the international policy and legal frameworks (CBD, WTO, FAO etc.)	SMPB	-	-	Long	III
Income and employment generation	Promoting medicinal plants as IGAs	FDAs, RD departments, Village level Institutions	NAP, EGS, RLEGP	5 years	Long	I
Capacity Development and Training	The institutions need to be identified for taking care of different HRD aspects for various levels of stakeholders in the medicinal plant sector	SIRD, RRTC, ICAR, KVKs, NEHU, Forest Department, Agriculture Department	DST, DBT, CSIR, NMPB	3 years	Short	I
	Institutionalization of training programmes	SMPB	-	-	Short	I
	Organizing Folk healers into Association (s) and the capacity building of folk healers	SMPB	MoH	3 years	Medium	II

### 3.13.6 Institutional linkages and technology input

One common bottleneck in effective management of natural resources of Meghalaya is the poor technological input. There is a need to utilize the available technologies in an appropriate manner and efforts must be initiated to develop need-based technologies that are not available. For this the natural resource based research institutions located in Meghalaya such as ICAR, NEHU, BSI, CAU and BRDC should be entrusted with the task of developing the technologies and utilizing them in the field for effective management of natural resources of the state. The Indian School of Mines, Dhanbad and IITs should be involved for developing technology packages for rehabilitation of mined areas and technologies for value addition of natural resource products. Further, a consistent policy for natural resource management must be adopted in the state so that the project approach hitherto followed is converted into a programme approach.

**Carbon finance:** Although the global carbon finance mechanism itself is still in its infancy, there are promising opportunities for carbon finance in the northeast Indian natural resource sector. By converting low earning agricultural lands to forests, and also by redefining currently incorrectly registered forestlands as non forests, through the appropriate definitions of eco-region this can be turned as an advantage. Institutional capacity, reducing the level of transaction costs, and

focusing on activities that complement projects dealing with land degradation, watershed issues, and biodiversity etc have to be achieved in the Natural resource management. This could generate benefits for local land users and owners as well for the local and global environment.

### **3.13.7 An Integrated and Holistic Framework of Natural Resource Management in Meghalaya<sup>27</sup>:**

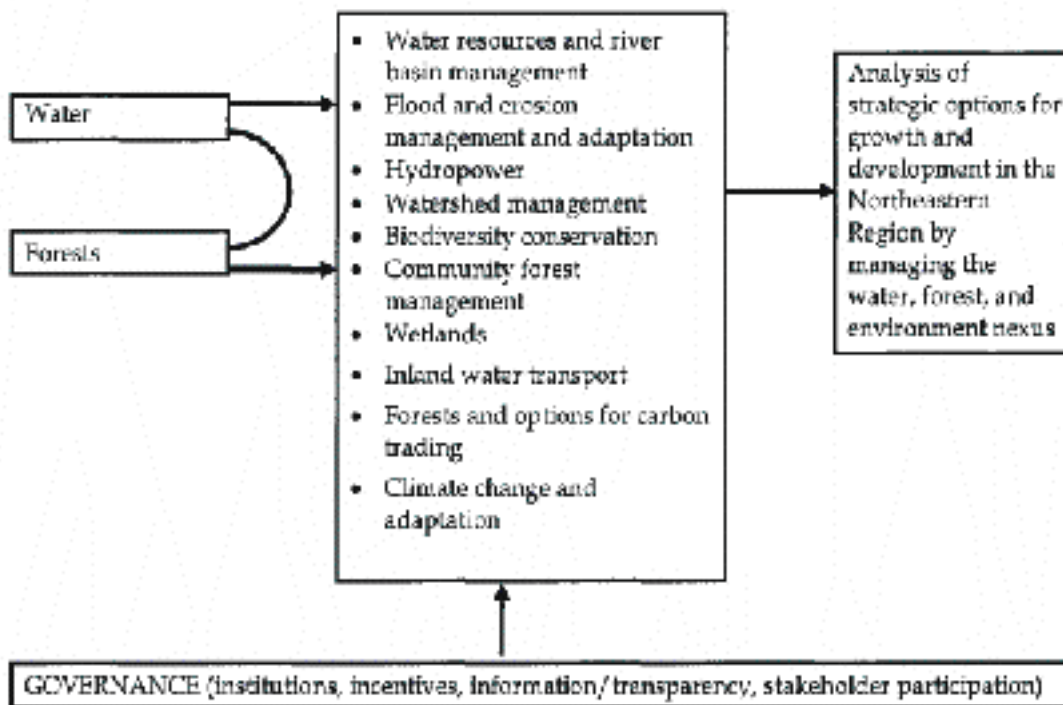
In general, resource management must be guided by a sensitive (responsive) and restorative approach. Eco-conservation; people's involvement; gendered planning; recharging traditional agro-eco-systems through traditional knowledge and appropriate technology; scientific approach to agriculture, animal husbandry and horticulture in order to raise productivity and diversification through ecologically sustainable industries and tourism are dimensions acknowledged by the Planning Commission of India for hill areas development. Natural resource management approach in Meghalaya must acknowledge and address such facets.

Break down of traditional resource management processes and changes lead to the process of marginalisation and results in detaching people from the natural resource base. A similar potential predicament for Meghalaya exists as analysed by IFAD. Majority of people in Meghalaya live in rural areas and are dependent on nature and agriculture. The increasing trend in poverty, disparity and unemployment may form a breeding ground of violence. Meghalaya will have to be responsive to its hill specificities taking the study by ICIMOD into account and proper analysis of resource productivity linkages. The hill specificities of Meghalaya and the richness of natural resources in its diverse agro-ecological setting demands integrated resource planning with a holistic approach towards natural resource management. An approach that can harmonise the traditional ways of living with nature and improve the production base through resource-intensification-focussed strategies of livelihood with ecological security of sustainable development will be necessary for adoption. ***This would require rationalising and defining stakes; sincere efforts towards capacity building and reforms and evolving local perspectives on development for in-tandem action.*** Towards this, an integrated and holistic natural resources planning and management perspective is necessary which takes local hill specificities, sustainable agriculture and livelihoods into account. This also calls for 1. an institutionalised local control and accountability for resource management and conservation; 2. equitable distribution for checking and reducing disparity and 3. holistic strategies for enforcing the mutuality and linkages of components in the ecosystem.

<sup>27</sup> Dr. Shreeranjana: 'Perspectives of Development in Meghalaya' (2001)

Concerned and connected issues in NRM <sup>29</sup>

Figure 1. Interlinkage of topics addressed in the study



Since the community and people are the owners of resources, the state has to ensure equitable development of regions and people by facilitating pro-poor policies, decentralisation coupled with structural reforms linked empowerment and approach to good governance. This perhaps will allow the potential and promises to be realised in large measures in the state and will not result in the failures of development. <sup>28</sup>

<sup>28</sup> Dr. Shreerajan: 'Framework of Holistic and Integrated Natural Resource Management in Meghalaya' (2005). NEICSSR symposium.

<sup>29</sup> **Report No. 36397-IN:** India: Development and Growth in Northeast India. The Natural Resources, Water, and Environment Nexus: May 2007:South Asia Region India Country Management Unit, Socially Sustainable Development Department, Environment and Water Resources Unit.



**RIVER SIMSANG**



**ORCHARD IN GARO HILLS**





**PITCHER PLANT**



**FOREST IN MEGHALAYA**



**RIVER CANYONING**



## MONSOON IN CHERRAPUNJEE



**CHAPTER IV**

**FISCAL &  
FINANCIAL  
MANAGEMENT**

## CHAPTER IV

### FINANCES OF THE STATE GOVERNMENT<sup>1</sup>

#### 4.1 Structure of Government Accounts:

The accounts of the State Government are kept in three parts (i) Consolidated Fund, (ii) Contingency Fund and (iii) Public Account.

#### Part I : Consolidated Fund

All revenues received by the State Government, all loans raised by issue of treasury bills, internal and external loans and all moneys received by the Government in repayment of loans shall form one consolidated fund entitled 'The Consolidated Fund of State' established under Article 266(1) of the Constitution of India.

#### Part II : Contingency Fund

Contingency Fund of the State established under Article 267(2) of the Constitution is in the nature of an imprest placed at the disposal of the Governor to enable him to make advances to meet urgent unforeseen expenditure, pending authorization by the Legislature. Approval of the Legislature for such expenditure and for withdrawal of an equivalent amount from the Consolidated Fund is subsequently obtained, whereupon the advances from the Contingency Fund are recouped to the Fund.

#### Part III : Public Account

Receipts and disbursements in respect of certain transactions such as small savings, provident funds, reserve funds, deposits, suspense, remittances, etc. which do not form part of the Consolidated Fund, are kept in the Public Account set up under Article 266(2) of the Constitution and are not subject to vote by the State Legislature.

The Finance Accounts of the Government of Meghalaya are laid out in nineteen statements, presenting receipts and expenditure, revenue as well as capital, in the Consolidated Fund, Contingency Fund and the Public Account.

#### 4.1.1 Summary of Receipts and Disbursements

**Table 4.1** summarises the financial position of the State Government for the year 2006-07 covering revenue receipts and expenditure, capital receipts and expenditure and public accounts receipts/disbursements as emerging from the Statement of Finance Accounts and other detailed statements.

<sup>1</sup> The chapter is largely based on inputs from CAG Reports & the Directorate of Economics & Statistics

**Table 4.1 : Summary of Receipts and Disbursements for the year 2006-07**  
(Rupees in crore)

2005-06	Receipts	2006-07	2005-06	Disbursements	2006-07		
<b>Section — A: Revenue</b>							
					<b>Non-Plan</b>	<b>Plan</b>	<b>Total</b>
<b>1746.94</b>	<b>I. Revenue Receipts</b>	<b>2142.19</b>	<b>1674.48</b>	<b>I. Revenue Expenditure</b>	<b>1341.04</b>	<b>566.46</b>	<b>1907.50</b>
252.67	Tax revenue	304.74	625.33	General Services	677.90	25.19	703.09
146.01	Non-tax revenue	184.37	554.75	Social Services	390.19	224.11	614.30
350.57	Share of Union Taxes/ Duties	447.18	494.40	Economic Services	272.95	317.16	590.11
997.69	Grants-in-aid from Government of India	1205.90					
<b>Section - B: Capital</b>							
	<b>II. Miscellaneous Capital receipts</b>		<b>259.33</b>	<b>II. Capital Outlay</b>	<b>7.02</b>	<b>313.35</b>	<b>320.37</b>
<b>18.52</b>	<b>III. Recovery of Loans and Advances</b>	<b>17.11</b>	<b>10.63</b>	<b>III. Loans and Advances disbursed</b>	<b>3.68</b>	<b>2.28</b>	<b>5.96</b>
<b>250.46</b>	<b>IV. Public Debt Receipts <sup>2</sup></b>	<b>246.05</b>	<b>63.37</b>	<b>IV. Repayment of Public Debt</b>	<b>-</b>	<b>-</b>	<b>86.28</b>
	<b>V. Contingency Fund</b>			<b>V. Contingency Fund</b>			
<b>1107.80</b>	<b>VI. Public Account Receipts</b>	<b>1257.71</b>	<b>914.43</b>	<b>VI. Public Account Disbursements</b>			<b>1198.09</b>
<b>(-) 43.14</b>	<b>Opening Balance</b>	<b>158.34</b>	<b>158.34</b>	<b>Closing Balance</b>			<b>303.20</b>
<b>3080.58</b>	<b>Total</b>	<b>3821.40</b>	<b>3080.58</b>	<b>Total</b>			<b>3821.40</b>

Following are the significant changes during 2006-07 over the previous year:

- Revenue receipts grew by Rs.395 crore over the previous year. The increase was mainly contributed by grants-in-aid from the Government of India (GOI) (Rs.208 crore), State's share of Union taxes and duties (Rs.97 crore) and tax revenue (Rs.52 crore).
- Revenue expenditure and capital expenditure increased by Rs.233 crore and Rs.61 crore respectively over the previous year.
- Recovery of loans and advances during the current year decreased by about Rs.1.50 crore compared to the previous year.
- Public Debt receipts decreased by about Rs.4 crore over previous year mainly due to decrease under Special Securities issued to National Small Savings Fund of the Central Government by Rs.32 crore.
- Public Account receipts increased by Rs.150 crore over previous year.
- Cash balance of the State increased by Rs.145 crore over previous year mainly by way of increase in cash balance investment (Rs.201 crore).

<sup>2</sup> Includes net Ways and Means Advances

#### 4.1.2 Fiscal Position by Key Indicators

The fiscal position of the State Government as reflected by the key fiscal indicators during the current year as compared to the previous year is given in **Table 4.2**.

**Table 4.2**

(Rupees in crore)

2005-06	Sl.No.	Major Aggregates	2006-07
<b>1,747</b>	<b>1.</b>	<b>Revenue Receipts (2+3+4)</b>	<b>2,142</b>
253	2.	Tax Revenue	305
146	3.	Non-Tax Revenue	184
1,348	4.	Other Receipts	1,653
19	5.	Non-Debt Capital Receipts	17
19	6.	Of which Recovery of Loans	17
<b>1,766</b>	<b>7.</b>	<b>Total Receipts (1+5)</b>	<b>2,159</b>
1,187	8.	Non-Plan Expenditure (9+11+12)	1,352
1,183	9.	On Revenue Account	1,341
191	10.	Of which, Interest payments	203
1	11.	On Capital Account	7
3	12.	On Loans disbursed	4
<b>757</b>	<b>13.</b>	<b>Plan Expenditure (14+15+16)</b>	<b>881</b>
491	14.	On Revenue Account	566
258	15.	On Capital Account	313
8	16.	On Loans disbursed	2
<b>1,944</b>	<b>17.</b>	<b>Total Expenditure (8+13)</b>	<b>2,233</b>
<b>(-) 178</b>	<b>18.</b>	<b>Fiscal Deficit (-) (1+5-17)</b>	<b>(-) 74</b>
<b>(+) 73</b>	<b>19.</b>	<b>Revenue Surplus (+)/Deficit(-) {1-(9+14)}</b>	<b>(+) 235</b>
<b>(+) 13</b>	<b>20.</b>	<b>Primary Deficit (-)/Surplus (+) {(1+5)-(17-10)}</b>	<b>(+) 129</b>

During 2006-07, revenue receipts increased by 23 per cent (Rs.395 crore) while revenue expenditure increased by 14 per cent (Rs.233 crore) over the previous year, resulting in increase in surplus of Rs.162 crore in revenue account. Given the increase in revenue surplus of Rs.162 crore and the marginal decrease of Rs.2 crore in non-debt capital receipts and the increase of Rs.56 crore on account of increase in capital expenditure (Rs.61 crore) and decrease in loans and advances disbursed (Rs.5 crore) during 2006-07 over the previous year, fiscal deficit decreased by Rs.104 crore during the current year. The decrease in fiscal deficit accompanied by an increase of Rs.12 crore in interest payments during 2006-07 over the previous year, led to a significant improvement in primary surplus by Rs.116 crore.

#### 4.2 Methodology adopted for assessment of Fiscal Position

The trends in the major fiscal aggregates of receipts and expenditure emerging from the Statements of Finance Accounts were analysed wherever necessary over the period from 2001-02 to 2006-07 and observations have been made on their behaviour. In its Restructuring Plan of State finances, the Twelfth Finance Commission (TFC) recommended the norms/ceiling for some fiscal aggregates and also made normative projections for others. In addition, TFC also recommended

that all States enact the Fiscal Responsibility (FR) Act and draw their fiscal correction path accordingly for the five year period (2005-06 to 2009-10) so that fiscal position of the State could be improved as committed in their respective FR Acts/Rules during medium to long run. The norms/ceilings prescribed by the TFC as well as its projections for fiscal aggregates along with the commitments/projections made by the State Government in its FR Act and in other statements required to be laid in the Legislature under the Act were used to make qualitative assessment of the trends and pattern of major fiscal aggregates during the current year. Assuming that Gross State Domestic Product (GSDP) is a good indicator of the performance of the State's economy, major fiscal aggregates like tax and non-tax revenue, revenue and capital expenditure, internal debt and revenue and fiscal deficits have been presented as percentage to the GSDP at current prices. The buoyancy coefficients for tax revenues, non-tax revenues, revenue expenditure, etc. with reference to the base represented by GSDP have also been worked out to assess as to whether the mobilisation of resources, pattern of expenditure, etc. are keeping pace with the change in the base or these fiscal aggregates have also been affected by factors other than GSDP. The trends in growth and composition of GSDP for last six years are presented in **Table 4.3**.

**Table 4.3: Trends in Growth of GSDP**

Estimates	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
GSDP (Rupees in crore)	4,615	4,900	5,504	5,980	6,470	7,052
GSDP (Rate of Growth in per cent)	13.98	6.18	12.33	8.65	8.19	9.00

*Source: New GSDP Series furnished (October 2007) by the Directorate of Economics and Statistics, Government of Meghalaya.*

The key fiscal aggregates for the purpose have been grouped under four major heads: (i) Trends and Composition of Aggregate Receipts, (ii) Application of Resources, (iii) Assets and Liabilities and (iv) Management of Deficits. The overall financial performance of the State Government as a body corporate has been presented by application of a set of ratios commonly adopted for the relational interpretation of fiscal aggregates.

#### **4.2.1 The Fiscal Responsibility and Budget Management Act**

The State Government has enacted the Meghalaya Fiscal Responsibility and Budget Management (MFRBM) Act, 2006 to (i) ensure fiscal prudence, stability and efficiency, (ii) achieve fiscal consolidation for facilitating the generation of revenue surplus for enhancing the scope for improvement of investment in the social and economic sectors/infrastructure, (iii) ensure fiscal and debt sustainability through progressive reduction of the fiscal deficit and proper debt management system and (iv) provide a more transparent and accountable system of budgeting that will ensure an efficient and effective system of governance. The MFRBM Act, 2006 came into force on 6 November 2006. To give effect to the fiscal management principles as laid down in the Act and/or the rules framed thereunder, the Act prescribed the following targets:

- maintain revenue surplus at least at the same level as determined by the TFC for the base year 2003-04;



- reduce fiscal deficit in each of the financial years beginning from 1<sup>st</sup> day of April 2006, in a manner that will enable the State to achieve fiscal deficit of 3 per cent of **GSDP** by 2008-09;
- ensure that total outstanding liabilities on the Consolidated Fund are not more than 28 per cent of the GSDP;
- restrict issuing of guarantees except on selective basis where the quality and viability of the scheme to be guaranteed is properly analysed;
- bring out an annual statement that gives a perspective on the State's economy and related fiscal strategy; and,
- bring a special report along with the budget giving details of the number of employees in the Government, Public Sector Undertakings and aided institutions and related salaries.

The Act also provides that above limits may exceed on account of unforeseen circumstances such as natural calamities, internal disturbances and shortfall in the transfer of financial resources from the GOI.

#### ***4.2.1.1 Roadmap to Achieve the Fiscal Targets as laid down in FRBM Act/Rules***

The State Government has also developed its own Fiscal Correction Path (FCP) detailing the structural adjustments required for mobilising additional resources and identifying areas where expenditure could be compressed, to achieve the targets set out in the MFRBM Act.

#### ***4.2.1.2 Fiscal Performance***

In terms of an incentive scheme of TFC, a reward for fiscal performance was built into the debt-write off package under Debt Consolidation and Relief Facility (DCRF)<sup>3</sup>. According to the scheme, the quantum of write off of repayment of GOI loans after consolidation and rescheduling will be linked to the absolute amount by which revenue deficit is reduced in each successive year during the award period. In effect, if the revenue deficit is brought to zero, the entire repayment during the period will be written off. As a result of improved fiscal performance in terms of this criterion, Meghalaya Government received a debt waiver of Rs.14.90 crore from the GOI under DCRF during 2006-07.

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<sup>3</sup> In pursuance of the recommendations of the TFC for fiscal consolidation and elimination of revenue deficit of the States, GOI formulated a scheme "The States' Debt Consolidation and Relief Facility (DCRF) (2005-06 to 2009-10)" under which general debt relief is provided by consolidating and rescheduling the Central loans granted to States at substantially reduced rates of interest on enacting the FRBM Act and debt waiver is granted on fiscal performance, linked to the reduction of revenue deficits of States.

The State, however, failed to achieve fiscal targets laid down in the FCP as well as in the Budget for the year 2006-07, as the year 2006-07 ended with a revenue surplus of Rs.235 crore against the target of Rs.340 crore. The outstanding fiscal liabilities at 39 per cent of the GSDP during the current year also exceeded the target of 28 per cent fixed in the MFRBM Act, 2006. But, fiscal deficit did not exceed 3 per cent of GSDP during the current year itself though as per the MFRBM Act it was to be achieved by 2008-09.

### 4.3 Trends and Composition of Aggregate Receipts

Resources of the State Government consist of revenue receipts and capital receipts. Revenue receipts consist of tax revenue, non-tax revenue, State's share of Union taxes and duties and grants-in-aid from the GOI. Capital receipts comprise miscellaneous capital receipts such as proceeds from disinvestments, recoveries of loans and advances, debt receipts from internal sources (market loans, borrowings from financial institutions/commercial banks) and loans and advances from the GOI as well as accruals from Public Account. **Table 4.4** shows that the total receipts of the State Government for the year 2006-07 were Rs.3,663 crore. Of these, revenue receipts were Rs.2,142 crore only, constituting 58 per cent of the total receipts. The balance came mainly from borrowings and public account receipts.

**Table 4.4 - Trends in Growth and Composition of Aggregate (Rupees in crore)**

Sources of State's Receipts	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>I. Revenue Receipts</b>	<b>1,123</b>	<b>1,289</b>	<b>1,399</b>	<b>1,546</b>	<b>1,747</b>	<b>2,142</b>
<b>II. Capital Receipts</b>	<b>172</b>	<b>310</b>	<b>337</b>	<b>316</b>	<b>269</b>	<b>263</b>
(a) Recovery of Loans and Advances	16	15	18	19	19	17
(b) Public Debt Receipts <sup>4</sup>	156	295	319	297	250	246
(c) Miscellaneous Capital Receipts						
<b>III. Contingency Fund Receipts</b>						
<b>IV. Public Account Receipts</b>	<b>774</b>	<b>935</b>	<b>874</b>	<b>980</b>	<b>1,108</b>	<b>1,258</b>
(a) Small Savings, Provident Fund, etc.	86	97	120	130	89	91
(b) Reserve Funds	8	9	10	18	20	21
(c) Deposits and Advances	179	252	154	165	343	342
(d) Suspense and Miscellaneous	11	48	-11	18	1,148	30
(e) Remittances	490	529	601	649	674	774
<b>Total Receipts</b>	<b>2,069</b>	<b>2,534</b>	<b>2,610</b>	<b>2,842</b>	<b>3,124</b>	<b>3,663</b>

Out of the total receipts under Public Account, remittances constituted about 62 per cent. While 68 per cent (Rs.525 crore) of the remittances have come from Public Works remittances, Cash remittances between treasury and currency chests and Forest remittances constituted 20 per cent (Rs.159 crore) and 12 per cent (Rs.90 crore) respectively.

#### 4.3.1 Revenue Receipts

The revenue receipts consist of its own tax and non-tax revenues, Central tax transfers and grants-in-aid from the GOI. Overall revenue receipts, their annual rate of growth, ratio of these receipts to the GSDP and its buoyancy are indicated in **Table 4.5**.

<sup>4</sup> Included net (NIL) Ways and Means Advances also.

**Table 4.5 - Revenue Receipts-Basic Parameters (Rupees in crore)**

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Revenue Receipts (RR) (Rupees in crore)</b>	<b>1,123</b>	<b>1,289</b>	<b>1,399</b>	<b>1,546</b>	<b>1,747</b>	<b>2,142</b>
Own Taxes ( <i>per cent</i> )	136 (12.11)	145 (11.25)	178 (12.72)	208 (13.46)	253 (14.48)	305 (14.24)
Non-Tax Revenue ( <i>per cent</i> )	94 (8.37)	93 (7.22)	129 (9.22)	133 (8.60)	146 (8.36)	184 (8.59)
Central Tax Transfers ( <i>per cent</i> )	165 (14.69)	176 (13.65)	225 (16.08)	269 (17.40)	350 (20.03)	447 (20.87)
Grants-in-aid ( <i>per cent</i> )	728 (64.83)	875 (67.88)	867 (61.98)	936 (60.54)	998 (57.13)	1,206 (56.30)
<b>Rate of Growth of RR (<i>per cent</i>)</b>	<b>-0.80</b>	<b>14.78</b>	<b>8.53</b>	<b>10.51</b>	<b>13.00</b>	<b>22.61</b>
<b>Rate of Growth of Own Taxes (<i>per cent</i>)</b>	<b>14.29</b>	<b>6.62</b>	<b>22.76</b>	<b>16.85</b>	<b>21.63</b>	<b>20.55</b>
<b>RR/GSDP (<i>per cent</i>)</b>	<b>24.33</b>	<b>26.31</b>	<b>25.42</b>	<b>25.85</b>	<b>27.00</b>	<b>30.37</b>
<b>Buoyancy Ratio</b>						
Revenue Buoyancy Ratio	- 0.057	2.394	0.692	1.215	1.587	2.514
State's Own Taxes Buoyancy Ratio	1.022	1.072	1.846	1.949	2.640	2.285
Revenue Buoyancy Ratio with reference to State's Own Taxes	- 0.056	2.233	0.375	0.624	0.601	1.100
GSDP Growth ( <i>per cent</i> )	13.98	6.18	12.33	8.65	8.19	9.00

### General Trends

The revenue receipts of the State increased from Rs.1,123 crore in 2001-02 to Rs.2,142 crore in 2006-07. There were, however, wide inter-year variations in the growth rates. From a negative 0.80 per cent in 2001-02, the growth rate of revenue receipts reached to a level of 22.61 per cent in 2006-07. The sharp increase in revenue receipts during 2006-07 over the previous year was mainly on account of increase in Central tax transfers (27.71 per cent) followed by non-tax revenue (26.03 per cent), grants-in-aid from the GOI (20.84 per cent) and tax revenue (20.55 per cent). Revenue buoyancy ratio with reference to GSDP has significantly increased from 1.587 in 2005-06 to 2.514 in 2006-07. This buoyancy ratio with reference to the State's own tax revenue has also increased sharply during the current year mainly on account of enhanced Central transfers. The mobilisation of State's own resources *vis-à-vis* assessments made by the TFC and State Government are given below:

**Table 4.6 (Rupees in crore)**

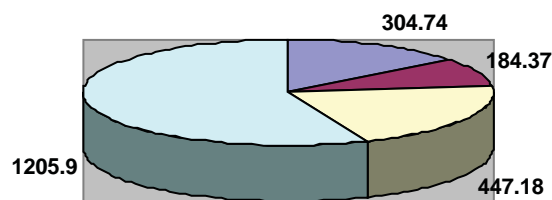
	Assessments made by TFC	Assessments made by State Government in FCP and Budget-2006-07	Actuals
Tax Revenue	276	268	305
Non-Tax Revenue	180	173	184

Tax revenue increased by 10.51 per cent and the non-tax revenue by 2.22 per cent over the assessments made by the TFC. The actual realisation also exceeded the assessments made by the State Government.

Chart 4.1

Revenue Receipts for 2006-07

(Rupees in crore)



Own Taxes Non-Tax Central Tax Transfers Grants-in-aid

**Tax Revenue**

The tax revenue has increased by 20.55 per cent during the 2006-07 (Rs.305 crore) over the previous year (Rs.253 crore). The revenue from sales taxes not only contributed major share of tax revenue (71 per cent) but also increased by 25 per cent over the previous year. State excise and taxes on vehicles remained other major contributors in the State's tax revenue. **Table 4.7** below shows the trend of tax revenue during 2001-07:

Table 4.7

(Rupees in crore)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Taxes on Sales, Trade, etc.	81	87	110	127	173	216
State Excise	42	45	53	63	59	54
Taxes on Vehicles	5	5	6	7	9	9
Stamps and Registration Fees	3	3	3	5	6	6
Land Revenue	1	0.32	0.49	0.29	0.33	6
Other Taxes	4	4.68	5.51	5.71	5.67	14
Total	136	145	178	208	253	305

**Non-Tax Revenue**

The non-tax revenue, which constituted 8.59 per cent of total revenue receipts, has increased by Rs.38 crore recording a growth rate of 26 per cent over previous year. The debt waiver (Rs.14.90 crore) given by the GOI under DCRF booked under the head 'Miscellaneous General Services' led to a sharp increase in non-tax revenue of the State. Non-ferrous mining and metallurgical industries (Rs.109.03 crore) and forestry and wild life (Rs.16.66 crore) were the other major contributors to the non-tax revenue.

The TFC applied 12.5 per cent annual rate of growth for revenue receipts under General Services and 25 per cent for both Social and Economic Services in the forecast period (2005-10) reflecting the need for the States to achieve a greater degree of cost recovery in these services

while estimating the State's own revenues for the period to assess the non-plan revenue deficit position of the State. While the growth of revenue receipts under General Services (107 per cent) during 2006-07 over that of previous year far surpassed the projected growth rate, the growth under Social Services (3 per cent) and Economic Services (11 per cent) was less than the projected rate by 22 and 14 per cent respectively. In absolute terms, revenue receipts under General, Social and Economic Services during 2006-07 increased by Rs. 18.56 crore, Rs.0.09 crore and Rs. 13.03 crore respectively over the previous year. The current levels of cost recovery (revenue receipts as a percentage of revenue expenditure) in supply of merit goods and services by Government were negligible (0.9 per cent for secondary education, 1.21 per cent for medical and public health and 0.75 per cent for water supply and sanitation).

### **Central Tax Transfers**

The Central Tax transfers increased by Rs.97 crore over the previous year and constituted 21 per cent of revenue receipts. The increase was mainly under corporation tax (Rs.43 crore), taxes on income other than corporation tax (Rs.17 crore) and customs (Rs.19 crore).

### **Grants-in-Aid**

The Grants-in-aid from the GOI increased from Rs.998 crore in 2005-06 to Rs.1,206 crore in 2006-07. The increase was mainly under State Plan Schemes (Rs.124 crore), Non-plan grants (Rs.66 crore), Central Plan Schemes (Rs.8 crore) and Special Plan Schemes (Rs.22 crore), partly offset by decrease in Centrally Sponsored Plan Schemes (Rs.8 crore). As per the recommendations of the TFC, the GOI released Rs.359 crore during 2006-07 as grants to cover deficit on non-plan revenue account. Other components of non-plan grants mainly included (i) maintenance of roads and bridges on the recommendation of the TFC (Rs.22 crore), (ii) grants for local bodies (Rs.17 crore), (iii) grants for backward regions (Rs.15 crore), (iv) contribution to calamity relief fund (Rs.13 crore) and (v) grants for State specific purpose (Rs.12 crore).

Details of Grants-in-aid from the GOI are given in **Table 4.8**

**Table 4.8: Grants-in-Aid from the GOI**

	(Rupees in crore)					
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Grants for State Plan Schemes	332	373	462	460	445	569
Non-Plan Grants	317	408	329	361	406	472
Grants for Central Plan Schemes	2	(7)	1	4	3	11
Grants for Centrally Sponsored Schemes	67	76	62	87	119	107
Grants for Special Plan Schemes	10	18	13	24	25	47
<b>Total</b>	<b>728</b>	<b>875</b>	<b>867</b>	<b>936</b>	<b>998</b>	<b>1,206</b>
Percentage of increase (+)/decrease (-) over previous year	(-) 4.46	(+) 20.19	(-)0.91	(+)7.96	(+) 6.62	(+) 20.84

### 4.3.2 Revenue Arrears

Besides, the arrears of tax revenue at the end of March 2007 in respect of some principal heads of revenue were Rs.26.54 crore, which constituted 8.71 *per cent* of tax revenue of the State for the year 2006-07. Of these, Rs.19.67 crore (74.11 *per cent*) were more than five years old. An analysis of revenue arrears revealed that 81 per cent of pending arrears related to sales tax followed by other taxes (10 *per cent*). Further, 80 per cent of sales tax arrears (Rs.17.29 crore), 88 per cent of arrears under other taxes (Rs.2.31 crore) and 23 per cent arrears under motor spirits (Rs.0.07 crore) were more than five years old. As the pending revenue arrears constituted about 9 per cent of tax revenue of the State during 2006-07, appropriate steps need to be initiated by the State Government for their recovery, which would in turn provide a cushion to reduce the burden of fiscal liabilities of the State.

## 4.4 Application of Resources

### 4.4.1 Growth of Expenditure

States raise resources to perform their sovereign functions, maintain their existing nature of delivery of social and economic services, to extend the network of these services through capital expenditure and investments and to discharge their debt service obligations. Total expenditure, its annual growth rate and ratio of expenditure to the State GSDP and to revenue receipts and its buoyancy with respect to GSDP and revenue receipts are indicated in **Table 4.9**.

**Table 4.9 - Total Expenditure - Basic Parameters**

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Total Expenditure (TE) (Rupees in crore)	1,360	1,466	1,619	1,878	1,944	2,233
Rate of Growth (per cent)	-2.44	7.79	10.44	16.00	3.51	14.87
TE/GSDP Ratio (per cent)	29.47	29.92	29.41	31.40	30.05	31.66
Revenue Receipts/TE Ratio (per cent)	82.57	87.93	86.41	82.32	89.87	95.92
<b>Buoyancy Ratio of Total Expenditure with reference to:</b>						
GSDP	-0.174	1.262	0.847	1.850	0.429	1.653
Revenue Receipts	-3.068	0.527	1.223	1.522	0.270	0.658

The total expenditure during 2006-07 has increased by Rs.289 crore (14.87 per cent) over the previous year. Of the increase in total expenditure, revenue expenditure formed 81 per cent (Rs.233 crore) and capital expenditure component was 21 per cent (Rs.61 crore), while disbursement of loans and advances decreased by 2 *per cent* (Rs.5 crore). While the share of plan expenditure constituted 39 *per cent* (Rs.881 crore) of the total expenditure, the remaining 61 per cent was non-plan expenditure (Rs. 1,352 crore). The increase in revenue expenditure was mainly due to increased expenditure under Rural Development (Rs.33.12 crore), Water Supply, Sanitation, Housing and Urban Development (Rs.24.91 crore), Transport (Rs.24.01 crore) and Energy (Rs.22.50 crore). Capital expenditure has increased mainly on account of increased expenditure under Transport (Rs.21.56 crore) and Special Areas Programme (Rs.20.50 crore).

During 2006-07, 96 per cent (Rs.2,142 crore) of total expenditure was met from revenue receipts and the remaining (Rs.91 crore) from borrowed funds. The buoyancy of total expenditure to GSDP stood at 1.7 in 2006-07 indicating tendency to spend more than the increase in income and higher elasticity of total expenditure with respect to GSDP.

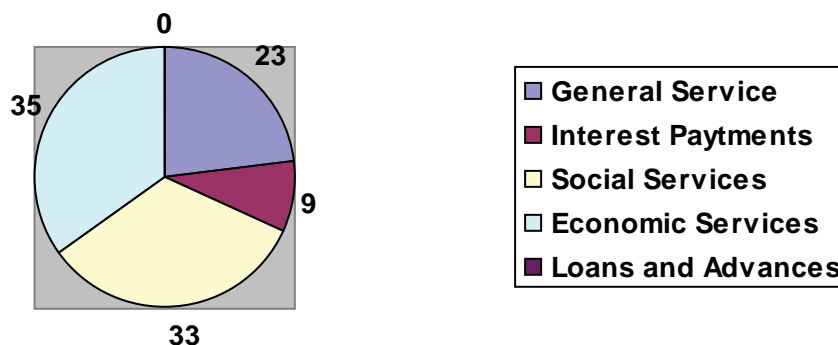
**4.4.2 Trends in Total Expenditure by Activities**

In terms of the activities, total expenditure could be considered as being composed of expenditure on general services including interest payments, social and economic services, grants-in-aid and loans and advances. Relative share of these components in total expenditure is indicated in **Table 4.10**.

**Table 4.10 - Components of Expenditure-Relative Share**  
(In per cent)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
General Services	31.99	33.49	34.03	31.68	32.72	32.20
Of which Interest Payments	9.49	10.30	10.50	9.42	9.83	9.09
Social Services	36.84	33.70	34.78	35.52	34.41	33.18
Economic Services	28.01	27.69	26.87	30.88	32.30	34.35
Loans and Advances	3.16	5.12	4.32	1.92	0.57	0.27

**Chart 1.2**  
**Components of Expenditure during 2006-07 (in per cent)**



The movement of the relative share of these components of expenditure indicated that all components of expenditure had inter-year variations. Of the total expenditure during 2006-07, expenditure on general services and interest payments, which is considered as non-developmental, together accounted for 32.2 per cent. On the other hand, expenditure on social and economic services together accounted for 67.53 per cent during 2006-07. The relative share of social services at 33.18 per cent in 2006-07 was less than the level of 2001-02. The relative share of economic services which ranged between 26.87 per cent and 32.3 per cent during the last five year period

2001-06 has marginally increased to 34.35 per cent in 2006-07 while loans and advances revealed wide fluctuations during the period 2001-06 and declined to 0.27 per cent during 2006-07.

#### **4.4.3 Incidence of Revenue expenditure**

Revenue expenditure had the predominant share in the total expenditure. Revenue expenditure is incurred to maintain the current level of services and payment for the past obligations and as such does not result in any addition to the State's infrastructure and service network. The overall revenue expenditure, its rate of growth, ratio of revenue expenditure to GSDP and to revenue receipts and its buoyancy are indicated in **Table 4.11**.

<b>Table 4.11 - Revenue Expenditure - Basic Parameters</b>						
<b>(Rupees in crore)</b>						
	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
Revenue Expenditure (RE)	1,157	1,205	1,314	1,596	1,674	1,907
Of which						
Non-Plan Revenue Expenditure (NPRE)	884	949	1,004	1,120	1,183	1,341
Plan Revenue Expenditure (PRE)	273	256	310	476	491	566
<b>Rate of Growth of</b>						
RE (per cent)	7.23	4.15	9.05	21.46	4.89	13.92
NPRE (per cent)	9.81	7.35	5.80	11.55	5.62	13.36
PRE (per cent)	-0.36	-6.23	21.09	53.55	3.15	15.27
<b>Ratios (per cent)</b>						
RE/TE (per cent)	85.07	82.20	81.16	84.98	86.11	85.40
NPRE/GSDP (per cent)	19.15	19.37	18.24	18.73	18.28	19.02
NPRE as per cent of TE	65.00	64.73	62.01	59.64	60.85	60.05
NPRE as per cent of RR	78.72	73.62	71.77	72.45	67.72	62.60
<b>Buoyancy Ratio of Revenue Expenditure with</b>						
GSDP	0.517	0.672	0.734	2.482	0.596	1.547
Revenue Receipts	- 9.092	0.281	1.060	2.042	0.376	0.616

The revenue expenditure increased by 65 per cent from Rs.1,157 crore in 2001-02 to Rs.1,907 crore in 2006-07. The non-plan revenue expenditure during the same period increased from Rs.884 crore to Rs.1,341 crore, showing an increase of 52 per cent indicating that the share of NPRE in total revenue expenditure declined only marginally from 76 per cent in 2001-02 to 70 per cent in 2006-07. As a result, plan revenue expenditure, which normally covers the maintenance expenditure incurred on services, has only increased by Rs.293 crore during 2001-07 keeping its share in total revenue expenditure between 21 and 30 per cent during the period. The growth of PRE during 2006-07 significantly improved to 15.27 per cent against 3.15 per cent during previous year mainly due to increase in expenditure on rural development by Rs.33.42 crore followed by Rs.8.65 crore under energy sector and Rs.5.68 crore under social welfare and nutrition. Though the rate of growth of NPRE (13.36 per cent) in 2006-07 was less than that of the PRE, this expenditure at Rs.1,341 crore during the year was WAI per cent (Rs.138 crore) higher



than the normatively assessed level of Rs. 1,203 crore by the TFC and 4.6 per cent (Rs.59 crore) higher than the assessments made by the State Government in its FCP and Budget estimate for the year (Table 4.12).

**Table 4.12 : Non-Plan Revenue Expenditure: Actual vis-à-vis Normative Assessment by TFC**

Particulars	Assessed by the TFC	Assessments made by State Government in FCP and Budget - 2006-07	Actual	Difference with reference to {Excess (+)/ Less (-)}	
				Assessments made by the TFC	Assessments made in the FCP
Interest Payments	212	213	203	-9	-10
Pension	97	95	118	+ 21	+ 23
Other General Services	249	Details not available (NA)	357	+ 108	NA
Social Services	433		390	-43	
Economic Services	212		273	+ 61	
<b>Total</b>	<b>1,203</b>	<b>1,282</b>	<b>1,341</b>	<b>+ 138</b>	<b>+ 59</b>

Except for interest payments and expenditure on social services, the actual expenditure incurred on all other components of non-plan revenue expenditure was more than the assessments made by the TFC.

#### 4.4.4 Committed Expenditure Expenditure on Salaries and Wages

The trends in expenditure on salaries and wages both under plan and non-plan heads are presented in Table 4.13.

**Table 4.13 : Expenditure on Salaries and Wages**

Heads	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Expenditure on Salaries and Wages	536	576	622	553	602	659
<i>Of which</i>						
<i>Non-Plan Head</i>	<i>Details not available</i>			464	502	547
<i>Plan Head</i>				89	100	112
As percentage of GSDP	11.61	11.76	11.30	9.25	9.30	9.34
As percentage of Revenue Receipts	47.73	44.69	44.46	35.77	34.46	30.77

#### 4.4.5 Pension Payments

The expenditure on pension (including other retirement benefits) showed an increasing trend during the six year period 2001-07 (Table 4.14).

**Table 4.14 : Expenditure on Pension (including other retirement benefits)**

Heads	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Expenditure on Pension and other Retirement Benefits (Rupees in crore)	58	67	76	87	93	118
Rate of Growth ( <i>per cent</i> )	5.45	15.52	13.43	14.47	6.90	26.88
As <i>per cent</i> of GSDP	1.26	1.37	1.38	1.45	1.44	1.67
As <i>per cent</i> of Revenue Receipts	5.16	5.20	5.43	5.63	5.32	5.51

Pension payments during 2006-07 have increased by Rs.25 crore recording a growth rate of about 27 per cent over the previous year mainly on account of increase in the number of pensioners and family pensioners over previous year. A comparative analysis of actual pension payments and the assessment/projections made by the TFC and the State Government (**Table 4.15**) reveals that actual pension payments exceeded the projections made by the TFC and the State Government.

**Table 4.15 : Actual Pension Payments *vis-à-vis* Projection**

(Rupees in crore)

	Assessment made by the TFC	Assessment made by the State Government in FCP and Budget - 2006-07	Actual expenditure on Pensions
Pension Payments	97	95	118

#### 4.4.6 Interest Payments

Interest payments and their ratio to revenue receipts and revenue expenditure during 2001-07 are detailed in **Table 4.16**.

**Table 4.16 : Interest Payments**

Year	Revenue Receipts	Interest payment	Percentage of interest with reference to	
	(Rupees in crore)		Revenue Receipts	Revenue Expenditure
2001-02	1,123	129	11.49	11.15
2002-03	1,289	151	11.71	12.53
2003-04	1,399	170	12.15	12.94
2004-05	1,546	177	11.45	11.09
2005-06	1,747	191	10.93	11.41
2006-07	2,142	203	9.48	10.64

Interest payments increased steadily by 57 per cent from Rs.129 crore in 2001-02 to Rs.203 crore in 2006-07. The consolidation and rescheduling of the GOI loans, to some extent helped the State Government in restricting the growth of interest payment to 6.28 per cent against 7.91 per cent during previous year. Interest payments were on market loans (Rs.86 crore), Special

Securities issued to National Small Savings Fund of the Central Government (Rs.26 crore), other internal debt (Rs.20 crore), loans and advances received from Central Government (Rs.43 crore) and Small Savings, Provident Fund, etc. (Rs.28 crore). Of the total interest payments during the year, over 42 per cent (Rs.86 crore) was paid for market borrowings. The rate of growth of interest payments during 2006-07 over the previous year at 6.28 per cent was marginally lower than the average growth rate of 7.5 per cent assigned by the TFC while projecting the interest payments of Special Category States for the forecast period.

#### **4.4.7 Subsidies**

The trends in subsidies given by the State Government are given in **Table 4.17**. Though the subsidies are a drain on State finances, the State Government is extending subsidies to various sectors.

**Table 4.17: Subsidies**

<b>Year</b>	<b>Amount (Rupees in crore)</b>	<b>Percentage increase (+)/ decrease (-) over previous year</b>	<b>Percentage of subsidy in total expenditure</b>
2001-02	24	- 14	1.82
2002-03	33	+ 37	2.37
2003-04	30	- 9	1.94
2004-05	28	- 7	1.52
2005-06	20	-29	1.03
2006-07	34	+ 70	1.52

*(Total expenditure excludes Loans and Advances)*

*Source: 2001-05: Information furnished by the Finance (Economic Affairs) Department, Government of Meghalaya; 2005-07: Finance Accounts - Government of Meghalaya.*

During 2006-07 subsidies constituted 1.52 per cent of the total expenditure. Of this, 71 per cent (Rs.24.15 crore) was paid to the Meghalaya State Electricity Board (MeSEB), which was almost double the projection (Rs.12.50 crore) made in the FCP/Budget for the year 2006-07. The remaining amount of subsidies was paid for fiscal services, viz. under the head Taxes on Vehicles (Rs.3 crore), Fisheries (Rs.2.86 crore), Crop Husbandry (Rs.2.31 crore), Animal Husbandry (Rs.0.80 crore) and Civil Supplies (Rs.1.18 crore). Steep increase by 70 per cent over previous year was mainly due to increase in payment of subsidies to the MeSEB by Rs.14 crore and under Agriculture and Allied Services by Rs.5 crore.

## **4.5 Expenditure by Allocative Priorities**

### **4.5.1 Quality of Expenditure**

The availability of better social and physical infrastructure in the State reflects its quality of expenditure. Therefore, ratio of capital expenditure to total expenditure as well as to GSDP and proportion of revenue expenditure being spent on running the existing social and economic services efficiently and effectively would determine the quality of expenditure. Higher the ratio of these components to total expenditure and GSDP, better is the quality of expenditure. **Table 4.18** gives these ratios during 2001-07.

**Table 4.18 : Indicators of Quality of Expenditure**

(Rupees in crore)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Capital Expenditure</b>	<b>160</b>	<b>186</b>	<b>235</b>	<b>246</b>	<b>259</b>	<b>320</b>
<b>Revenue Expenditure</b>	<b>1,157</b>	<b>1,205</b>	<b>1,314</b>	<b>1,596</b>	<b>1,674</b>	<b>1,907</b>
<i>Of which</i>						
Social and Economic Services with	728	721	788	1,009	1,049	1,204
(i) Salary & Wage Component	<i>Details not available</i>			342	376	414
(ii) Non-Salary & Wage Component				667	673	790
<b>As per cent of Total Expenditure (excluding loans and advances)</b>						
Capital Expenditure	12.15	13.37	15.17	13.36	13.40	14.37
Revenue Expenditure	87.85	86.63	84.83	86.64	86.60	85.63
<b>As per cent of GSDP</b>						
Capital Expenditure	3.47	3.80	4.27	4.11	4.00	4.54
Revenue Expenditure	25.07	24.59	23.87	26.69	25.87	27.04

Revenue expenditure constituted 85 per cent to 88 per cent of total expenditure during 2001-07 resulting in less expenditure in capital account ranging between 12 per cent and 15 per cent. During 2006-07, capital expenditure was also less than that projected (Rs.401 crore) in the FCP by Rs.81 crore. However, the ratio of capital expenditure to GSDP has increased from 3.47 per cent in 2001-02 to 4.54 per cent in 2006-07. The non-salary component constituted 66 per cent of revenue expenditure under social and economic services during 2006-07 and increased by 17.38 per cent over previous year, against 10.11 per cent on salary component. These trends indicated the improvement in the quality of expenditure and the impetus being given to asset formation.

#### **4.5.2 Expenditure on Social Services**

Given the fact that the human development indicators such as access to basic education, health services and drinking water and sanitation facilities, etc. have a strong linkage with eradication of poverty and economic progress, it would be prudent to make an assessment with regard to the expansion and efficient provision of these services in the State. Table 4.19 summarises the expenditure incurred by the State Government in expanding and strengthening social services in the State during 2001-07.

**Table 4.19 : Expenditure on Social Services**

(Rupees in crore) (Per cent in brackets)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Education, Sports, Art and Culture</b>						
Revenue Expenditure <i>Of which</i>	248.86	240.75	267.81	308.32	311.07	325.52
(a) Salary & Wage Component	<i>Details not available</i>			104.86 (34.01)	109.85 (35.31)	123.92 (38.07)
(b) Non-Salary & Wage Component				203.46 (65.99)	201.22 (64.69)	201.60 (61.93)
Capital Expenditure	1.22	1.55	1.26	1.83	0.70	2.02
<b>Health and Family Welfare</b>						
Revenue Expenditure <i>Of which</i>	82.07	81.86	82.56	86.39	94.03	99.11
(a) Salary & Wage Component	<i>Details not available</i>			65.88 (76.26)	78.28 (83.25)	83.00 (83.75)
(b) Non-Salary & Wage Component				20.51 (23.74)	15.75 (16.75)	16.11 (16.25)
Capital Expenditure	10.29	11.89	14.32	14.51	17.23	18.06
<b>Water Supply, Sanitation, Housing and Urban Development</b>						
Revenue Expenditure <i>Of which</i>	66.33	67.11	69.76	83.50	82.05	106.96
(a) Salary & Wage Component	<i>Details not available</i>			26.19 (31.37)	28.73 (35.02)	32.71 (30.58)
(b) Non-Salary & Wage Component				57.31 (68.63)	53.32 (64.98)	74.25 (69.42)
Capital Expenditure	53.65	52.64	63.88	90.39	88.59	98.73
<b>Other Social Services</b>						
Revenue Expenditure <i>Of which</i>	38.67	36.17	59.01	79.55	67.60	82.71
(a) Salary & Wage Component	<i>Details not available</i>			15.75 (19.80)	17.12 (25.33)	18.55 (22.43)
(b) Non-Salary & Wage Component				63.80 (80.20)	50.48 (74.67)	64.16 (77.57)
Capital Expenditure		1.94	4.37	2.44	8.00	7.99
<b>Total (Social Services)</b>	<b>501.09</b>	<b>493.91</b>	<b>562.97</b>	<b>666.93</b>	<b>669.27</b>	<b>741.10</b>
Revenue Expenditure <i>Of which</i>	435.93 (87.00)	425.89 (86.23)	479.14 (85.11)	557.76 (83.63)	554.75 (82.89)	614.30 (82.89)
(a) Salary & Wage Component	<i>Details not available</i>			212.68 (38.13)	233.98 (42.18)	258.18 (42.03)
(b) Non-Salary & Wage Component				345.08 (61.87)	320.77 (57.82)	356.12 (57.97)
Capital Expenditure	65.16 (13.00)	68.02 (13.77)	83.83 (14.89)	109.17 (16.37)	114.52 (17.11)	126.80 (17.11)

The allocation to social sector increased from Rs.501 crore in 2001-02 to Rs.741 crore in 2006-07 indicating the Government's commitment for improving social well being of the society. Expenditure on social sector during current year accounted for 33 per cent of total expenditure and 49 per cent of development expenditure. Expenditure on education, sports, art and culture, health and family welfare and water supply and sanitation, housing and urban development constituted about 88 per cent of the expenditure on social sector.

The trends in revenue and capital expenditure on social services during 2001-07 reveal that the share of capital expenditure remained within the range of 13 to 17.11 per cent which indicated that the revenue expenditure was dominant. Of the revenue expenditure on social services, the share of salary and wage component has marginally decreased from 42.18 per cent in 2005-06 to 42.03 per cent in 2006-07 implying more expenditure on non-salary components including on their maintenance. The non-salary and wage expenditure on social services has increased by 3.2 per cent during 2004-07 from Rs.345.08 crore in 2004-05 to Rs.356.12 crore in 2006-07. Within the priority sector, non-salary and wage component continues to share dominantly under education, sports, art and culture and water supply, sanitation, housing and urban development and high salary and wage expenditure during 2004-07 (76 per cent to about 84 per cent) under health and family welfare services.

Recognising the need to improve the quality of education and health services, TFC recommended that the non-plan salary expenditure under education, health and family welfare should increase only by 5 to 6 per cent, while non-salary expenditure under non-plan heads should increase by 30 per cent per annum during the award period. The trends in expenditure (taking expenditure under both plan and non-plan heads) reveal that the salary and wage component under education sector increased by 5 per cent in 2005-06 and 13 per cent in 2006-07 over the respective previous years while non-salary and wage component decreased by 1 per cent in 2005-06 and increased by a nominal 0.19 per cent in 2006-07. Under health and family welfare sector, while there was significant increase in salary and wage component by 19 per cent in 2005-06 over previous year, in 2006-07 the increase was 6 per cent under this component. Non-salary and wage component under this sector decreased by 23 per cent (Rs.4.76 crore) in 2005-06 and increased marginally by 2 per cent (Rs.0.36 crore) in 2006-07 over the previous years. Thus, expenditure pattern under both these sectors needs correction in the ensuing years.

#### **4.5.3 Expenditure on Economic Services**

The expenditure on economic services includes all such expenditure that promotes directly or indirectly, productive capacity within the States' economy. Under economic services, the revenue expenditure increased from Rs.292.29 crore in 2001-02 to Rs.590.11 crore in 2006-07, while capital expenditure increased from Rs.88.88 crore to Rs.177.23 crore (**Table 4.20**).

**Table 4.20: Expenditure on Economic Services**

(Rupees in crore) (Per cent in brackets)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Agriculture and Allied Activities</b>						
Revenue Expenditure	124.34	116.94	121.97	139.62	163.07	176.28
<i>Of which</i>						
(a) Salary & Wage Component	<i>Details not available</i>			79.34 (56.83)	85.75 (52.58)	96.11 (54.52)
(b) Non-Salary & Wage Component				60.28 (43.17)	77.32 (47.42)	80.17 (45.48)
Capital Expenditure	4.03	5.01	3.60	10.27	4.61	4.59
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Irrigation and Flood Control</b>						
Revenue Expenditure	9.03	9.01	9.53	10.82	12.65	13.76
<i>Of which</i>						
(a) Salary & Wage Component	<i>Details not available</i>			7.13 (65.90)	7.84 (61.98)	8.53 (61.99)
(b) Non-Salary & Wage Component				3.69 (34.10)	4.81 (38.02)	5.23 (38.01)
Capital Expenditure	10.54	6.61	6.17	5.19	7.58	5.61
<b>Energy</b>						
Revenue Expenditure	11.50	11.36	19.23	88.85	67.97	90.47
<i>Of which</i>						
(a) Salary & Wage Component	<i>Details not available</i>			<i>Nil</i> <sup>(12)</sup>		
(b) Non-Salary & Wage Component				88.85	67.97	90.47
Capital Expenditure						
<b>Transport</b>						
Revenue Expenditure	36.14	38.43	40.22	50.06	52.54	76.55
<i>Of which</i>						
(a) Salary & Wage Component	<i>Details not available</i>			<i>Nil</i>		
(b) Non-Salary & Wage Component				50.06	52.54	76.55
Capital Expenditure	50.15	87.40	91.85	90.18	86.03	107.59
<b>Other Economic Services</b>						

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Revenue Expenditure <i>Of which</i>	111.28	119.07	117.57	162.18	198.17	233.05
(a) Salary & Wage Component	<i>Details not available</i>			43.20 (26.64)	48.29 (24.37)	51.32 (22.02)
(b) Non-Salary & Wage Component				118.98 (73.36)	149.88 (75.63)	181.73 (77.98)
Capital Expenditure	24.16	12.02	25.09	22.61	35.38	59.44
Total (Economic Services)	381.17	405.85	435.23	579.78	628.00	767.34
Revenue Expenditure <i>Of which</i>	292.29 (76.68)	294.81 (72.64)	308.52 (70.89)	451.53 (77.88)	494.40 (78.73)	590.11 (76.90)
(a) Salary & Wage Component	<i>Details not available</i>			129.67 (28.72)	141.88 (28.70)	155.96 (26.43)
(b) Non-Salary & Wage Component				321.86 (71.28)	352.52 (71.30)	434.15 (73.57)
Capital Expenditure	88.88 (23.32)	111.04 (27.36)	126.71 (29.11)	128.25 (22.12)	133.60 (21.27)	177.23 (23.10)

The expenditure on economic services during 2006-07 (Rs.767 crore) accounted for over 34 per cent of the total revenue and capital expenditure (Rs.2,227 crore) and 51 per cent of the development expenditure (Rs. 1,508 crore) during the year. Out of the total expenditure on economic services during the year, 24 per cent was incurred on transport, 23.57 per cent on agriculture and allied services and 11.79 per cent on energy. The salary and wage component in total expenditure on economic services decreased to 20.32 per cent in 2006-07 from 22.37 per cent in 2004-05.

The trends in revenue and capital expenditure on economic services indicate that capital expenditure consistently increased from Rs.89 crore in 2001-02 to Rs.177 crore (98.88 per cent) in 2006-07. Revenue expenditure also consistently increased from Rs.292 crore in 2001-02 to Rs.590 crore (102 per cent) in the current year. An increase of Rs.96 crore (19.43 per cent) during 2006-07 over the previous year in revenue expenditure was mainly due to increase in rural development (Rs.33 crore), transport (Rs.24 crore) and energy (Rs.22 crore). Of the revenue expenditure, salary and wage component ranged between 26 and 29 per cent of the total revenue expenditure during 2004-07. It increased from Rs.130 crore in 2004-05 to Rs.156 crore (20 per cent) during the current year. The non-salary and wage component also increased from Rs.322 crore in 2004-05 to Rs.434 crore (34.78 per cent) indicating change in allocative priorities of the State Government.

#### 4.5.4 Financial Assistance to Local Bodies and other Institutions

The quantum of assistance provided by way of grants and loans to local bodies and others during the six-year period 2001-07 is presented in **Table 4.21**.



**Table 4.21: Financial Assistance**

	(Rupees in crore)					
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
University and Educational Institutions	128	130	129	150	151	164
Co-operative Societies	3	2	2	2	2	5
District Councils	5	0.21	6	4	3	1
Municipalities	2	2	1	2	2	1
Meghalaya State Electricity Board	29	56	50	26	7	35
Other Institutions	27	11	10	5	2	2
<b>Total</b>	<b>194</b>	<b>201</b>	<b>198</b>	<b>189</b>	<b>167</b>	<b>208</b>
Assistance as percentage of Revenue Expenditure	16.77	16.68	15.07	11.84	9.98	10.91

The financial assistance extended to local bodies and other institutions with inter-year variations increased by 25 per cent from Rs.167 crore in 2005-06 to Rs.208 crore in 2006-07. The share of financial assistance in revenue expenditure in 2006-07 also increased from 9.98 per cent in 2005-06 to 10.91 per cent during the current year. Another important trend emerging from the above table is that share of Electricity Board has sharply increased by five times from Rs.7 crore in 2005-06 to Rs.35 crore in 2006-07 indicating that substantial amount of financial assistance is being given to the Public Sector Undertaking. University and Educational Institutions were the main beneficiaries, who were provided with 79 per cent of the total financial assistance during 2006-07. Of Rs.164 crore provided to the University and Educational Institutions, Rs.101 crore was paid to non-Government primary/secondary schools and colleges for non-plan revenue purposes indicating transfer of funds for current consumption.

#### **4.6 Assets and Liabilities**

In the Government accounting system, comprehensive accounting of fixed assets like land and buildings owned by the Government is not done. However, Government accounts do capture the financial liabilities of the Government and the assets created out of the expenditure incurred. While the liabilities consist mainly of internal borrowings, loans and advances from the GOI, receipts from the Public Account and Reserve Funds, the assets comprise mainly the capital outlay and loans and advances given by the State Government and cash balances.

##### **4.6.1 Financial Analysis of Government Investments**

###### **4.6.1.1 Incomplete Projects**

As of March 2007, there were 282 ongoing projects under the Public Health Engineering Department. Of these, 43 projects, stipulated for completion on or before 31<sup>st</sup> March, 2007 at an estimated cost of Rs.13.26 crore, remained incomplete with an expenditure of Rs. 11.76 crore till 31<sup>st</sup> March, 2007. Out of 43 projects, 27 remained incomplete for less than one year and the remaining 16 projects for over one to three years.

#### 4.6.1.2 Government Investments and Returns

As of 31<sup>st</sup> March, 2007, Government had invested Rs.183.16 crore in Statutory Corporations, Government Companies and Co-operative Societies (**Table 4.22**). The return on this investment was less than one per cent during 2001-07 while the Government paid interest at an average rate of 7.62 to 9 per cent on its borrowings during the period.

**Table 4.22: Return on Investment**

Year	Investment during the year	Investment at the end of the year	Return	Percentage of return	Average rate of interest on Government borrowing	Difference between interest rate and return
	(Rupees in crore)			(Per cent)		
2001-02	14.84	140.38	<b>0.11</b>	0.08	<b>8.81</b>	8.73
2002-03	11.93	152.32	0.01	0.00	<b>8.98</b>	8.98
2003-04	10.58	162.89	<b>0.18</b>	0.11	9.00	8.89
2004-05	7.53	170.42	<b>0.18</b>	0.11	<b>8.58</b>	8.47
2005-06	6.89	177.31	0.01	0.01	<b>8.06</b>	8.05
2006-07	5.85	183.16	0.01	0.01	<b>7.62</b>	7.61

As of March 2007, the State Government had invested Rs.40.19 crore in two Statutory Corporations, Rs.102.29 crore in eight Government Companies and Rs.40.68 crore in 1,438 Co-operative Societies. Of the two Statutory Corporations, bulk of the investment (Rs.38.60 crore) was made to the Meghalaya Transport Corporation Limited despite accumulated loss of Rs.50.64 crore sustained by the Corporation up to 2000-01. Out of Rs.102.29 crore invested in Government Companies, Rs.18.92 crore was invested in five loss making Companies, which had accumulated loss of Rs.22.87 crore as detailed in **Table 4.23**. Up-to-date working results of the Co-operative Societies had not been intimated (October 2007).

**Table 4.23: Details of loss making Government Companies**

(Rupees in crore)

Sl. No.	Name of Companies	Amount invested up to March 2007	Accumulated loss	Period up to
1.	Meghalaya Government Construction Corporation Limited	4.77	10.48	2004-05
2.	Meghalaya Mineral Development Corporation Limited	2.27	7.47	2005-06
3.	Meghalaya Tourism Development Corporation Limited	7.75	1.71	1991-92
4.	Forest Development Corporation of Meghalaya Limited	1.56	1.74	1999-00
5.	Meghalaya Handloom and Handicrafts Development Corporation Limited	2.57	1.47	2000-01
		<b>18.92</b>	<b>22.87</b>	

#### **4.6.1.3 Loans and Advances by State Government**

In addition to investments in Co-operatives, Corporations and Companies, Government has also been providing loans and advances to many of these institutions/organisations. Total outstanding loans and advances as on 31 March 2007 was Rs.469 crore (**Table 4.24**). Interest received against these loans and advances was meagre, which had decreased from 0.62 per cent in 2004-05 to 0.29 per cent in 2006-07.

**Table 4.24 : Average Interest Received on Loans and Advances by the State Government**

(Rupees in crore)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Opening Balance	332	359	419	471	488	480
Amount advanced during the year	43	75	70	36	11	6
Amount repaid during the year	16	15	18	19	19	17
Closing Balance	359	419	471	488	480	469
Net Addition	27	60	52	17	-8	-11
Interest Received	0.49	0.46	0.72	2.99	1.48	1.36
Interest received as <i>per cent</i> to outstanding Loans and Advances	0.14	0.12	0.16	0.62	0.31	0.29
Average interest rate paid on borrowings by the State Government ( <i>per cent</i> )	8.81	8.98	9.00	8.58	8.06	7.62
Difference between interest paid and received ( <i>per cent</i> )	8.67	8.86	8.84	7.96	7.75	7.33

As the interest received as per cent to outstanding loans and advances was much lower than the cost at which the State Governments borrows, the TFC assumed a 7 per cent return on outstanding loans and advances to be achieved in a graded manner by the terminal year of the forecast period. Decreasing trend in return on outstanding loans and advances given by the State Government, which stands only at 0.29 per cent in 2006-07, indicates that the possibility of achieving 7 per cent return by the terminal year of the forecast period as assumed by the TFC is remote.

#### **4.6.2 Management of Cash Balances**

It is generally desirable that the State's flow of resources should match its expenditure obligations. However, to take care of any temporary mismatches in the flow of resources and expenditure obligations, a mechanism of Ways and Means Advances (WMA) - Ordinary and Special from Reserve Bank of India (RBI) has been put in place. The operating limit for Ordinary WMA is reckoned as the three year average of revenue receipts and the operative limit for Special WMA is fixed by RBI from time to time depending on the holding of Government securities.

Under the agreement with the RBI, the Government of Meghalaya has to maintain an all time minimum balance of Rs.21 lakh with RBI. If the balance falls below the agreed minimum, the Government can take Ordinary WMA from the RBI up to a maximum of Rs.50.50 crore. In

addition, Special WMA not exceeding Rs.9.16 crore are made available against GOI securities held by the State Government. Overdrafts are given by the RBI if the State has a minus balance after availing of the maximum advance. There was, however, improvement in the management of cash balances as the Government did not have to resort to WMA for the current year (2006-07).

WMAs and Overdrafts availed, the number of occasions it was availed and interest paid by the State during 2001-07 is detailed in **Table 4.25**.

**Table 4.25 : Ways and Means Advances and Overdrafts of the State  
(Rupees in crore)**

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Ways and Means Advances</b>						
Availed in the Year		243.17	50.99	2.57	83.49	
Number of days		96	44	6	7	
Outstanding WMAs, if any						
Interest Paid		0.23	0.24		0.08	
<b>Overdraft</b>						
Availed in the Year		0.46			8.85	
Number of days		1			1	
Outstanding Overdraft, if any						
Interest Paid					(18)	

#### **4.7 Undischarged Liabilities**

According to Meghalaya FRBM Act, 2006, the total liabilities means the liabilities under the Consolidated Fund of the State and the Public Account of the State and shall also include borrowings by the Public Sector Undertakings and Special Purpose Vehicles and other equivalent instruments including guarantees where principal and/or interest are to be serviced out of the State budget.

##### **4.7.1 Fiscal Liabilities - Public Debt and Guarantees**

There are two sets of liabilities namely, public debt and other liabilities. Public Debt consists of internal debt of the State and is reported in the Annual Financial Statements under the Consolidated Fund - Capital Account. It includes market loans, special securities issued by RBI and loans and advances from the Central Government. The Constitution of India provides that a State may borrow, within the territory of India, upon the security of its Consolidated Fund, within such limits, as may from time to time, be fixed by the Act of its Legislature and give guarantees within such limits as may be fixed. However, no law has been passed in the State to lay down any such limit. Other liabilities, which are a part of public account, include deposits under small savings scheme, provident funds and other deposits.

**Table 4.26** gives the fiscal liabilities of the State, its rate of growth, ratio of these liabilities to GSDP, to revenue receipts and to own resources as also the buoyancy of fiscal liabilities with respect to these parameters.

**Table 4.26: Fiscal Liabilities - Basic Parameters**

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Fiscal Liabilities (19)(Rupees in crore)	1,535	1,827	1,952	2,173	2,566	2,762
Rate of Growth ( <i>per cent</i> )	10.04	19.02	6.84	11.32	18.09	7.64
<b>Ratio of Fiscal Liabilities to</b>						
GSDP ( <i>per cent</i> )	33.26	37.29	35.47	36.34	39.66	39.17
Revenue Receipts ( <i>per cent</i> )	136.69	141.74	139.53	140.56	146.88	128.94
Own Resources ( <i>per cent</i> )	667.39	767.65	635.83	637.24	643.11	564.83
<b>Buoyancy of Fiscal Liabilities to</b>						
GSDP (ratio)	0.718	3.080	0.555	1.309	2.207	0.849
Revenue Receipts (ratio)	- 12.623	1.287	0.802	1.077	1.391	0.338
Own Resources (ratio)	0.861	5.469	0.236	1.022	1.063	0.339

Fiscal liabilities of Rs.2,762 crore during 2006-07 consist of internal debt, e.g., market loans bearing interest, loans from Life Insurance Corporation of India (LIC) and other institutions, etc. (Rs. 1,611 crore), loans and advances from Central Government (Rs.345 crore), small savings, provident funds (State Provident Funds and Insurance & Pension Funds: Rs.383 crore) and other non-interest bearing obligations such as deposit of local funds, civil deposits, etc. (Rs.423 crore). Overall fiscal liabilities of the State increased from Rs.1,535 crore in 2001-02 to Rs.2,762 crore in 2006-07. The growth rate in 2006-07 was 7.64 per cent over the previous year. The ratio of fiscal liabilities to GSDP also increased from 33.26 per cent in 2001-02 to 39.17 per cent in 2006-07 and thus remained higher than the limit (28 per cent) prescribed in the MFRBM Act, 2006 throughout the entire period 2001-07. These liabilities stood at 1.29 times the revenue receipts and 5.65 times of the State's own resources at the end of 2006-07. The buoyancy of these liabilities with respect to GSDP during the year was 0.849 indicating that for each one per cent increase in GSDP, fiscal liabilities grew by 0.849 per cent.

During 1999-2000, the State Government constituted a 'Consolidated Sinking Fund' for redemption and amortisation of open market loans. In 2006-07, the Government has appropriated Rs.9.07 crore from revenue and credited to this fund for investment in the GOI Securities.

#### **4.7.2 Status of Guarantees - Contingent Liabilities**

Guarantees are liabilities contingent on the Consolidated Fund of the State in case of

default by the borrower from whom the guarantee has been extended. The maximum amount for which guarantees were given by the State and outstanding guarantees at the end of the year since 2001-02 are given in Table 4.27

**Table 4.27: Guarantees given by the Government of Meghalaya**

(Rupees in crore)

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Maximum amount guaranteed (year end)	187.51	183.69	342.94	384.32	504.67	562.02
Outstanding amount of guarantees (including interest)	156.96	137.37	300.33	338.18	404.38	435.80
Percentage of maximum amount guaranteed to total revenue receipts	16.70	14.25	24.51	24.86	28.89	26.24

Government has guaranteed loans raised by various Corporations and others, which at the end of 2006-07 stood at Rs.435.80 crore (including interest). The outstanding amount of guarantees is in the nature of contingent liabilities, which were over 20 per cent of revenue receipts of the State during 2005-06. No law under Article 293 of the Constitution had been passed by the State Legislature laying down the maximum limit within which Government may give guarantees on the security of the Consolidated Fund of the State.

To regulate the unplanned borrowing by the public sector undertakings and apex co-operative institutions against Government guarantees, the State Government decided to levy a guarantee fee at an annual rate of one per cent from April 1989. The guarantee fee was to be recovered on the amount guaranteed and outstanding on the 31st March each year for the next financial year. For the subsequent years, the guarantee fee was fixed as 0.5 per cent till vacation of the guarantee or liquidation of the loan. As of March 2007, such fee of Rs. 12.44 crore was outstanding from a Statutory Corporation, viz., Meghalaya State Electricity Board.

#### **4.8 Debt Sustainability**

Debt sustainability is defined as the ability of the State to maintain a constant debt-GSDP ratio over a period of time and also embodies the concern about the ability to service its debt. Sustainability of debt therefore also refers to sufficiency of liquid assets to meet current or committed obligations and the capacity to keep balance between costs of additional borrowings with returns from such borrowings. It means that rise in fiscal deficit should match the increase in capacity to service the debt. A prior condition for debt sustainability is the debt stabilisation in terms of debt/GSDP ratio.

##### **4.8.1 Debt Stabilisation**

A necessary condition for stability states that if the rate of growth of economy exceeds the interest rate or cost of public borrowings, the debt-GSDP ratio is likely to be stable provided primary balances are either zero or positive or are moderately negative. Given the rate spread (GSDP growth - interest rate) and quantum spread (Debt\*rate spread), debt sustainability condition states

that if quantum spread together with primary deficit is zero, debt-GSDP ratio would be constant or debt would stabilise eventually. On the other hand, if primary deficit together with quantum spread turns out to be negative, debt-GSDP ratio would be rising and in case it is positive, debt-GSDP ratio would eventually be falling. Trends in fiscal variable indicating the progress towards the debt stabilisation are indicated in **Table 4.28**.

**Table 4.28: Debt Sustainability - Interest Rate and GSDP Growth (in per cent)**

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Average Interest Rate	8.81	8.98	9.00	8.58	8.06	7.62
GSDP Growth	13.98	6.18	12.33	8.65	8.19	9.00
Interest Spread	5.17	-2.80	3.33	0.07	0.13	1.38
Opening Outstanding Debt (Rupees in crore)	1,395	1,535	1,827	1,952	2,173	2,566
Quantum Spread <sup>5</sup> (Rupees in crore)	72	-43	61	1	3	35
Primary Deficit (-)/ Surplus (+) (Rupees in crore)	-92	-11	-32	-136	+13	+129
Quantum Spread + Primary Deficit (Rupees in crore)	-20	-54	29	-135	16	164

**Table 4.28** reveals that quantum spread together with primary deficit has been negative during 2001-03 and 2004-05 indicating rising trend in debt-GSDP ratio during the period. However, despite the sum quantum spread vis-à-vis primary deficit being positive since 2005-06, the fiscal liabilities to GSDP ratio remained higher in 2005-06 relative to previous year although indicating declining tendency in 2006-07. This was mainly because of the fact that fiscal deficit was highest in 2004-05 during last six years (2001-07) which loaded higher fiscal liabilities in the subsequent year in which rate of growth of GSDP also declined by more than three percentage points as compared to the previous year. If the sum quantum spread vis-à-vis primary deficit continued to be positive, it might result in debt stabilisation in ensuing years.

#### 4.8.2 Sufficiency of Non-debt Receipts

Another indicator for debt stability and its sustainability is the adequacy of incremental non-debt receipts of the State to cover the incremental interest liabilities and incremental primary expenditure. The debt sustainability could be significantly facilitated if the incremental non-debt receipts could meet the incremental interest burden and the incremental primary expenditure.

**Table 4.29** indicates the resource gap as defined for the period 2001-07:

**Table 4.29 : Incremental Revenue Receipts and Revenue Expenditure**

Period	Incremental				Resource Gap
	Non-Debt Receipts	Primary Expenditure	Interest Payments	Total Expenditure	
2001-02	-6	-49	15	-34	-40
2002-03	165	84	22	106	+59
2003-04	113	134	19	153	-40

<sup>5</sup> Quantum Spread Interest Spread X Opening Final Fiscal Liabilities + 100

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2004-05	148	252	7	259	- 111
2005-06	201	52	14	66	+ 135
2006-07	393	277	12	289	+ 104

The persistent negative resource gap indicates the non-sustainability of debt while the positive resource gap strengthens the capacity of the State to sustain the debt. During the period 2001-07, although three out of six years reflects the negative gaps, the last two are the pointers towards the increasing capacity of the State to sustain the debt in the medium to long run.

### 4.8.3 Net Availability of Borrowed Funds

Debt sustainability of the State also depends on (i) the ratio of the debt redemption (Principal + Interest Payment) to total debt receipts and (ii) application of available borrowed funds. The ratio of debt redemption to debt receipts indicates the extent to which the debt receipts are used in debt redemption indicating the net availability of borrowed funds. The solution to the Government debt problem lies in application of borrowed funds, i.e., they are (a) not being used for financing revenue expenditure and (b) being used efficiently and productively for capital expenditure which either provides returns directly or results in increased productivity of the economy in general which may result in increase in Government revenue.

**Table 4.30** gives the position of receipt and repayment of internal debt and other fiscal liabilities of the State as well as the net availability of the borrowed funds over the last six years.

**Table 4.30 : Net Availability of Borrowed Funds (Rupees in crore)**

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Internal Debt<sup>6</sup></b>						
Receipts	110	401	287	188	340	243
Repayment (Principal + Interest)	81	343	183	194	258	188
Net Fund Available	29	58	104	-6	82	55
Net Fund Available ( <i>per cent</i> )	26.36	14.46	36.24		24.12	22.63
<b>Loans and Advances from GOI</b>						
Receipts	46	138	83	112	3	3
Repayment (Principal + Interest)	65	156	170	157	63	73
Net Fund Available	-19	-18	-87	-45	-60	-70
Net Fund Available ( <i>per cent</i> )						
<b>Other obligations</b>						
Receipts	241	329	255	281	410	413
Repayment (Principal + Interest)	239	228	318	186	228	406
Net Fund Available	2	101	-63	95	182	7
Net Fund Available ( <i>per cent</i> )	0.83	30.70		33.81	44.39	1.69
<b>Total Liabilities</b>						
Receipts	397	868	625	581	753	659
Repayments (Principal + Interest)	385	727	671	537	549	667

<sup>6</sup> Includes Ways and Means Advances and Overdrafts



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Net Fund Available	12	141	-46	44	204	-8
Net Fund Available (per cent)	3.02	16.24		7.57	27.09	

The net funds available on account of the internal debt, loans and advances from the GOI and other obligations after providing for the interest and repayments varied from minus during 2003-04 and 2006-07 to 27.09 per cent during 2005-06. During the current year, the Government repaid Rs.667 crore as principal and interest on internal debt (Rs.188 crore), loans and advances from the GOI (Rs.73 crore) and other obligations (Rs.406 crore), as a result of which payments exceeded the receipts (Rs.659 crore) by Rs.8 crore during the year. In view of substantial cash balances during 2006-07, the focus of the Government seems to be on discharging the past debt obligations both on account of principal and interest payments on loans raised from the market as well as from the GOI.

### 4.9 Management of Deficits

#### 4.9.1 Trends in Deficits

The deficit in Government accounts represents the gap between its receipts and expenditure. The nature of deficit is an indicator of the prudence of fiscal management of the Government. Further, the ways in which the deficit is financed and the resources raised are applied are important pointers to its fiscal health. The trends in fiscal parameters depicting the position of fiscal equilibrium in the State are presented in **Table 4.31**

**Table 4.31 : Fiscal Imbalances - Basic Parameters**

Parameters	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Revenue Surplus (RS) (+)/ Revenue Deficit (RD) (-) (Rupees in crore)	-34	+ 84	+ 85	-50	+ 73	+ 235
Fiscal Deficit (FD) (-) (Rupees in crore)	-221	- 162	-202	-313	- 178	-74
Primary Deficit (PD) (-)/ Surplus (+) (Rupees in crore)	-92	-11	-32	-136	+ 13	+ 129
RD/GSDP (per cent)	-0.74	+ 1.71	+ 1.54	-0.84	+ 3.33	+ 3.33
FD/GSDP (per cent)	-4.79	-3.31	-3.67	-5.23	-2.75	-1.05
PD/GSDP (per cent)	-1.99	-0.22	-0.58	-2.27	+ 0.20	+ 1.83
RD/FD (per cent)	15.38	(23)	15.97	(23)		

**Table 4.31** reveals that the revenue account experienced a situation of substantial deficit of Rs.34 crore during 2001-02. Though the State was successful in achieving revenue surplus during 2002-04, the year 2004-05 again experienced a revenue deficit of Rs.50 crore. Since 2005-06, the revenue account turned into surplus which has steeply increased to Rs.235 crore during the current year. The significant improvement during the current year was mainly on account of increase in revenue receipts by Rs.395 crore (22.61 per cent) against an increase of Rs.233 crore (13.92 per cent) in

revenue expenditure over the previous year. The sharp increase in revenue receipts during 2006-07 was mainly on account of increase in Central tax transfers by Rs.97 crore (27.71 per cent) and grants-in-aid by Rs.208 crore (20.84 per cent).

The fiscal deficit, which represents the total borrowings of the Government and its total resource gap, decreased from its peak of Rs.313 crore in 2004-05 to Rs.74 crore in 2006-07. Despite an increase of Rs.61 crore in capital expenditure and a decrease of Rs.5 crore in loans and advances disbursed during the current year over the previous year, fiscal deficit was reduced significantly by Rs.104 crore on account of the cushion of Rs.235 crore available from the revenue account.

The primary deficit<sup>7</sup> which persisted till 2004-05, also took a turnaround and resulted in a primary surplus during 2005-06 and significantly increased during the current year. A sharp decline of Rs.104 crore in fiscal deficit together with a moderate increase of Rs.12 crore in interest payments resulted in a primary surplus of Rs.129 crore during the current year indicating the fact that fiscal deficit was solely on account of payment obligations arising from the past fiscal operations of the Government.

#### **4.9.2. Quality of Deficit/Surplus**

The ratio of RD to FD and the decomposition of Primary deficit into primary revenue deficit<sup>8</sup> and capital expenditure (including loans and advances) would indicate the quality of deficit in the States' finances. The ratio of revenue deficit to fiscal deficit indicates the extent to which borrowed funds were used for current consumption. Out of six year period ending March 2007, the State experienced revenue deficit during 2001-02 and 2004-05 and consequent ratio of RD to FD. Since 2005-06, RD was wiped out and turned into surplus which improved significantly during the current year. This trajectory shows a consistent improvement in the quality of the deficit.

The bifurcation of the factors resulting into primary deficit or surplus of the State during the period 2001-07 reveals (**Table 4.32**) that throughout this period, the primary deficit was on account of capital expenditure incurred and loans and advances disbursed by the State Government. In other words, non-debt receipts of the State were enough to meet the primary expenditure<sup>9</sup> requirements in the revenue account, rather left some receipts to meet the expenditure under the capital account. But the surplus non-debt receipts were not enough to meet the expenditure requirements under capital account resulting in primary deficit during 2001-05. This indicates the extent to which the primary deficit has been on account of enhancement in capital expenditure which may be desirable to improve the productive capacity of the State's economy.

<sup>7</sup> Primary deficit defined as the fiscal deficit net of interest payments indicates the extent of deficit which is an outcome of the fiscal transactions of the States during the course of the year.

<sup>8</sup> Primary revenue deficit defined as gap between non-interest revenue expenditure of the State and its non-debt receipts indicates the extent to which the non-debt receipts of the State are able to meet the primary expenditure incurred under revenue account.

<sup>9</sup> Primary expenditure of the State defined as the total expenditure net of the interest payments indicates the expenditure incurred on the transactions undertaken during the year.

**Table 4.32 : Primary Deficit/Surplus - Bifurcation of Factors**

(Rupees in crore)

Year	Non-debt receipt	Primary Revenue Expenditure	Capital Expenditure	Loans and Advances	Primary Expenditure	Primary Revenue Deficit (-)/ Surplus(+)	Primary Deficit (-)/ Surplus (+)
1	2	3	4	5	6 (3 + 4 + 5)	7 (2 - 3)	8 (2 - 6)
2001-02	1,139	1,028	160	43	1,231	+ 111	- 92
2002-03	1,304	1,054	186	75	1,315	+ 250	- 11
2003-04	1,417	1,144	235	70	1,449	+ 273	- 32
2004-05	1,565	1,419	246	36	1,701	+ 146	- 136
2005-06	1,766	1,483	259	11	1,753	+ 283	+ 13
2006-07	2,159	1,704	320	6	2,030	+ 455	+ 129

#### 4.10. Fiscal Ratios:

The finances of a State should be sustainable, flexible and non-vulnerable. **Table 4.33** below presents a summarised position of Government finances over 2001-07, with reference to certain key indicators that help to assess the adequacy and effectiveness of available resources and their applications, highlights areas of concern and captures its important facts.

**Table 4.33: Indicators of Fiscal Health (in per cent)**

Fiscal Indicators	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>I. Resource Mobilisation</b>						
Revenue Receipts (RR)/GSDP	24.33	26.31	25.42	25.85	27.00	30.37
Revenue Buoyancy Ratio	- 0.057	2.394	0.692	1.215	1.587	2.514
Own tax/GSDP	2.95	2.96	3.23	3.48	3.91	4.33
Own Taxes Buoyancy Ratio	1.022	1.072	1.846	1.949	2.640	2.285
<b>II. Expenditure Management</b>						
Total Expenditure (TE)/GSDP	29.47	29.92	29.41	31.40	30.05	31.66
RR/TE	82.57	87.93	86.41	82.32	89.87	95.92
Revenue Expenditure (RE)/TE	85.07	82.20	81.16	84.98	86.11	85.40
Plan Expenditure/Total Expenditure	31.69	30.15	33.66	38.18	38.53	39.36
Capital Expenditure/Total Expenditure <sup>10</sup>	12.15	13.37	15.17	13.36	13.40	14.37
Development Expenditure/Total Expenditure	64.85	61.39	61.64	66.40	66.72	67.53
Buoyancy of TE with RR	-3.068	0.527	1.223	1.522	0.270	0.658
Buoyancy of RE with RR	- 9.092	0.281	1.060	2.042	0.376	0.616
<b>III. Management of Fiscal Imbalances</b>						
Revenue Deficit (-)/Surplus (+) (Rupees in crore)	-34	+ 84	+ 85	-50	+ 73	+ 235
Fiscal Deficit (-) (Rupees in crore)	-221	- 162	-202	-313	- 178	-74
Primary Deficit (-)/ Surplus (+) (Rupees in crore)	-92	- 11	-32	-136	+ 13	+ 129

<sup>10</sup> Total expenditure excludes Loans and Advances.

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Revenue Deficit/Fiscal Deficit	15.38	(10)	(10)	15.97	(10)	(10)
<b>Fiscal Indicators</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>
<b>IV. Management of Fiscal Liabilities</b>						
Fiscal Liabilities (FL)/GSDP	33.26	37.29	35.47	36.34	39.66	39.17
FL/RR	136.69	141.74	139.53	140.56	146.88	128.94
Buoyancy of FL with RR (ratio)	- 12.623	1.287	0.802	1.077	1.391	0.338
Buoyancy of FL with Own Receipt (ratio)	0.861	5.469	0.236	1.022	1.063	0.339
Interest Spread	5.17	-2.80	3.33	0.07	0.13	1.38
Net Funds Available	3.02	16.24		7.57	27.09	
<b>V. Other Fiscal Health Indicators</b>						
Return on Investment	0.08	0.080	0.11	0.11	0.01	0.01
BCR (Rupees in crore)	-168	- 123	-137	-142	- 19	77
Financial Assets/Liabilities (ratio)	1.57	1.55	1.55	1.47	1.43	1.48

The ratios of revenue receipts and State's own taxes to GSDP indicate the adequacy of the resources. The buoyancy of the revenue receipts indicates the nature of the tax regime and the State's increasing access to resources. Revenue receipts are comprised not only of the tax and non-tax resources of the State but also the transfers from Union Government. The ratio of revenue receipts to GSDP during the current year was 30.37 per cent, an increase of 3.37 percentage points over the previous year. During 2001-07, the ratio of own taxes to GSDP showed continued improvement.

Various ratios concerning expenditure indicate quality of expenditure and sustainability in relation to resources. The revenue expenditure as a percentage to total expenditure remained over 81 per cent during 2001-07, indicating its dominant share in the total expenditure of the State leaving very little for capital formation or asset creation. The higher buoyancy ratio of total expenditure as compared to that of revenue expenditure with respect to revenue receipts during 2006-07 indicates the propensity of the State Government to create assets by resorting to capital expenditure. Increasing reliance on revenue receipts to finance the total expenditure, which amounts to 96 per cent during 2006-07, indicates decreasing dependence on borrowed funds. This is also reflected by the decreasing ratio of financial liabilities to revenue receipts. Increasing proportion of plan expenditure and capital expenditure in the total expenditure also indicates improvement in both developmental and quality of expenditure.

Revenue surplus and significant decline in fiscal deficit during 2006-07 indicates an improvement in fiscal position of the State. The increasing revenue receipts have been able to bring an improvement in the fiscal imbalances of the State which is reflected by the decreasing

ratio of fiscal liabilities to revenue receipts as well as positive balance from the current revenues during the current year. Improvement in the fiscal imbalances of the State is also reflected in the increasing assets to liabilities ratio during the current year.

#### **4.11. Conclusion**

The fiscal position of the State viewed in terms of key fiscal parameters showed a significant improvement as the State has been able to maintain revenue and primary surpluses and reduce fiscal deficit during 2005-07. A steep increase in Central transfers to State, comprising tax transfers and grants-in-aid, has provided a cushion in revenue account which helped the State Government to increase revenue surplus and also to contain fiscal deficit well within 3 per cent of GSDP ahead of two years than stipulated in the MFRBM Act, 2006. Apart from the fact that around 77 per cent of States revenue receipts are being contributed by the Central transfers comprising of State's share in Union pool of taxes and duties and grants-in-aid from GOI during 2006-07, the expenditure pattern of the State reveals that the revenue expenditure as a percentage of total expenditure constituted around 85 per cent during the period (2001-07) leaving inadequate resources for expansion of services and creation of assets. Within revenue expenditure, NPPE at Rs. 1,341 crore in 2006-07 constituted around 70 per cent and remained significantly higher than the normatively assessed level of Rs. 1,203 crore by TFC for the year. Further, the salaries and wages, pensions, interest payments and subsidies continued to consume a major share of NPPE which was around 2/3rd during 2006-07. The continued prevalence of fiscal deficit indicates increasing reliance of the State on borrowed funds, resulting in increasing fiscal liabilities of the State over this period, which stood at 39 per cent of the GSDP in 2006-07 and appears to be quite high especially if compared with the limit of 28 per cent prescribed in the MFRBM Act, 2006. The increasing fiscal liabilities accompanied by a negligible rate of return on Government investments and inadequate interest cost recovery on loans and advances might result in erosion of fiscal gains attained so far in medium to long run, unless suitable measures are initiated to compress the non-plan revenue expenditure and to mobilise the additional resources both through the tax and non tax sources in the ensuing years.

# **CHAPTER - V**

## **ECONOMIC GROWTH & STRUCTURAL CHANGES**

## CHAPTER – V

### ECONOMIC GROWTH & STRUCTURAL CHANGE<sup>1</sup>

**5.1. Introduction:** As a state, Meghalaya is yet to achieve the desired level of progress and prosperity in terms of infrastructure like communication, health care and education which is the main aspiration of the people when it came into existence 37 years ago. Despite possessing a fairly rich resource base, which could provide a platform for adequate economic growth, Meghalaya is still backward in terms of the presence of industries in the state. When it comes to the standard of living of the people as reflected by the Per Capita Income of the state which stands at Rs.30204/= (Advanced Estimates) at current prices during 2007-08 as against a national Per Capita income of Rs.33131/= (Advanced Estimates) during the same period. It shows that the level of income of the people is still far below that of the national level.

Meghalaya also witnessed high level of uneconomic and unscientific exploitation of natural and mineral resources by using age-old technique and exporting them to other states in the primary form has not only resulted in loss of forward and backward linkage benefits, value addition benefits and extra earning of tax and no-tax revenue, but also has serious environmental consequences. It is very essential, therefore, to evolve an appropriate strategy and approach for tapping the resources scientifically and economically with efforts to be made for processing the resources within the state and export them as finished goods. This along with the improvement of various skills required for meeting the demands and challenges of the changing economic scenario will help improve the economy of the state and open up new employment opportunities for the people.

There are various economic indicators to measure the progress and development of the state over the different periods. The estimates of the State Domestic Product (SDP) of the 'State Income' as commonly understood in common parlance along with Per Capita Income (PCI) are considered as the best Statistical devices for assessing the growth of the economy as well as the living standard of the people.

The concept of Gross State Domestic Product (GSDP) is more widely used in the analytical studies than the estimates of Net State Domestic Product (NSDP). However, in the present chapter, both the measures have been taken into consideration to analyse the economic scenario of the state.

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<sup>1</sup> This chapter is largely the contribution from the Directorate of Economics & Statistics and figures quoted are from them.

## 5.2. Growth and Sectoral Distribution of Net State Domestic Product (NSDP) and Gross State Domestic Product (GSDP)

### 5.2.1 Growth of NSDP

The NSDP of the state at current prices has been estimated at Rs.3211.30 crore during 1999-2000. It increased to Rs.4722.58 crore in 2003-04 and increased further to Rs.6707.03 crore in 2007-08 (Adv). The average annual increase during the two periods between 1999-2000 and 2007-08 ranges from 6.23 p.c. to 12.90 p.c. The NSDP at constant (1999-2000) prices was Rs.3211.30 crore during 1999-2000 and went up to Rs.3993.01 crore during 2003-04. It went up further to Rs.5059.59 crore during 2007-08(Adv), thereby registering growths between 2.96 p.c. and 6.94 p.c. during the periods from 1999-2000 to 2007-08(Adv).

**Table 5.1 ESTIMATES OF NSDP AT FACTOR COST**

Sl. No.	Year	NSDP at Current Prices (Crore)	NSDP at Constant (1999-2000) Prices (Crore)
1	2	3	4
1	1999-2000	3211.30	3211.30
2	2000-01	3593.25 (11.89)	3421.73 (6.55)
3	2001-02	4056.91 (12.90)	3651.31 (6.71)
4	2002-03	4309.78 (6.23)	3759.38 (2.96)
5	2003-04	4722.58 (9.58)	3993.01 (6.21)
6	2004-05	5137.90 (8.79)	4270.24 (6.94)
7	2005-06	5616.99 (9.32)	4547.56 (6.49)
8	2006-07(Q)	6161.90 (9.70)	4799.75 (5.55)
9	2007-08 (Adv.)	6707.03 (8.85)	5059.59 (5.41)

Directorate of Economics & Statistics, Meghalaya (Figures within brackets are percentage increase/growth over previous year)

### 5.2.2. Sector-wise distribution NSDP

The economy of the state has been divided into three broad sectors, viz. Agriculture and Allied Activities which include Agriculture proper, Livestock, fishing activities and forestry & logging; Industrial sector which includes Manufacturing, Mining and Quarrying, Construction; and Services sector. On analyzing the three sectors, though Meghalaya is primarily an agriculture economy with agricultural activities engaging nearly 63 per cent of the total work force, yet the contribution of this sector towards the economy of the state during 1999-2000 to 2007-08 is between 18.70 p.c. and 23.96 p.c. according to NSDP estimates at current prices. The share of the Industrial sector



being in the range of 21.09 p.c. to 26.42 p.c.. On the other hand, the share of Service sector in terms of percentage contribution during the same periods, have been between 53.21 p.c. at the lowest and 54.95 p.c. at the highest.

### 5.2.3. Sectoral Composition of NSDP

As evident from the table below, the service sector continues to dominate the economy of the state by way of contributing the maximum share. Though its share in terms of percentage contribution marginally declined from 54.95 p.c. in 1999-2000 to 53.54 p.c. in 2003-04 it further declined to 52.37 p.c. in 2007-08(Adv.). The Industrial sector shows an increasing trend in terms of percentage contribution from 21.09 p.c. in 1999-2000. It went up to 23.73 p.c. in 2003-04 and rose further to 25.70 p.c. in 2007-08. On the other hand, the share of the Agriculture sector in the economy of the state shows a declining trend. The percentage contribution has come down from 23.96 p.c. in 1999-2000 to 22.74 p.c. in 2003-04 and went down further to 21.94 p.c. in 2007-08(Adv.). But this trend in terms of percentage contribution does not necessarily mean that the performance of Agriculture as an individual sector is going down. It only means that the Agriculture sector cannot compete with the other two sectors of the economy. On the whole, the pattern of growth observed in the three main sectors of the economy viz-a-viz their percentage contribution presents a healthy picture of the economy of the state which is in the stage of developing.

**Table 5.2 NSDP By Main Sectors at Constant (1999-2000) Prices**

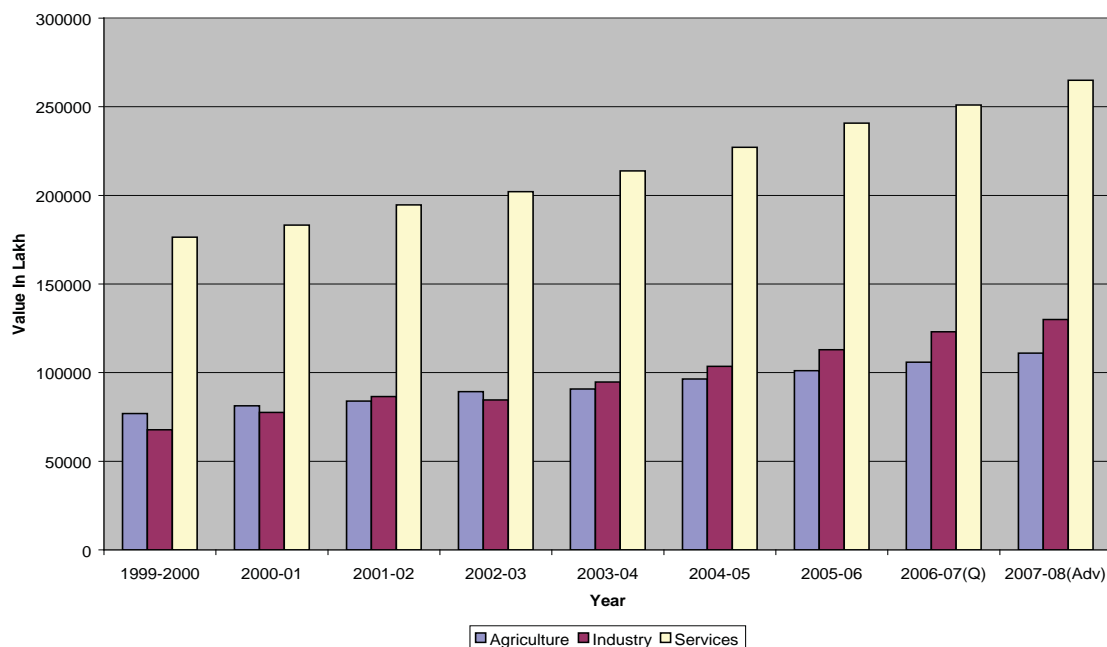
NSDP (Rs. In Crore)

Sl. No.	Year	Agriculture & Allied Activities (Primary)	Industry (Secondary)	Services (Tertiary)	Total
1	2	3	4	5	6
1	1999-2000	<b>769.28</b> (23.96)	<b>677.36</b> (21.09)	<b>1764.66</b> (54.95)	<b>3211.30</b> (100.00)
2	2000-01	<b>813.33</b> (23.77)	<b>775.87</b> (22.67)	<b>1832.53</b> (53.56)	<b>3421.73</b> (100.00)
3	2001-02	<b>839.40</b> (22.99)	<b>865.18</b> (23.70)	<b>1946.73</b> (53.32)	<b>3651.31</b> (100.00)
4	2002-03	<b>892.63</b> (23.74)	<b>845.67</b> (22.49)	<b>2021.08</b> (53.76)	<b>3759.38</b> (100.00)
5	2003-04	<b>907.85</b> (22.74)	<b>947.38</b> (23.73)	<b>2137.78</b> (53.54)	<b>3993.01</b> (100.00)
6	2004-05	<b>964.33</b> (22.58)	<b>1035.09</b> (24.24)	<b>2270.82</b> (53.18)	<b>4270.24</b> (100.00)
7	2005-06	<b>1011.16</b> (22.24)	<b>1129.17</b> (24.83)	<b>2407.23</b> (52.93)	<b>4547.56</b> (100.00)
8	2006-07(Q)	<b>1059.35</b> (22.07)	<b>1229.94</b> (25.63)	<b>2510.46</b> (52.30)	<b>4799.75</b> (100.00)
9	2007-08(Adv.)	<b>1109.83</b> (21.94)	<b>1300.09</b> (25.70)	<b>2649.67</b> (52.37)	<b>5059.59</b> (100.00)

Directorate of Economics & Statistics, Meghalaya

(Figures within brackets are percentage contribution to the Total)

**NSDP By Main Sectors at Constant (1999-2000) Prices**



#### 5.2.4. Growth of GSDP

The estimates of GSDP at current prices, which recorded at Rs.3578.14 crore during 1999-2000 increased to Rs.5279.99 crore in 2003-04 and increased further to Rs.7605.28crore in 2007-08(Adv.), showing an annual percentage variance between 6.37 p.c. to 13.06 p.c. during the period 1999-2000 to 2007-08(Adv.). During the same periods, i.e. 1999-2000, 2003-04 and 2007-08(Adv.), the estimates of GSDP at Constant (1999-2000) prices stood at Rs.3578.14 crore, Rs.4469.66 crore and Rs.5628.25 crore respectively, registering an annual growth range of 3.78 p.c. to 7.13 p.c.

#### 5.2.4(i) GROWTH OF GSDP

Year	GSDP at Current Prices (Rs. Crore)	GSDP at Constant (1999-2000) prices (Rs. Crore)
1999-2000	3578.14	3578.14
2000-01	3960.94(10.70)	3773.37 (5.46)
2001-02	4478.26(13.06)	4033.15 (6.88)
2002-03	4763.42 (6.37)	4185.52 (3.78)
2003-04	5279.99 (10.84)	4469.66 (6.79)
2004-05	5805.50 (9.95)	4788.22 (7.13)
2005-06	6318.85 (8.84)	5078.93 (6.07)
2006-07 (Q)	6959.29 (10.14)	5349.81 (5.33)
2007-08(Adv.)	7605.28(9.28)	5628.25(5.20)

Directorate of Economics & Statistics, Meghalaya

(Figures within brackets are percentage Variance/Growth over Previous Year)

According to the estimates of GSDP, there exists a huge gap in the district-wise distribution of SDP in the state economy. The East Khasi Hills District has the highest DDP with more than 39.9 p.c. and South Garo Hills has the lowest at about 6 p.c. during the period from 1999-2000 to 2007-08 (Adv.). But in terms of Per Capita Income, the picture is different, as South Garo Hills District registers the highest PCI with Rs.21300 during 1999-2000 and Rs.25786 during 2003-04, but in 2007-08 (Adv.) it was second with Rs. 28749 only to East Khasi Hills which has a PCI of Rs.31202 during the above period. The district with the lowest PCI being West Khasi Hills with Rs.9739, Rs.10632 and Rs.12592 during 1999-2000, 2003-04 and 2007-08(Adv.) respectively.

**5.2.4(ii) GSDP at Constant (1999-2000) Prices  
District-wise Contribution (In Percentages)**

Year	Jaintia Hills	East Khasi Hills	West Khasi Hills	Ri Bhoi	East Garo Hills	West Garo Hills	South Garo Hills	Total
1999-2000	16.04	37.59	7.76	6.64	7.88	18.25	5.83	100.00
2000-01	15.69	38.16	8.00	6.83	7.47	17.76	6.10	100.00
2001-02	16.74	37.31	7.79	6.87	7.37	17.48	6.43	100.00
2002-03	9.50	49.57	6.55	6.49	7.14	17.75	3.00	100.00
2003-04	16.05	39.25	7.26	6.88	7.20	17.30	6.06	100.00
2004-05	15.47	39.96	7.12	7.08	7.29	17.16	5.92	100.00
2005-06	15.06	39.71	7.24	7.06	7.32	18.04	5.56	100.00
2006-07 (Q)	15.16	39.66	7.25	7.24	7.39	17.55	5.75	100.00
2007-08(Adv.)	14.98	39.81	7.18	7.39	7.44	17.57	5.63	100.00

Directorate of Economics & Statistics, Meghalaya

**5.2.4(iii) GSDP at Constant (1999-2000) prices  
District-Wise Per Capita Income (In Rupees)**

Year	Jaintia Hills	East Khasi Hills	West Khasi Hills	Ri Bhoi	East Garo Hills	West Garo Hills	South Garo Hills	STATE
1999-2000	19932	21084	9739	12775	11653	13060	21300	15995
2003-04	23246	25659	10632	15428	12408	14437	25786	18647
2007-08(Adv.)	26015	31202	12592	19866	15365	17566	28749	22352

Directorate of Economics & Statistics, Meghalaya

**5.2.5. Sector-wise Distribution of GSDP**

Taking into consideration the sector-wise performance of the economy by the three main sectors in terms of GSDP at Constant (1999-2000) prices, it is observed that the percentage contribution of the Services sector was 53.76 p.c. during 1999-2000. It went down to 52.58 p.c. in 2003-04 and to 52.74 p.c. in 2007-08(Adv.), thus remaining almost at the same level. The

share of Industrial Sector during the same periods have been 23.31 p.c., 25.69 p.c. and 26.13 p.c. respectively, thereby showing an increasing trend in terms of percentage contribution. The Agricultural sector on the other hand is showing a decreasing trend with regard to percentage contribution when it registered 22.93 p.c. in 1999-2000, it went down to 21.73 p.c. during 2003-04 and marginally again to 21.13 p.c. in 2007-08(Adv.).

While at the national level according to the estimates of GDP, the contribution of Services Sector have been recorded at 49.7 p.c. during 1999-2000, 52.7 p.c. in 2003-04 and 55.7 p.c. in 2007-08(Adv.). This shows an increasing trend during the three periods. On the contrary, the Agriculture sector has reduced in terms of contribution from 25.0 p.c. to 21.7 p.c. and again to 17.5 p.c. during the above periods. There has been marginal increase in the contribution of the Industries sector from 25.3 p.c. to 25.6 p.c. for the periods 1999-2000, 2003-04 and 26.8 p.c. during 2007-08(Adv.).

#### **5.2.5. Sector-wise Distribution of All India GDP and State GSDP**

Percentage of GSDP at Constant (1999-2000) Prices	1999-2000	2003-04	2007-08 (Adv.)
Agriculture & Allied Activities	25.00 (22.93)	21.70 (21.73)	17.47 (21.13)
Industries	25.30 (23.31)	25.60 (25.69)	26.79 (26.13)
Services	49.7 (53.76)	52.70 (52.58)	55.74 (52.74)
Total	100.00	100.00	100.00

(Figures in brackets are State figures)

#### **5.2.6 Poverty Scenario**

The National Tenth Plan document prepared by the Planning Commission indicates that the percentage of population below the poverty line at the national level has declined from 54.88 per cent in 1973-74 to 26.1 percent in 1999-2000 which is expected to decline further to 19.34 per cent in 2006-07. In respect of the State of Meghalaya, the figures of the Planning Commission indicate that the percentage of population below the poverty line was 50.20 per cent in 1973-74 and 33.87 per cent in 1999-2000 which is expected to decline further to 31.14 per cent in 2006-07 with a B.P.L population of 8.23 lakh. Among other states and UTs Meghalaya occupied 21st rank in the percentage of population below the poverty line. As per the estimates, the state had 37.92 % of population of below the poverty line with the national level figures at 35.97 % in 1993-94.

Since the poverty ratios used by the Planning Commission, GOI for Meghalaya are those of Assam, the incidence of poverty in Meghalaya in not very reliable.

However, as advised by the Ministry of Rural Development, GOI all the states and Union Territories are to conduct the BPL Census for identifying the households living below the poverty line at the

beginning of every Five Year Plan and accordingly the Government of Meghalaya had conducted the BPL Census in 1997 and 2002.

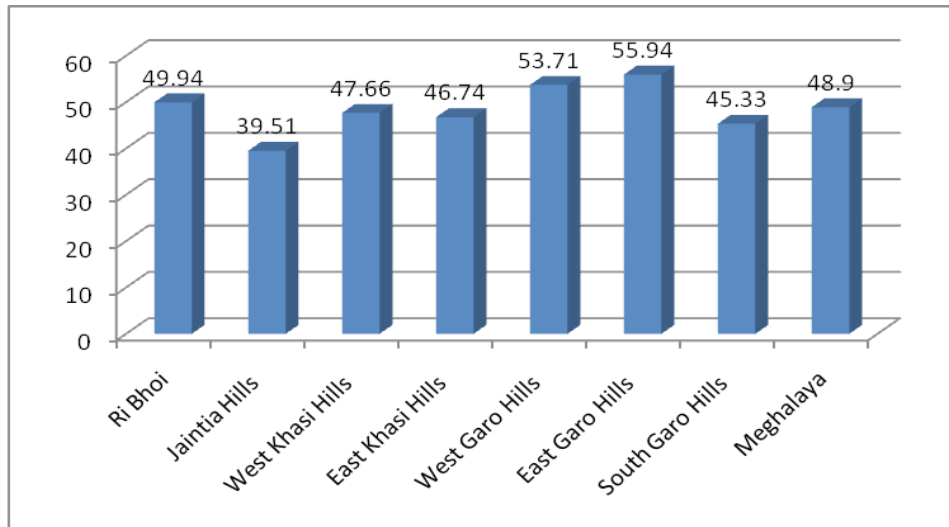
**Table - 5.2.6(i) District-wise Poverty Incidence in Meghalaya**

<b>C&amp;RD Block/ District/ State</b>	<b>Total Households</b>	<b>BPL Households</b>	<b>Percentage of BPL Households</b>
<b>Ri Bhoi District</b>	<b>32590</b>	<b>16276</b>	<b>49.94</b>
<b>Jaintia Hills District</b>	<b>49771</b>	<b>19663</b>	<b>39.51</b>
<b>West Khasi Hills District</b>	<b>63951</b>	<b>30480</b>	<b>47.66</b>
<b>East Khasi Hills District</b>	<b>109115</b>	<b>50997</b>	<b>46.74</b>
<b>West Garo Hills District</b>	<b>95699</b>	<b>51400</b>	<b>53.71</b>
<b>East Garo Hills District</b>	<b>50398</b>	<b>28192</b>	<b>55.94</b>
<b>South Garo Hills District</b>	<b>18148</b>	<b>8226</b>	<b>45.33</b>
<b>Total State</b>	<b>419672</b>	<b>205234</b>	<b>48.90</b>

*(Source – BPL Census, 2002)*

Table - 5.2.6(i) shows that the proportion of households living below the poverty line is a staggeringly huge figure at 48.9 percent. East Garo Hills District has the highest incidence of poverty at 56 percent followed by West Garo Hills District at 54 percent. Jaintia Hills District has the lowest proportion of households below the poverty line at a little less than 40 percent. The incidence of poverty in the other districts is in the range of 45 – 50 percent.

**5.2.6(ii) Proportion of Households Living Below the Poverty Line in Districts of Meghalaya in 2002**



Source: BPL Census, 2002

However, the use of different score limits for different Blocks makes comparison impossible across the Blocks and districts except in cases where the poverty line (score limits) are the same. That is, two households which have more or less the same standard of living may be classified as poor in case of one household and non poor in case of another if they happen to be in two different Blocks with different score limits.

Estimation of the incidence of poverty as measured by the proportion of people living below the poverty line hinges crucially on the poverty line and how it is defined. There are several problems associated with the concept of poverty line, especially in Meghalaya and the other NE states. Nevertheless, poverty is pervasive and is evident to anyone who takes a look at the living conditions of the people of Meghalaya, especially those who reside in the remote rural areas of the state.

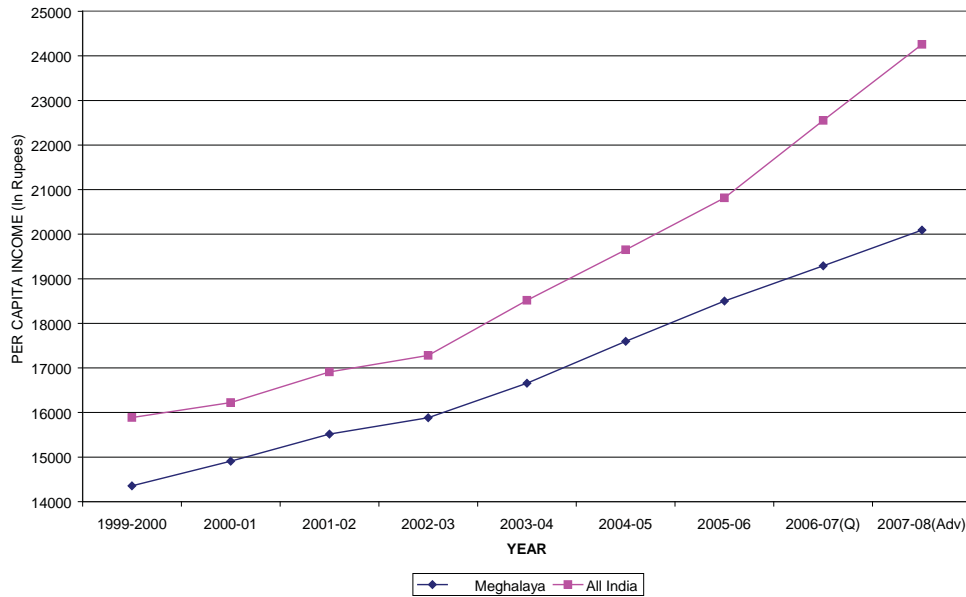
**5.2.7 Per Capita NSDP – The PCI (NSDP) at current prices rose from Rs.14355 in 1999-2000 to Rs.19702 in 2003-04 and then to Rs.26636 during 2007-08(Adv.).** While at constant (1999-2000) prices, the PCI was estimated at Rs.14355 in 1999-2000. It increased to Rs.16658 during 2003-04 and increased further to Rs.20094 during 2007-08(Adv.). The PCI of Meghalaya fall below the national level PCI which recorded Rs.15881, Rs.18317 and Rs.24256 respectively during the above periods at constant (1999-2000) prices.

**5.2.7(i) Per Capita NSDP**

Year	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Meghalaya	14355	14910	15518	15882	16658	17595	18501	19292	20094
All India	15886	16223	16910	17281	18517	19649	20813	22553	24256

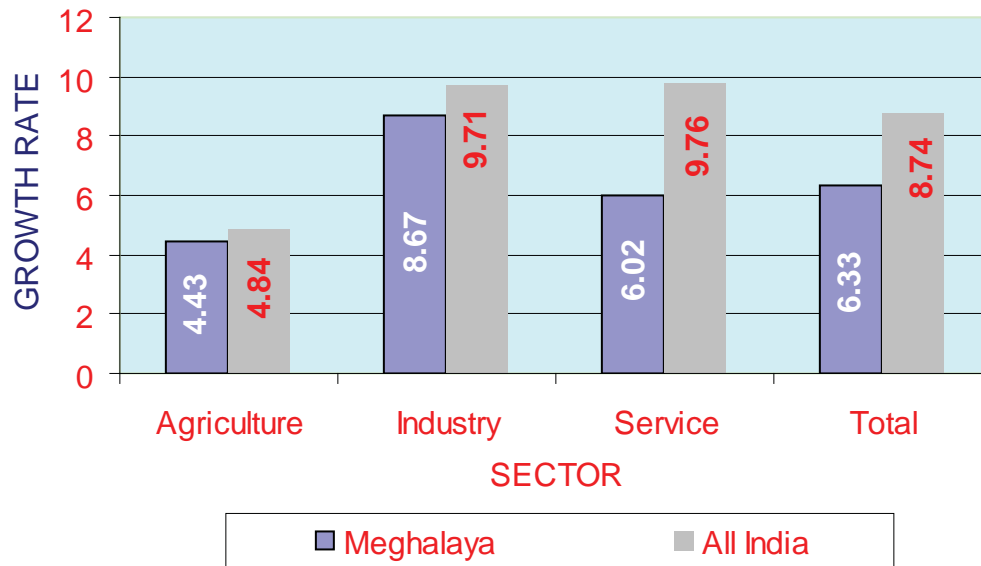
(Source: Central Statistical Organisation & Directorate of Economics & Statistics, Meghalaya)

**COMPARATIVE PER CAPITA INCOME OF MEGHALAYA AND ALL INDIA**



**5.3 Growth Prospects:** In the beginning of the Tenth Five Year Plan, the Planning Commission while preparing the Plan document of the country had envisaged an average target growth of 8 p.c. of Gross Domestic Product (GDP) of the nation during the period. The target growth for the GSDP in the case of Meghalaya had been fixed at 6.30 p.c. during the same period. Now, on analyzing the performance of the economy of the country at the national level and that of Meghalaya at the regional level, it is observed that according to the GDP estimates at constant (1999-2000) Prices, the country had achieved a growth of 8.74 p.c. which is 0.74 p.c. more than the target growth of 8.00 p.c. during the Tenth Five Year Plan. The state of Meghalaya on the other hand could somehow make it to the target of 6.3 p.c. growth of GSDP during the same period. The sector-wise performance by main sectors of the economy of the state shows an improvement in Agriculture and Industry by achieving growths of 4.43 p.c. and 8.67 p.c. respectively which are more than the target growths. The Services Sector, on the other hand could not reach the target and could achieve only 6.02 p.c. which is below the target of 7.5 p.c.

**ASSESSMENT OF GROWTH DURING THE 10TH PLAN  
(2002-03 TO 2006-07)**



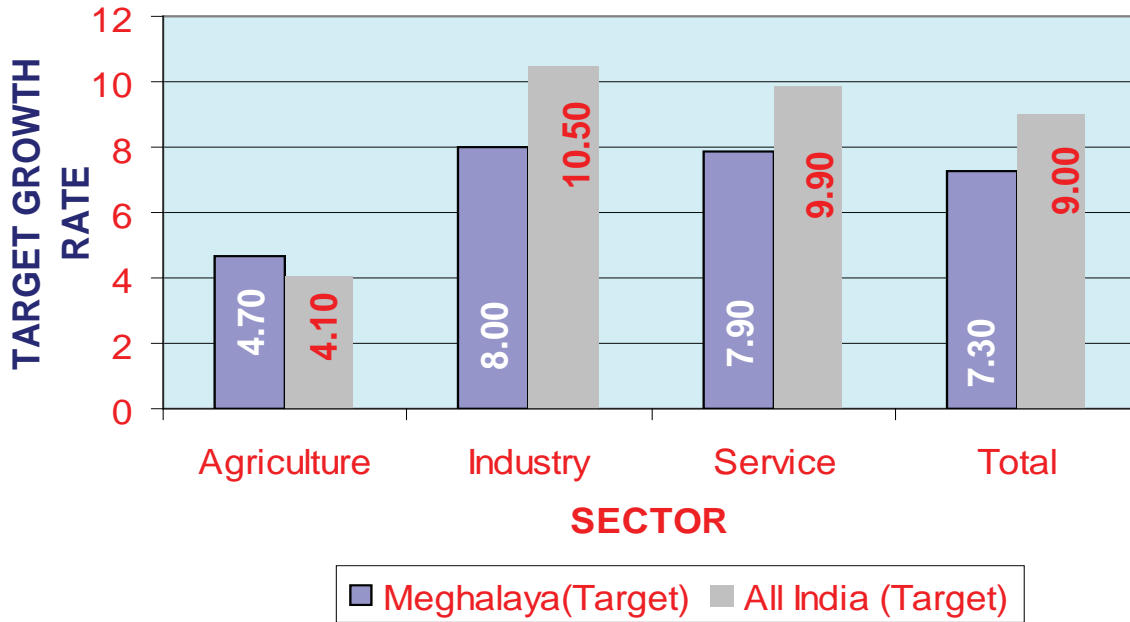
The feasibility of attaining the targeted growth rate may be evaluated on the basis of past achievements. The growth rate of NSDP just before the preceding decade from the commencement of Tenth Plan was 6.6%. The growth rate for primary secondary and tertiary sectors for the same period have been calculated as 7.07, 7.2 and 6.3 percent respectively. Given this track record the state can expect to achieve the targeted growth rate. However given the high growth rate of population the growth of per capita NSDP during this period was only 4.5 %. Thus the states need to have a thorough revision in the development outlook of the implementing agencies to maintain parity between over all growth and per capita NSDP.

With regard to the projected growth in the Eleventh Plan, based on the trends observed in previous years' performance of the state's economy, the average growth during the period is expected to be 6.54 p.c. with Agriculture accounting for 5.20 p.c., Industry 7.82 p.c. and Service Sector 6.43 p.c. This will fall short of the target growth of 7.3 p.c. with sector-wise growth of 4.7 p.c. in Agriculture, 8.00 p.c. in Industry and 7.9 p.c. in Service Sector as fixed by the Planning Commission for the state of Meghalaya in its approach paper. At the national level, the Planning Commission of India has targeted a growth of 9.00 p.c. with sector-wise growth targets of 4.1 p.c., 10.5 p.c. and 9.9 p.c. in Agriculture, Industry and Service Sectors respectively. Considering the state of Meghalaya, the gap in the Quantum of growth in the Eleventh Plan, between the projected growth figures according to the state's GSDP estimates at constant (1999-2000) prices and the target growth as fixed by the Planning Commission of India could be bridged depending on the volume of effort to be put in by the State Government which in turn will depend on the planning, executing and implementing agencies of the state. This is important in view of the fact that neither



the growth target nor the objective indicators of well being of the people can be achieved simply by the Quantum of resources that we may mobilize but by efficiency and effectiveness of our decisions, actions and implementation of our policies and programmes, as emphasized by the Planning Commission in its 'Tenth Five Year Plan' document.

**ASSESSMENT OF GROWTH PROSPECTS DURING THE 11TH PLAN (2006-07 TO 2011-12)**



**5.4 General Development Indicators.**

**5.4.1 Food grain production**

The net sown area constitutes 9.81 per cent of the total area of the State during 2001-02 and the double – cropped areas constitute 16.85 per cent of the total area sown. Only 23.8 per cent of the total cropped area is under irrigation as per 2001 -02 figures. Food grain production was 1.86 lakhs tones in 1998-99, which increased to 2.24 lakhs tones in 2001-2002 and 2.27 lakhs tones in 2003-04.

**5.4.2 Industrialization**

Though reasonable level of industrialization is necessary for boosting up the economy of the State, yet this has to take place along with the opening up of employment opportunities and improving the State’s income by way of more revenue returns. Meghalaya has not witnessed the desired level of investment in this area primarily because of the lack of proper basic infrastructure, both in physical and financial form. In recent years, due to the package of incentives offered by the State Government combined with the attractive subsidies offered by the

Central Government, a good number of industrial units have come up particularly at the EPIP at Byrnihat, Ri- Bhoi District and as a result, there has been tremendous pressure on the supply of power, thus making Meghalaya a power deficit State. However, the real economic benefits being accrued to the State of Meghalaya as a consequence of these investments in industrial units are yet to be ascertained.

#### **5.4.3 Unemployment**

The number of educated unemployed youth in the Live Register of Employment Exchanges in the State as on 2005 is 37,396. However, this figure does not fully reflect the scale of unemployment in the State since it is most likely that a good number of the unemployed do not get registered themselves with the Employment Exchanges. This may be because the unemployed have little or no faith in the ability of these Exchanges to secure employment for them. The increase in the number of students in higher educational institutions has not been accompanied by a matching increase in the number of employment opportunities, in the organized sector of the economy. In spite of the massive expansion in administration, the organized sector has not been able to absorb fully the additions to the literate labour force. Large number of persons passing from School and college are unable to secure regular salaried employment. The potential for self-employment needs to be explored in private industry and trade. Rising numbers of educated unemployed have created frustration and anger among the youth, which has probably contributed to unrest and tension in the region. During the Ninth and Tenth Plan a number of industrial units have come up in the State especially at Byrnihat and Barapani in Ri Bhoi District as a consequence of the State's incentives through its Industrial Policy of 1997, yet the level of employment of local people in most of these units which is supposed to be 60 per cent is far from satisfactory, perhaps due to lack of desired skill among the local youth or other unknown reasons. Development of local entrepreneurship and evolution of self-employment opportunities continue to stagnate. Diversified skill development among the working population at the grass root level is almost non-existent. As such in spite of unemployment in the State, many of the skilled labour required for construction of roads, bridges, building etc. continue to come from outside the State. This problem needs to be addressed. One way of solving the problem of unemployment is by way of massive expansion of vocational training facilities in various trades at the grass root level with emphasis on the youth after the 10 or 10+2 levels of studies. Possession of the desired skill would help the youth in finding self – employment opportunities or even in public and private enterprises.

#### **5.4.4 State of PSUs :**

Meghalaya ranks third from last (only before Nagaland and Sikkim) among other states in the Compounded Annual Rate of Growth (CARG) of Investment in state PSU's. The Government hasn't taken much initiative to boost the investment in the state PSU's. In 1990-91 the total investment of state PSU's by state was Rs. 340.7 crores, which has increased to Rs. 451.4 crores in 1998-99 registering a CARG of 3.6 % only. This is significantly below the national CARG of 12.33 % during the same period. On the other hand, states like Assam, Himachal Pradesh, and Andhra Pradesh had invested at a CARG of 6.1 %, 10.8% and 18.4 % respectively.

With the exception of a few State PSU's, all the other units are loss making and can be considered as sick PSU's. These PSU's have acted as a drain on the resources of the State with their growing dependence on budgetary support of the State Government. One of the major reasons for the failure of the State PSU's is the high level of employment that these have been saddled with, resulting in high spending on salaries and leaving lesser resources for productive investment. In order to tackle this problem, the State Government has implemented the Golden Handshake/Voluntary retirement scheme for the employees of the State PSU's. This is expected to restore the financial health of these units to some extent.

No.	Name of PSU	Number of Employees taking VRS
1.	MECOFED	114
2.	MTC	206
3.	MGCC	76
4.	MWL (Already wound up)	87

**5.4.5 Disbursement of Financial Assistance by all financial institutions**

Though the cumulative financial assistance has increased from Rs. 30.9 crores in March 1986 to Rs. 243.90 crores in March 2003, but it is still extremely low as compared to the national level. The financial institutions have provided an assistance aggregating to Rs. 600,133.30 cumulative up to end March 2003. In comparison Assam and Himachal Pradesh constitute 0.4% and 0.9 % of the total cumulative financial assistance. This has consequently resulted in poor growth and development of state as a whole.

**5.4.6 Administrative Overhead Costs.**

Given the hilly terrain and low density of population, administrative overhead costs in Meghalaya are bound to be much higher than those in the rest of the country. With the emergence of the new State, there have been efforts to bring the administration closer to the people by opening new districts, Sub- Division, Development Blocks, etc. All development agencies have by now positioned their technical and administrative manpower. This process had resulted in a massive expansion in the number of Government employees both in the regulatory and development spheres. The administrative expansion was accompanied by a sustained rise in investments in Government buildings, both for residential and office purposes. Building activities have generated employment opportunities for contractors, masons, carpenters and unskilled workers in a significant manner. The combined effect of the road building construction programmes on demand for labour and materials has been very substantial.

**5.5 Investment Opportunities and Openings.**

The State Government offers subsidies such as, on cost of infrastructure, on Transport, on Training, on Power etc., the Central Government has since declared that new units in the North – Eastern Region will be eligible for exemption from income tax for a period of five years from the date

of commercial production. There are a number of potential sectors that have been identified as Minerals Based Industry, Horticulture & Agro based Industry, Power, Tourism, Health care etc.

#### **5.5.1 Mineral Based Industry.**

Meghalaya with its wealth of mineral deposits has tremendous industrial potential. There are extensive deposits of coal, limestone, granite, clay and other minerals. Coal deposits are available in all districts and particularly in the southern slopes of the State. The coal bears a low ash content and its calorific value ranges between 6500 to 7500 K.Cal/Kg. The total estimated reserve of coal is in the region of 640 million tones. The coal is mainly of sub- bituminous type and can be utilized in varied industries ranging from power, fertilizer, cement and textile to paper, rubber, brick burning and also pottery based industries,. The coal that is found in the State can also be converted into coke to recover value added chemicals like light, medium and heavy oil, phenol and producer gas. Limestone is another mineral that occurs in an extensive belt (approx. 200 Km. Long) along the southern boarder of Meghalaya. The quality of limestone found here varies from cement grade to chemical grade having three brands. Total inferred reserve limestone within the State is about 5,000 million tones. The quality of limestone in the state has CaO content of 53 % and can be of use in steel, fertilizer and chemical industries. Granite of excellent quality is at present being mined in the East and West districts of Khasi Hills. Sizeable deposits are estimated and can be found in various shades and colours Clay of various types such as Kaolin (China clay), white clay and fire clay are found in various parts of the states. This clay is suitable for the ceramic, paper, rubber and refractory industries. It has been estimated that there are a few hundred million tones of clay reserved in the State. Beside the above, other economically viable minerals like gypsum, phosphorite, glass- sand, base metals, quartz and feldspar can be located in various parts of the state. More details about the occurrences of minerals is provided in the chapter of Natural Resources of the report. The state is also credited with having one of the most valuable silimanite deposits in the World.

#### **5.5.2 Horticulture & Agro Based Industries.**

The potential for Agro- based industries in the state of Meghalaya is very high. The state produces substantial quantities of oranges, peaches, pineapples, pears, guavas, plums, and bananas. Potatoes, tapioca, bay leaves, ginger, maize and jackfruit are also grown in plenty in the region.

Meghalaya's turmeric, particularly the variety that is grown in Lakadong in the Jaintia Hills, is considered the best in the world and its curcumine content is as high as 7.5 %.

It may be mentioned that there is enough potential for setting up a starch based processing unit in the State.

Plantation crops like coffee, rubber, black pepper and arecanut are also becoming important products. A major breakthrough has been made in tea cultivation and small tea gardens have come up in such parts of the State.

One of the areas in which there is tremendous potential for investment and development is food processing. There is ample scope for setting up a medium scale fruit processing unit.

### **5.5.3 Power Generation.**

Meghalaya has been one of the few states in the country with a history of surplus power generation. Industrial units in Meghalaya had the unique privilege of uninterrupted power supply prior to 1998. The state possesses an assessed hydro-electricity potential of nearly 3000 MW. The state is a major beneficiary of the South West Monsoon. The average annual rainfall is 11,000 mm. The Umiam – Umtru basins have only been partly developed during the past forty years. The power scenario in the state is discussed in detail in Chapter 15- Power Sector Reforms.

The State is in the process of identifying agencies including IPP that can invest in the development of Meghalaya's considerable hydropower potential. The investors in Power Sector will find a favourable atmosphere in the State of Meghalaya once it is rolled out.

### **5.5.4 Export Promotion Industrial Park (EPIP)**

An Export Promotion Industrial Park is set up at Byrnihat, nearer to Guwahati. It has an area of about 250 acres. The EPIP supported by the Government of India, Ministry of Commerce. The scheme is to encourage development of exports. The scheme required the State Government to provide infrastructure facilities like power, water, roads, sewage and drainage, telecommunication facilities and other facilities for the Park. Units that are establishment in the park should have to export not less than 25 % of their total product in value terms. There are proposals to expand this. There is also re – evaluation of Industries & types as impact for local employment and economy.

### **5.5.5 Synergy with Central Government Departments and Other Agencies.**

Effort is being made through these proposals to dovetail various schemes to the extent possible with schemes proposed to DONER and NEC so that all round development is assured and that some schemes do not suffer in isolation. The assistance of NESAC also is being actively sought and their intervention in G.I.S. mapping for fisheries and horticultural development forms and important bulwark of the concerned sector. The assistance under the IFAD and other externally aided project has to be factored into for various proposals.

### **5.6. Guiding principles for public action<sup>2</sup> :**

Addressing the problem of equitable access to opportunities remains a crucial issue in achieving the Millennium Developmental Goals (MDG). The **policy challenge** is to facilitate access to improved livelihood opportunities closely associated with poverty eradication strategies catering to the context, needs and potentials of local communities in a sustainable manner. Breaking out

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<sup>2</sup> Dr. Shreeranjana (2006) Credit Related Issues in Meghalaya.

of poverty traps and stagnant rural development would require a **multifaceted approach** revolving mainly upon **Nine policy clusters** as considered crucial in the context of Meghalaya:

- i. **Investing in human development** such as nutrition, health (including reproductive health), education, water and sanitation etc. which foster a productive labour force;
- ii. In order to break out of subsistence farming and chronic hunger **Helping small farmers increase productivity** through investment, especially in rural areas;
- iii. **Investing in infrastructure** such as roads, communications, power, etc in order to attract new investments in non-traditional areas;
- iv. **evolving industrial development and investment policies** that bolster non-traditional private sector activities, **with special attention to small and medium-size enterprises**. Such policies might include export processing zones, tax incentives and other initiatives to promote investment and public spending on research and development;
- v. **Building and Evolving development centric, accountable people's institutions towards effective participation and empowerment** : this may involve restructuring and refashioning the Governmental set up, Traditional hierarchical and non hierarchical institutions, refashioned District councils and making them partners in governance and delivery of development with accountability. This should address role-ambiguity, overlaps, confusion and disputes in functions and aim at decentralisation with empowerment;
- vi. **Building Capacities at various levels**: This may involve organizational and institutional capacities; skills and expertise for employment, livelihoods and entrepreneurship; building capacities for newer economy with freedom of choice;
- vii. **A framework for integrated planning and development** with institutional arrangements for spatial and location specific hill area perspective for Meghalaya and attending to the critical inter-sectoral gaps and linkages;
- viii. **Emphasizing human rights and social equity** to promote the well-being of all sections of people who have the freedom and voice to influence decisions that affect their lives;
- ix. **Promoting environmental sustainability** and improving urban management. There is a need to protect the biodiversity and ecosystems that support life (clean water and air, soil nutrients, forests, fisheries, other key ecosystems) and ensure that natural resources are well managed to provide livelihoods and safe environments.

Access to credit, especially to poor and rural areas is essential element of harmonizing such aims of development as enunciated in the introduction and chapter III. A differentiated local context-specific approach is required in working the action plans for asset creation. Given the broad range of assets and their interactions which matters a lot to the poor; access to potable water, basic health facility and education may be considered critical assets. But for hungry and poor, food security, access to land, energy requirements and rural road connectivity would be more important in the rural areas. In urban areas, housing (shelter) and water and sanitation services would assume greater importance. Besides, environmental protection and sustainability pose major challenge to a society where quick fix solutions and quick bucks take precedence.

For financial sector focus, drawing upon “A holistic natural resource based development paradigm” (suggested by the author in another work which indicated five closely interrelated general guiding principles) with some additions, can be followed as generic prescription:

- Prioritise and reallocate public expenditures by making it pro-poor and be more proactive to ensure that the resources are allocated to meet the diverse needs of the poor.
- National/state level actions towards Reforms, including land reforms and redistributing land are given priority.
- Improving the legal, regulatory and enforcement environment in general. A system of complementary institutions to tackle collateral laws, collateral registries, improving information about loanees in formal and informal sector through credit registries, use of computerised credit scoring models will enhance access to credit as mentioned in the WDR, 2002.
- Focus on building mechanisms at the local level that can hold National/State and local levels accountable through effective empowerment through decentralization and participation.
- Evolve closer working among six group of institutions government [(Central and State (including local)], private sector, civil society, aid organisations and academic/ scientific institutions working for the poor to work on the demand and supply sides of asset and economy buildup.
- Focusing on the demand side to ensure that supply-side interventions contribute to asset and economy buildup at a matching rate.
- While working out rural and urban development strategies synergise and build on actions taken for assets creation for increased well-being of the poor.
- The above principles should take on board:
- **More proactive actions to address inequalities** of assets, across gender, rural urban and ethnic groups, etc. that impede poverty reduction and growth
  - Realistic and implementable land reform programs.
  - Removing gender bias in legislation and
  - Improving and Operationalisation of rule of law and legal systems;
  - Accelerating skill acquisition process by the poor with demand- and supply-side interventions.
- Support for making institutions of /in the state (both local and national) pro-poor and accountable to the poor.
- Support for capacity building of pro-poor membership-based organizations ; scaling up CBO; building alliances/cooperative federations;
- Initiating creation of qualitative and quantitative information base detailing local- and household-level knowledge on the nature and coping mechanism of risks in the life cycle of poor. Taking risk and vulnerability of the poor for further detailed analysis for its impact on poverty, efficiency, and growth.
- Working on multi-pronged/-dimensional programmatic approach in development and credit interventions to cushion the poor against shocks/ different risks.
- Recognition of strong cross-sectoral linkages; of cross-cutting impacts on empowerment,

security, and opportunity; and of the importance of holding service delivery accountable to the poor.

- Formulation of Perspective Block/District Plan and Annual Action Plan for infrastructure development and promotion of core activities; Linkage of the Perspective/Annual Plan with Programmes, schemes that facilitate creation of infrastructure and Capacity to improve efficiency of extension and delivery systems.
- Taking local realities that matter and catering to the contingent institution building. Strengthening and evolving decentralised village or cluster level institutions in the state for better participation, delivery and impact. Promoting SHGs with the help of NGOs;
- Support for the provision of public goods from all over.
- Innovation and Proactive actions in development assistance, increasing the role of civil society and the private sector in implementations, and turning leadership more responsible and responsive, enhancing ownerships.
- Intensive training of the Government Officials (DRDA, Block and Line Departments), Bank Officials and NGOs as well as capacity building of the functionaries of Grass root organisations/traditional organisations/Local Bodies and Community Based Organization etc are desirable; and
- There is a need for developing a strong net-work for effective monitoring of the development programmes in general and the Self-employment programmes, in particular. In this process, social auditing by the grass root organisations would become necessary.

### 5.7. Recommendations

The study of economic growth is an abstraction of the objective performance of the various sector of the economy. Thus the study of economic growth of a state must be supplemented with the analysis of the various economic sectors that has been dealt in the other chapters such as finance, industry, agriculture, labour and employment etc. The recommendations of this chapter also take into account of the findings and recommendations from the other chapters related to it.

Another point has to be taken into consideration that the Tenth Plan emphasized that neither the growth target nor the objective indicators of well being of the people can be achieved simply by the quantum of resources that is mobilized but by efficiency and effectiveness of the decisions actions and implementation of policies and programmes. Hence the recommendations of this chapter have been made in the light of these approaches.

- The high growth rate figures may be due to low initial base; therefore these mere statistical figures should not be treated as true reflection of the reality. In fact the high growth of GSDP/ NSDP is found to be dependent largely on the contribution of tertiary sector that is backed by large proportion of public sector employment in organized sector. It cannot be sustained unless and until a supporting growth rate is attained by the industrial sector. Therefore, there is an urgent need for



ensuring congenial environment for the sustained growth of tertiary sector. This can be ensured by the help of a host of factors such as faster growth of domestic capital formation, development of entrepreneurship, congenial environment to attract investors from other states by opening up the state economy with more liberal policy.

- Resource – industry linkage has to be strengthened for ensuring faster growth in the secondary sector that in turn would help to induce momentum of growth in the activities forming backward linkage to it.
- Scope for irrigation and rural infrastructure has to be improved both in terms of quantity and quality. This will ensure food security and reduction of rural poverty on the one hand and improving resource- industry linkage on the other hand.
- Targets of rural development schemes have to be framed in terms of physical and social parameters, not merely in terms of financial units. The Plan objectives in this regard must be followed in letter and spirit.
- A shift in the policy outlook is urgently needed to reduce the rural – urban gap in terms of economic growth. Industrial opportunities in the rural sector, considering the resource availability has to be identified and proper steps have to be taken for its implementation.
- Inter-sectoral balance has to be ensured with the direct intervention of the state. Other wise the growth potential of Meghalaya cannot be sustained for a longer period of time.
- The nature of employment and terrain in the state to some extent pushes up the overhead expenditure. Still the other areas of possible leakages have to be identified to reduce the overhead expenditure of the Government that will help in ensuring greater government investment in physical terms.
- There is an urgent need for effective decentralization of the decision- making processes. Being formed under the provision of the Sixth Schedule of the Constitution, the 73rd and 74th Amendments are not applicable in the State. Introduction of reforms in this area may usher in the decentralized planning processes in the state that will help to a great extent to bring momentum in the economic growth in the state of Meghalaya.
- Finally any assessment of economic growth and subsequent development plan requires substantial reliable database. The entire North East region is lagging behind in this respect and Meghalaya is no exception. Serious effort at par with the other states is needed to address this problem of data gap. The involvement of competent external agencies to formulate methodology and operational plan in this respect should be considered by the State Government.
- Economic growth of the state will be contingent to it undertaking a reform programme which helps it to attract entrepreneurs both from within and outside to make investments. This reform programme in the State could follow the export model of growth, which has been successfully implemented in small countries with limited domestic market base.

### 5.8. Conclusion

In the economic scenario of the state it has been observed that both GSDP and NSDP have grown at a reasonable rate during the preceding ten year period of commencement of the Tenth Five Year Plan. However, the high rate of growth of population has somewhat undermined the rate of growth of per capita GSDP and NSDP.

All three sectors of the economy maintained a growth rate above 6 %. This has strengthened the objective basis of attaining various sectoral targets as envisaged in the Tenth Plan. Although, in spite of growth in different the sectors of economy, there has been no change in the overall structure of the economy.

The change in the occupational pattern cannot be portrayed in detail due to the incomplete database in the workforce tables of the Census 2001.

There has been a perceptible change in the pattern in employment within the agricultural sector with decreasing proportion of cultivators and increasing proportion of agricultural labourers. There has been a substantial fall in percentage share of agricultural workers (cultivators and agricultural labourers taken together), no significant change in the proportion of main workers in the secondary sectors and rise in employment in tertiary sector.

The growth of employment in the tertiary sector is expected to have been responsible for the expansion of informal sector.

There has been no definite database on poverty in Meghalaya and the poverty analysis of the State is based mainly on the apportioned figures of the state of Assam at the national level. However, the available estimates point out high incidence of poverty in the rural areas of the state. Somewhat ineffective delivery system has led to the high incidence of poverty in rural areas in spite of substantial increase in the investment in rural sector.

In spite of growth in urban organized sector the unemployment among the educated youth has registered a rising trend. The growth of employment opportunities in the state, it seems, did not maintain pace with the growth of white – collared labour force.

The state is deficient in technically skilled labour force at present. Development of local entrepreneurship and evolution of self – employment opportunities continue to stagnate. Diversified skill development among the working population at the grass root level is almost non-existent.

**5.9. Annexure**

**Estimates of GSDP at Factor Cost**

YEAR	GSDP AT CURRENT PRICES (Rupees in Crore)	GSDP AT CONSTANT (1999-2000) PRICES (Rupees in Crore)
1999-2000	3578.14	3578.14
2000-01	3960.94	3773.37 (5.46)
2001-02	4478.26	4033.15 (6.88)
2002-03	4763.42	4185.52 (3.78)
2003-04	5279.99	4469.66 (6.79)
2004-05	5805.50	4788.22 (7.13)
2005-06	6318.85	5078.93 (6.07)
2006-07 (Q)	6959.29	5349.81 (5.33)
2007-08 (Adv)	7605.28	5628.25 (5.20)

# **CHAPTER - VI**

# **INFRASTRUCTURE DEVELOPMENT**

## CHAPTER - VI

## STATE OF INFRASTRUCTURE IN MEGHALAYA

6.1 Introduction<sup>1</sup>

The term infrastructure is of recent origin and does not have a rigid definition of its own. Ever since its use in development economics in early 1950s, its scope has got expanded. It has been used interchangeably with 'Social Overhead Capital' (SOC) like education and health, Public utilities, ports, water supplies, electricity, transport, schools, hospitals including equipments, irrigation modern machines and other capital assets required for promoting economic development are all getting tagged as infrastructure. Hirschman, who has given a very wide meaning to Social Overhead Capital or "Infrastructure", includes, education, public health, law and order, transportation, communications, power, water supply, irrigation and drainage. In the Sixties, a number of studies brought out the importance of infrastructure in promoting agricultural growth. Recently, World Development Report of the World Bank, 1994, has explicitly defined economic infrastructure to consist of the following provisions:

- (a) Public Utilities: Power, telecommunications, piped water supply, sanitation and sewerage, solid waste collection and disposal, piped gas
- (b) Public works: Roads, major dams, canal works for irrigation and drainage
- (c) Other transport Sector: Urban and inter-urban roadways, urban transport, ports and waterways and airports.

The **Tenth Plan document of India** defines infrastructure as "physical framework of facilities through which goods and services are provided to the public. Its linkages to the economy are multiple and complex, because it affects production and consumption directly, creates positive and negative spillover effects and involve large inflow of expenditure. .... Infrastructure also determines the effect of growth on poverty reduction".

From the forgoing discussion, it can be deduced that in a broad sense, infrastructure consists of all types of physical and social capitals (i) that are basic to economic activity (ii) generate external economies, (iii) lumpy in nature and provided ahead of demand or in response to excess of DPA (directly productive activities), (iv) does not, by and large, vary with the magnitude of production unless the scale of production changes or the technology of production is altered.

Infrastructure can be broadly divided into two types: physical and social. The former consists of transport (roads, railways, aviation, waterways and ports), electricity, irrigation, telecommunication, housing and water supply.

<sup>1</sup> Meghalaya Human Development Report – 2008, Dr. Shreerajan, ed Govt. of Meghalaya

The canvass being wide ranging, the chapter will largely cover those aspects not highlighted specifically in other chapters. **A detailed treatment of this aspect is also provided in the Meghalaya Human Development Report, 2008.**

## 6.2 Infrastructural facilities in Northeastern States and in Meghalaya

The people in the region envision having state-of-the-art infrastructure not only to enhance the quality of life but also to dictate the pace of economic activity, and the nature and quality of economic growth. **The Vision NER 2020** document of the North Eastern Council had identified five basic deficits confronting the North Eastern Region viz. (i) a basic needs deficit; (ii) an infrastructure deficit; (iii) a resource deficit; (iv) a two way deficit of understanding with the rest of the country and (v) a governance deficit. The infrastructure deficit is a major deficit in the region, and acceleration in economic growth and the region's emergence as a powerhouse depend on how fast this deficit is overcome. The lack of connectivity has virtually segregated and isolated the region not only from the rest of the country and the world, but also within itself. Poor density of road and rail transportation within the region has not only hampered mobility but also hindered the development of markets. The traditional transportation routes through land and inland waterways are virtually non-functional and inactive, more so after Partition. The region is also poorly linked by air, and sea routes which have been blocked. Air inter-connectivity between different states in the region is extremely poor having enormous costs.

Provision of world-class infrastructure and connectivity would require a significant increase in public investment. In the initial years, it is necessary also to expand the social infrastructure, particularly education including vocational education and skill development. Given the low level of entrepreneurial activity in the region, the government also has to take a proactive role and make investments in promotional areas as well. Thus, both Central and State Governments in the region will have to make large investments to overcome the infrastructural deficit, particularly in the initial years, though in course of time, it should be possible to involve the private sector in this task through Public-Private Partnerships (PPPs). In order to enable this, it is necessary to create a proper framework for PPPs in infrastructure investments. Budgetary support for public investment too needs to be augmented to provide the required volume of viability gap funding.

The strategy for infrastructure development in the Eleventh Plan reflects the dominant role of the state in building infrastructure, also recognising that the resources required to meet the deficit in infrastructure exceed the capacity of the state, need for more focused central Govt. investment and to attract and activate private investment through appropriate policies and forms of public private partnerships are more acute. The relative role of the public and private sectors is bound to be varied such as irrigation and water resources management, construction of rural roads, as well as in certain economically or situationally disadvantaged places, the bulk of the investment in infrastructure would have to come from the public sector. In building infrastructure for the future, it is also necessary to develop capacity that comes up to world-class performance

standards. Both the Centre and the States must keep their policies under close review to ensure that new infrastructure, whether built by the public sector or the private sector comes up to these standards. The infrastructure deficit for the NER is indicated below:

**Box 1. Infrastructure: Deficit and XI Plan Physical Targets**

Sector	Deficit	XI Plan Targets
Roads / Highways	65,569 Km of NH comprise only 2% of network carry 40% of traffic; 12% 4-laned; 50% 2-laned; and 38% single-laned	6-lane 6,500 km in GQ; 4-lane 6,736 km NS-EW; 4-lane 12,109 km; 2-lane 20,000 km; 1,000 km Expressway
Ports	Inadequate berths and rail / road connectivity	New capacity: 485 mn. MT in Major Ports; 345 mn. MT in Minor Ports
Airports	Inadequate runways, aircraft handling capacity, parking space and terminal buildings	Modernize 4 metro and 35 non-metro airports; 3 greenfield in NE; 7 other greenfield airports
Railways	Old technology; saturated routes: slow speeds (freight: 22 kmph; passengers: 50 kmph); low payload to Tare ratio (2.5)	10,300 km new rail; 10,000 km gauge conversion; modernize 21 stations; Dedicated Freight Corridors
Power	11% peaking deficit; 7% energy shortage; 40% transmission and distribution losses; absence of competition	Add 78,000 MW; access to all rural households
Irrigation	1123 BCM utilisable water resources; yet near crisis in per capita availability and storage; only 43% of net sown area irrigated	Develop 16 mha major and minor works; 10.25 mha CAD; 2.18 mha flood control
Telecom / IT	Only 18% of market accessed; obsolete hardware; acute human resources' shortages	Reach 600 mn subscribers – 200 mn in rural areas; 20 mn broadband; 40 mn internet

### 6.3. Comparative Status of Meghalaya's Infrastructure:

The **biggest constraints on accelerated and inclusive growth is poor infrastructure** affecting road connectivity, rail connectivity, air connectivity, cyber and telecom connectivity, power and inland waterways. **The State's attempts for Public Private Partnership (PPP) mode for creation of infrastructure are limited to only a few sectors and locations.** Therefore, the support for infrastructure development programmes for North Eastern Region should continue to be supported from resources by the Government of India for some more years to come. **This can come as Special Packages; Special Plan Assistance and Additional Central Assistance.**

**Table 6.1 Infrastructure Indices**

State	CMIE Index of Infrastructure @ 92-93	10th Finance Commission index of Economic & Social Infrastructure
Arunachal Pradesh	44	49
Assam	93	82
Manipur	81	70
Meghalaya	65	74
Mizoram	63	62
Nagaland	71	71
Tripura	63	84
All India	100	100

The **current status of infrastructure in respect of Meghalaya** in the case of some important key indicators are indicated below :-

**TABLE-6.2 Key Indicators**

Sl. No.	Development Sectors	Unit of Development	Infrastructure Development Required	Present Status	Infra- structure Gap
(1)	(2)	(3)	(4)	(5)	(6)
1.	Power	Total demand of power (MW)	800	185.20(23%)	614.80(77%)
	-Do-	Villages electrified(Nos.)	5782	4217(73%)	1565(27%)
	-Do-	Households electrified(Nos.)	365989	157375(43%)	208614(57%)
2.	Roads Communication	Road density (Kms./100Sq. Kms.)	75/100 (All India)	36/100(48%)	39/100(52%)
	-Do-	Village connec- tivity(Nos.)	5782	2857(49%)	2925(51%)
3.	Health & Family Welfare	Sub-Centres (Nos. as per G.O.I. norm)	773	401(52%)	372(48%)
	-Do-	P.H.Cs (Nos. as per G.O.I. norm)	116	102(88%)	14(12%)
	-Do-	C.H.Cs (Nos. as per G.O.I. norm)	29	24(83%)	5(17%)
4.	Education	Training of teachers (Nos.)	21152	9294(45%)	11558(55%)
	-Do-	Literacy rate(%)	100%	62.6%	37.4%
5.	Irrigation	Potential (Lakh hectares)	2.18	0.26(12%)	1.92(88%)
6.	Water Supply	Number of habitations	9326	7445(80%)	1881 (20%) + Slipped-back habitations

Source: Annual Plan 2009-10 (Planning Department, GOM)

From the above tables, it is evident that Meghalaya needs to improve in socio economic and infrastructure sphere substantially so that the state can catch up with the rest of the country. In order to bring out the potential of the region and its strengths through **strong backward and**



forward linkages in farm and non-farm sectors calls for a concerted and meaningful action plan across socio-economic spheres. However, a major obstacle in the provision of these essential infrastructures is the lack of resources to finance these developmental programmes.

**6.4 A brief write up on the important aspects of infrastructure is as below:-**

**6.4.1. Power:** Power is a prime mover of economic development. The availability of cheap, abundant and regular power supply is an essential condition for development and also one of the important determinants of the quality of life. There is a direct relationship between the growth of consumption of power and that of the economy. The state of Meghalaya has vast potential in generation of hydel power. In fact the generation of hydel power started in the early part of 20th century in the state. The installed capacity of power generation remained stagnant since the eighties. In terms of accessibility of power, about 40 per cent of the villages have not been electrified as on 31-03-2008. This situation has only slightly improved in the last twenty five years.

**Box 6.2: Power Demand Position in Meghalaya**

<b>PRESENT UNRESTRICTED DEMAND</b>	<b>610 MW</b>
<b>INDUSTRIES:</b>	
RELEASED LOAD	260 MW
PENDING LOAD	220 MW
<b>DOMESTIC:</b>	130 MW
<b>DEMAND FORECAST</b>	
END OF 11TH PLAN(2012)	796 MW
END OF 12TH PLAN(2017)	1281MW

Source: Government of Meghalaya, Power Department

The investigated/ assessed potential for hydro power in Meghalaya is 3000 MW. The installed capacity in the State is 185.20 MW of Hydel Power. The requirement of power now stands at 610 MW and is likely to go up to about 800 MW by the end of 11th Plan and 1300 MW by the end of 12<sup>th</sup> plan. **It is therefore imperative that the generating capacity in the State should be enhanced.**

At present the State share of Central Sector Generation is 130 MW approximately. The peak power availability to the State including its generation is only 240 MW during the monsoon and 200 MW during the rest of the year. More power has to be purchased through bilateral arrangements which is costly.

The State Government is exploring the possibility of enhancing the power generation by about 2000-2500 MW, of which 700-980 MW is thermal based while 1400-1520 MW will be hydro electricity. To this end, the State has a Power Policy in place which will enable the Government implement these projects under PPP mode subject to decisions in respect to investment by the State Government.

**6.4.2 GENERATION:**

At present **Myntdu Leshka Stage I HEP (2 x 42 + 1 x 42 MW)** completion is paramount for the state. The revised completion cost of the Project is Rs 671.29 Crores, as per the 2006 price level.

## MEGHALAYA STATE DEVELOPMENT REPORT

The cumulative expenditure as on 30<sup>th</sup> September, 2008 is Rs 508.37 Crores. During 2009-10, units I & II are expected to be commissioned; and with the coming up of Unit-III which is also expected to be completed by June, 2010. The **new Umtru Hydel** Power project with the capacity of 2x20 MW in Ri-Bhoi District is under implementation requiring about Rs.240 crores and would be completed within the period of 30 months. The financial support of the Government of India has also been sought and agreed to for equity etc during the 11th Plan. The Hydro Electric project at **Ganol (2x12.5 MW)** is also an approved project requiring about Rs.150 crores and is likely to be completed by 2011.

There is substantial hydro-electric potential and the State Government proposes to take up 16 projects with total outlay of Rs. 64 crores for investigation and preparation of DPR in the 11th Plan period. Some of the important ones are: 1) Umngot Stage-I HEP, 260 MW; 2) Myntdu Leshka Stage-II HEP, 60 MW; 3) Umiam Umtru Stage-V HEP, 30 MW; 4)Umngi Stage-I HEP (Storage), 54 MW;5). Umngi (Nongkohlait) Stage-III HEP, 120 MW; 6) Selim HEP (Storage), 120 MW; 7) Mawblei HEP, 140 MW. The State Government is seeking the assistance of DONER/ NEC in funding the investigations. The new generation projects proposed to be taken up during the 11th Plan include (i) Umngot Stage-I HEP, 260 MW; (ii) Myntdu Leshka Stage-II HEP, 60 MW; (iii) Umiam Umtru Stage-V HEP, 30 MW; (iv) Upper Khri HEP, 25 MW

### ONGOING HEP:

Name of the project	MW	Status
MYNTDU LESHKA Stage-I HEP	84	M/c spinning expected by Dec2008 & actual generation by Feb 2009
NEW UMTRU HEP	40	Civil and Hydro-mechanical works in progress. LOA for E/M package will be issued shortly. Target date of completion is 2010-11.
SONAPANI MINI HEP	1.5	Target date of completion is Oct 2008
LAKHROH MINI HEP	1.5	Target date of completion is Dec 2010
GANOL HEP	22.5	Preliminary Civil works started. The Project is under tendering stage. Target date of completion is 2010-11.
<b>TOTAL</b>	<b>149.5</b>	

HYDRO ELECTRIC PROJECTS

Sl. No.	Name of the projects	MW	Status
1	Umngot Stage-I HEP	270	DPR will be completed by Dec., 2008.
2	Myntdu Leshka Stage-II HEP	280	S & I works is in the advanced stage.
3	Umngi Storage Stage - I HEP	54	S & I works is in the advanced stage.
4	Riangdo HEP	3	S & I works is in the advanced stage.
5	Selim (Myntdu Leshka Upper STAGE) HEP	170	S & I is in progress.
6	Mawblei (Wahblei) HEP	140	
7	Umngi stage - III (Nongkohlait) HEP	120	

1

Source: Power Department, GOM Presentation

HEP Contd....

Sl. No.	Name of the projects	MW	Status
8	Amkshar MHP Stage I	5	S & I is in progress.
9	Sanglet MHP	2	
10	Simsang HEP	135	
11	Kynshi HEP	900	Identified
12	Suchen HEP	50	
13	Umkhen Stage - I	20	
14	Umngi Stage - V (Mawpat) HEP	85	
15	Umngot Stage - II	60	
16	Umlaphang HEP	50	
17	Upper Khri	25	
18	Umngi Stage - IV (Nongram) HEP	50	
	<b>Total</b>	<b>2484 MW</b>	17

Source: Power Department, GOM Presentation

The State Government also propose to implement some of these projects during the period of 11th Plan either through Private Sector Investment(IPP) or through the PPP Approach to ensure that these projects are implemented in the shortest possible time. This will add about 400 MW from these projects during the 11th Plan period at a total cost of about Rs.2400 crores, which is

proposed to be met mostly by the private sector. The State Government has its power policy in order to ensure that the projects can be implemented under the PPP mode.

Another project which the State Government is interested is the 720 MW **coal based thermal power project** in Nangalbibra in Garo Hills. It is proposed to set up the thermal power plant either by a Central Public Sector Unit or through the PPP model as per decisions.

Name of the projects	MW	Status
Nangalbibra area (Garo Hills) 3 projects	980	To be implemented by CPSUs, JVC, IPP.
Langrin TPP (West Khasi Hills)	240	
<b>Total</b>	<b>1220 MW</b>	

#### 6.4.3 Transmission

The transmission system in the State also requires to be strengthened. Meghalaya could not draw its central sector power share from the N.E.R. grid due to transmission constraints. Presently state share from N.E.R. is 155.375 MW and from E.R. grid 21.076 MW. Additional Central power allocation for Meghalaya by 2012 is estimated at 656.1 MW. Therefore, 220 KV and 400 KV transmission projects are being proposed to strengthen the interstate network for future drawal of state share and trading of power.

### INTERSTATE NETWORK

Name of the Scheme	Capacity (MW)	Estimated Cost (Rs. In Crore)	Remarks
132 KV D/C Agia – Nangalbibra Line (110 Km)	80	43.32	Funded by NEC.Completion by 2010
220 KV D/C line from Misa (Assam) to Byrnihat (Meghalaya)(115Kms) along with 220/132 KV, 2 x 160 MVA Sub-station at Byrnihat	240	150.00	Funded by DONER and ACA.Completion by 2010.
Construction of 400 KV D/C LILO of 400KV Pallatana - Bongaigaon line at Byrnihat.	243	150.00	400KV Palatana – Bongaigoan Line will connect with Thermal power stns at both ends.
Installation of 2 x 135 MVA, 400/220 KV transformer at Byrnihat Sub-station.			
<b>Total</b>		<b>343.32</b>	

25

Source: Power Department, GOM Presentation

**POWER EVACUATION FROM PROPOSED HEP**

**(Ongoing)**

Sl. No.	Name of scheme	Estimated Cost (Rs. In Crore)	Remarks
1	132 KV D/C line from Myntdu Leshka Stage I HEP to the 132 /33 KV Sub-station at Khliehriat (24 Km)	10.00	Expected to be completed by Dec 2008.
2	132 KV S/C line from New Umtrew HEP to Old Umtrew and to EPIP II (2 Km)	5.58	Expected to be completed by 2010.
3.	132 KV S/C line from Ganol HEP to Rongkhon Sub-station.(5 Km)	1.75	Expected to be completed by 2010.

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Three ongoing transmission lines will require Rs.6.36 crores during the XI<sup>th</sup> plan. Twelve new transmission schemes are proposed to be taken up during the 11th Plan at a cost of Rs.476.15 crores during the 11th Plan.

**Power Evacuation (New initiative)**

Sl. No.	Name of scheme	Estimated Cost (Rs. in Crore)	Remarks
1	220 KV D/C line from Umngi Stage I to the 400/220 KV switching station at Mawngap. (36 Km)	42.00	Preliminary survey initiated
2	132 KV S/C line from Umngi Stage-II (Rongmaw) HEP (65MW) to Umngi Stage-I HEP (20 Km)	8.00	
3	132 KV D/C line from Umngi Stage-III (Nongkohlait)HEP to Umngi Stage-I HEP (34 Km)	17.00	
4	132 KV D/C from Umngi Stage IV to Umngi Stage I (58 Km).	26.10	
5	132 KV D/C line from Umngi Stage V to Umngi Stage I PS (78 Km)	35.10	
6	132 KV D/C from Suchen HEP to Selim HEP	8.50	
7	220 KV D/C line from MLHEP II to Amlarem.(15Kms)	12.00	
8	220 KV D/C line from Mawblei HEP to Nongstoin Sub-Station (60 Km)	48.00	

Source: Power Deptt presentation , August 2008.

## MEGHALAYA STATE DEVELOPMENT REPORT

### Proposed Strengthening of Intra- State Transmission Network:

Sl. No.	Name of the Scheme	Estimated Cost (Rs. In Crore)
1	132 KV D/C from Umiam Stage-I Power Station to Mawngap Sub-station, along with the construction of the 132/33 KV, 2 x 20 MVA sub-station at Mawngap.(29.5 Km)( ongoing)	22.44
2	220 KV line from Byrnihat Sub-station to Mawngap along with 220/132 KV S/S.(170 CKm)	196.00
3	220 KV D/C from New Shillong/ Mawngap Sub-station to Khliehriat Sub-station along with associated bay and installation of 220 KV, 2 x 100 MVA transformer and associated bay at Khliehriat S/S.(160 Km)	178.00
4	132 KV S/C line from Nangalbibra S/S to Rongkhon S/S along with associated bays at Rongkhon S/S.(160 Km)	128.00
5	132 D/C line from Rongkhon to Ampati along with 1 x 50 MVA, 132/33 KV S/S at Ampati.(80 Km)	44.00
6.	132 KV D/C LILO on NEHU-Khliehriat line at Khliehtyrshi along with 1 x 50 MVA, 132/33 KV S/S at Khliehtyrshi.(20 Km)	17.00
7	Augmentation of Cherra S/S from 12.5 to 50 MVA.	2.00
8	132 KV D/C LILO on 132 KV Umiam- Umtru HEP Stage III – Umtru PH D/C line at Nongpoh along with 1 x 50 MVA S/S at Nongpoh.(20 Km)	17.00
9	Augmentation of Nangalbibra S/S from 12.5 to 50 MVA.	2.00
10	Augmentation of Rongkhon S/S from 35 MVA to 70 MVA.	3.50
11	132 KV D/C line from Ampati to Chokpot along with 50 MVA S/S at Chokpot.(80 Km)	44.00
12	2 nos. 132 KV D/C line from EPIP I & II to Killing S/S	10.80
13	132 KV D/C Cherra-Ishamati with associated S/S	33.05
14	400 KV D/C Killing to Nangalbibra	300.00
15	LILO of Mawlai-Cherra-Nongstoin at Mawngap	15.00
	<b>Total</b>	<b>1012.79</b>

### Summary of Proposed G& T Projects

		MW/Ckm	Cost (Rs. In Crore)
Capacity Addition	Hydro	2663.5 MW	15981.00
	Thermal	1220 MW	4880.00
Transmission Lines(KV)	400	570 CKM	2393.18
	220	781 CKM	
	132	860 CKM	
<b>TOTAL</b>			<b>23254.18</b>

## MEGHALAYA STATE DEVELOPMENT REPORT

### Distribution Schemes: Sanctioned APDRP Schemes (Rs in Crores)

Sl. No	Schemes	Sanctioned		Released		Financial Utilisation
		Date	Revised	Date	Amount	Amount
1	Shillong Circle	27-11-02	15.70	28.01.03 23.10.03 14.02.05 31.03.05 11.12.06 28.09.07	6.57 14.56 24.34 12.905 32.07 46.49	16.14
2	Tura Circle	27-11-02	6.77			6.69
3	Jowai Circle	27-11-02	2.52			2.35
4	Western Circle (Byrnihat)	6.06.03	15.97			5.21
5	Central Circle	1-10-04	59.53			37.43
6	Garro Hills Circle	1-10-04	36.21			21.29
7	SCADA (Shillong)	1-10-04	21.12			5.86
8	SCADA (Byrnihat)	1-10-04	17.99			4.99
9	Jaintia Hills Circle	4-04-05	51.62			23.02
	<b>Total</b>		227.44		136.93	132.98

### Existing APDRP Scheme Physical Status(%)

Parameters	Shillong	Tura	Jowai	WC	CC	Garro Hills	Jaintia	SCADA
Metering Package-A	100	100	100	100	65	60	70	60
33/11 KV S/S Package-B	100	100	100	100	95	70	60	
33 & 11 KV Lines Package-C	100	100	100	100	95	85	75	
DT Package-D	100	100	100	100	95	90	60	

### Proposed Phase-II APDRP Distribution Schemes (Rs. in Lakhs):

Parameters	Shillong	Garro Hills	Jaintia Hills	WC	CC	Total	Estimated Cost
33/11 KV S/S Package(MVA)	50	54	20	31	15	170 MVA	3342.00
Lines Package 33 KV 11KV (Km)	81	707	128	110	155	1181 KMS	20728.00
	60	260.5	87	164.3	645	1216 KMS	
DT Package (KVA)	1138	2276	3083	1138	2768	10403 KVA	1917.00
Metering Package	2000	20000	18000	15000	17000	72000 Nos	1604.00
Scada	-	1400	700	-	700	-	2800.00
<b>Grand Total</b>							<b>30391.00</b>

Construction of the 220 kV D/C Transmission line between Misa (Assam) – Byrnihat (Meghalaya) is one of the most vital transmission project for Meghalaya State is set to be completed by March 2010. LOA was awarded to PGCIL on 17th December 2007 after signing the contract Agreement with PGCIL on 20th Sept 2007 which is scheduled to be completed by 30 (thirty ) months from the effective date, which falls on March 2010. The work is in full progress. Construction of 132 kV 3 circuits on 4 circuit tower from Killing (Byrnihat) 220/132 KV Sub-station to EPIP I & 132 kV D/C Line from Killing Sub – station to EPIP II is also necessary to take up the construction as a continuation of the Misa – Byrnihat project due to the fact that Meghalaya has its transmission net work at 132 KV and this line will interconnect the 220/132 KV Sub-Station to the existing system at 132 KV EPIP Sub-Stations. The lines are expected to transmit 320 MVA of power from the 220KV system to the 132KV system of MeSEB. In the event of surplus power, this line can also be utilized for evacuation of power generated in the state to other states. To meet the requirement of power of the State, it has to be purchased from the Central Power Sector utilities and other agencies outside the State. The PGCIL levies wheeling charge at 35 paise per unit. This is more than double the charge levied by PGCIL in other regions of the country which varies from 12 – 15 paisa per unit. This needs immediate remedy.

**Other aspects:**

- **Renovation & Modernization Schemes of Umiam Stage-II Power Station(EAP):-** To tap the benefits from the old existing machines of Hydro Plants which have outlived their life span, an amount of Rs 49.81 Crores is proposed for taking up the R & M works of the Umiam Stage II (2 x 9 MW) under EAP during 2009-2010. The Project is proposed for renovation and upgradation by 2 MW and is targeted to be completed by the year 2010-11.
- **Control of Siltation & Pollution of Umiam Reservoir:** The Umiam Reservoir at Barapani has been built in the year 1965 with a projected lifespan of 400 years and the gross storage capacity of 1,47,000 Acre ft. The pace of developmental activities in the catchment area of the upstream of the reservoir has led to considerable silt-load in the reservoir over the years. The study conducted by WAPCOS in 1990 had revealed that the sediment production in the catchment of the Umiam Reservoir is 8.65 Lakh Tonnes (approx.) annually and out of this, about 8.09 Lakh Tonnes annually gets deposited in the Umiam Lake. The **dead storage capacity has already been silted up.** This is a cause of great concern since the life of the Project, earlier estimated at 400 years will be **reduced to about 65 years only if the present rate of siltation is not checked.** Of the 65 years projected, 40 years have already elapsed. The proposal for **‘Catchment Area Treatment of Umiam Lake’**, as a long-term measure, was proposed to NEC at a total estimated cost of **Rs.2861.26 lakhs. Power Department is to comply to the queries during EFC meeting and pursue the matter.**
- The progress of the state in pumpsets energisation, another programme of rural electrification is also very tardy. As in May 2001 the total number of pumpsets energized was 100, which is only 0.7 per cent of its potential. This also partly explains the very low consumption of electricity by agriculture, which is around 1 Kwh as against an all India average of 89 Kwh.



From 1986 to 1998 the sale of electricity to agriculture and irrigation in Meghalaya increased marginally from 0.05 Kwh to 1.42 Kwh. The same condition prevails in the other states in the region where per capita consumption of electricity by agriculture is between 1 and 3 kwh, except for Tripura where it is 13 kwh. There has also not been much development in the setting up of infrastructure facilities for tapping of non-conventional energy sources in the region. Of the total installed capacity of 1656.2 Megawatt (State of the Indian Farmers, 2004) of non-conventional energy power projects in India, the share of the northeastern states, including Sikkim, at 33.8 Megawatt is only 2 per cent of the country's total installed capacity. Of the 33.8 Megawatt, the share of Meghalaya is 4.4 per cent only.

- **Corporatisation of MESEB:** It appears that corporatisation of MeSEB has become unavoidable to be in line with the latest National Policy for which a number of States have already taken necessary steps. The PFC as the Consultants of MeSEB has made a number of suggestions, most important among them appears to be the Financial, **Restructuring Plan (RNP)**. As on 31.03.2006, the MeSEB had a total capital liabilities of Rs. 1001.77 crore only which includes Rs. 630.91 crore towards the State Government, Rs. 150.18 crore towards REC, Rs. 74.70 crore towards Banks, Rs. 67.71 crore towards JBIC, Rs. 52.00 crore towards Bonds and Rs. 26.27 crore towards CSS. The suggestion of the PFC is to provide capital support to the new Corporate Body during the 11th Plan period to the extent of Rs. 1900.00 crore of which Rs. 1710.00 crore would be grant and Rs. 190.00 crore would be loan. A Committee headed by Additional Chief Secretary is examining the matter. The Committee felt that the above projection be realistically re-casted downwards. The State Government will have to consider ways and means to manage the issue where reevaluation of books including assets may be explored. As per observations of the Chairman Meghalaya State Electricity Regulatory Commission on the 25th July, 2008, *“The reform agenda set out in the Electricity Act, 2003 has moved forward only very fitfully. The most important institutional reforms that the Act mandates are yet to be implemented. The MeSEB remains in limbo. Its financial health is alarming and the continuing uncertainty is sapping the initiative of its personnel. The reform must not be delayed any further.*
- **The N.E.C's First Sectoral Summit on Power Sector** has suggested a **two pronged strategy to be adopted for power generation** with focus on: [a] Small/Localised Hydel & Thermal and NRE projects for catering to local needs, [b] High capacity Hydel & Thermal Power Projects with associated Transmission lines for first meeting the demand for power of the NER and thereafter that of the rest of the country. This would also provide an ideal thermal - hydro mix at 60 : 40 ratio which will provide better stability and security in the power system of Meghalaya throughout the year.
- The **Meghalaya Power Policy** which was approved on the 9th August,2007 and amended on the 3rd December, 2007 ( notified on 10th December, 2007) is committed to meet the shortfall. 10 (ten) Power projects with a total capacity of 558.5 MW are expected to be commissioned during the 11th Plan. The required investment cost would be around Rs. 3909.50 crore [558.5 MW X Rs. 7.00 crore per MW]. 14 (fourteen) Power projects with a total capacity of 891.0 MW

are expected to be commissioned during the 12th Plan. The required investment cost would be around Rs. 6237.00 crore [891.0 MW X Rs. 7.00 crore per MW]. Besides some identified projects are also possible under the IPP route. some power projects have been under process of approval / modified MOA, etc under hydro / thermal by IPP route / PPP route.

- Some of the observations & suggestions of the **Chairman Meghalaya State Electricity Regulatory Commission** made on the 25th July, 2008, mentions as below: –
  - o *On the generation front, thermal capacity is a crying need. Private ownership over mineral assets and its implication for establishing a coal linkage may require effective consultation at the grass root level so as to foster community involvement. The best way is to establish a generation company in the public sector which will take over the generation assets of the MeSEB when unbundling takes place.*
  - o *It should be possible to design a package which incentives mine owners to graduate to power generation adding value to their coal.*
  - o *On the hydro-electric front investigations have been done, sites have been identified but execution has not progressed at all. The fastest way forward would be to allot unassigned projects to the State's power generation company.*
  - o *The power potential of the State is estimated at 3000 MW of hydro-electricity capacity. Besides this Coal reserves of the order of 564 million tonnes is available. It is instructive to realize that a 500 MW coal fired thermal unit consuming 1.5 million tonnes of coal per annum produces about 3500 million Kvh (units) of electricity – more than double the current consumption.*
  - o *The State must overcome the transmission bottleneck. The Misa-Byrnihat line currently under construction which is likely to relieve the situation. Suggested that a formal reporting mechanism be set up which keeps the cabinet informed on a fortnightly basis about the progress made. Heading the monitoring cell and reporting to the cabinet should be a senior Principal Secretary.*
- An important indicator of availability of power is the **per capita consumption of power**. The per capita consumption of power of the northeastern states is among the lowest in the country. Among the northeastern states, Meghalaya consumed power the most (318 Kwh), this figure is however still less than half compared to the all India average (373 Kwh). Table 6.3 gives the per capita power consumption in the states along with the changes in power consumption in the region.
- In order to capture the development of power infrastructure in the states we also look at the percentage of villages electrified. In the 1980s almost all the states had a very low **percentage of villages electrified** (Table 6.10). However, in the last two decades, states like Nagaland, Manipur and Tripura have been able to provide electricity to more than 90 per cent of their

villages. In case of Meghalaya, not much progress seems to have been made in this area as half of the total number of villages in the state do not have access to electricity.

**Table 6.3: Per capita consumption of Electricity (in KWH)**

States	1974-75	1981-82	1989-90	2004-05
Arunachal Pradesh	3.4	7.9	56.6	85.56
Assam	24.0	33.5	92.7	105.5*
Manipur	7.7	7.9	79.5	71.58
Meghalaya	31.3	31.0	106.4	317.77
Mizoram	4.3	5.6	65.0	141.44
Nagaland	27.2	34.2	58.6	84.7**
Tripura	6.0	14.5	45.0	95.5**
All India	174.9	120.5	236.0	373*

**Note:** \* 2002-03, \*\* 1999-00

Source: 10th Plan document (2002-2007) and "Where Do We Stand in 2006" published by the Directorate of Economics and Statistics, Government of Meghalaya, Shillong.

#### 6.4.4 100 % Villages & Household Electrification by 2012:

It is important to note that in many of the states that have achieved very high percentage of village electrification; a vast majority of the households do not have access to electricity. In Meghalaya while the number of villages that have been electrified has increased from 19 per cent in 1981 to 45 per cent in 2001, yet we find that as many as 70 per cent of the rural households do not have access to electricity. This is due to the fact that a village is declared as electrified if power reaches the village even though only a few of the houses may have connection.

**Table 6.4: Villages electrified in Northeast India**

State	Percentage of villages electrified			Percentage of rural households having electricity (2001)
	1981	1991	2001	
Arunachal Pradesh	9.9	-	60.45	44.53
Assam	20.4	53.18	77.05	16.54
Manipur	16.5	57.38	91.70	52.53
Meghalaya	13.5	30.98	44.93	30.26
Mizoram	11.8	-	99.00	44.14
Nagaland	36	92.68	99.67	56.88
Tripura	17	72.05	95.09	31.75
All India	44.6	69.52	73.39	43.52

Source: Basics Statistics of Northeastern Region, 1982, 2002

**Table 6.5: Percentage of villages electrified in District of Meghalaya**

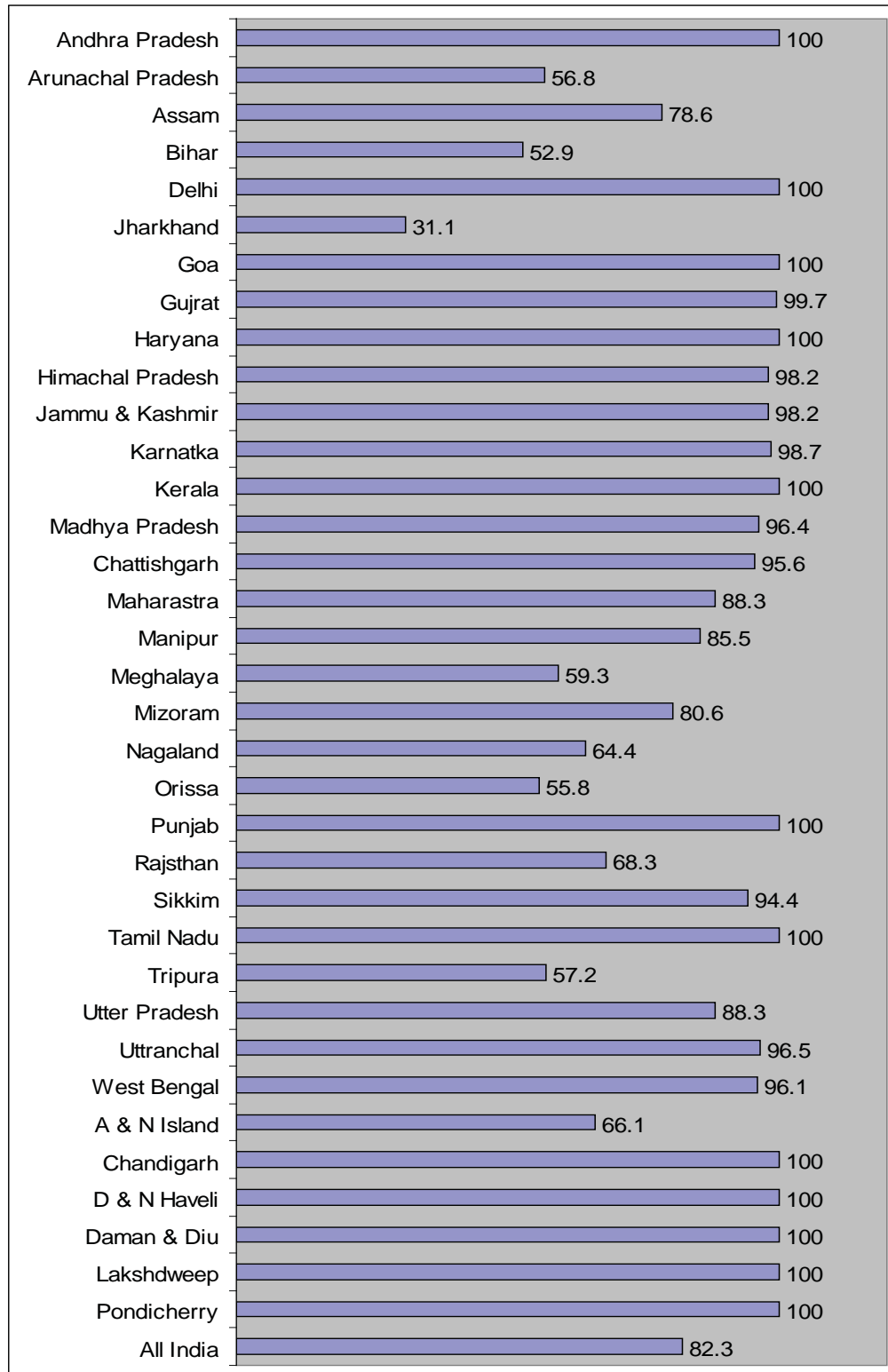
Districts	1981	1991	2001
East Khasi Hills	20.0	60.8	74.13
West Khasi Hills	4.2	21.7	35.28
East Garo Hills	7.2	18.0	33.22
West Garo Hills	1.7	18.3	36.49
Ri Bhoi	18.7	53.00	66.11
South Garo Hills	0.2	9.6	19.66
Jaintia Hills	17.1	58.9	62.31
Meghalaya	8.1	30.9	44.93

Sources: Column 2 and 3: District Census Handbook, 1981 and 1991;  
Column 4: Census of India, 2001

At the districts we find that there is wide variation in the percentage of villages electrified. In East Khasi Hills 74 percent and in Ri Bhoi 66 percent of the villages are electrified while in South Garo Hill the percentage of villages electrified is only 20 per cent (table 6.5).

**Present Status of village electrification:** Out of 5782 villages (2001 Census), electrified Villages as on 31.03.08 are 3428 representing about 60%. Remaining 2354 villages would be as under (i) about 1945 villages will be electrified under RGGVY; (ii) 158 villages under MNRE ; (iii) 148 villages will be declared electrified and (iv) about 103 are PMGY (Spill over). The State Govt. with the approval of the Govt. of India has identified 158 Nos. of villages in the State as remote villages and these villages are to be electrified through renewable source of energy. Out of these 158 Nos., 5 Nos. of villages are already completed and progress is on for another 74 Nos. of villages. The balance villages of 79 Nos. is to be taken up during 2009-10.

Figure 6.3: Percentages of Electrified Villages in the States of India as on 30-10-2008



Source: <http://www.powermin.nic.in> (quoted from MHDR 2008)

**RGVY SCHEME FOR 10th & 11th PLAN:**

Name of the District	Number of Virgin Villages	Number of De-electrified villages	Extension in electrified villages.	Electrification of BPL households.	Sanctioned cost (Rs. in Crores).	STATUS
East Khasi Hills.	-	19	314	14193	16.63	Sanctioned on 11.03.08 and work is in progress
Jaintia Hills	18	50	360	14029	26.11	Sanctioned on 21.11.06 and work is in progress
Ri Bhoi	72	34	84	9647	19.89	Sanctioned on 26.09.06 and work is in progress
West Khasi Hills	224	20	126	17592	34.67	Sanctioned on 11.03.08 and tender evaluation is in progress
East Garo Hills	361	111	358	15059	61.95	<b>STATUS</b>
West Garo Hills	534	123	861	40543	81.43	Sanctioned on 11.03.08 and work is in progress
South Garo Hills	364	15	32	5384	49.74	Sanctioned on 21.11.06 and work is in progress
<b>TOTAL</b>	<b>1573</b>	<b>372</b>	<b>2135</b>	<b>116447</b>	<b>290.42</b>	Sanctioned on 26.09.06 and work is in progress

Source: Power Department, GOM Presentation

**6.4.5 T&D losses and road map ahead: Year-wise loss figures for 2006-07 and 2007-08:**

Year	T&D loss %	Collection efficiency %	AT&C loss %
2005-06 (Act)	35.76	83.56	46.32
2006-07 (Act)	36.80	90.53	42.78
2007-08 (Prov)	33.34	95.99	36.00

**Road map for reduction of T&D and AT & C Losses:**

Description	2006-07 (actual)	2007-08 (prov)	2008-09	2009-10	2010-11	2011-12
<b>T&amp;D Loss %</b>	36.80	33.34	24.42	20.05	15.69	11.32
<b>AT&amp;C Loss %</b>	42.78	36.00	31.29	26.68	22.05	15.11

Source: Power Department, GOM Presentation

**6.4.6 New and renewable Sources of Energy:** Energy crisis caused by dwindling resources of fossil fuel like petroleum and coal and their pollution have compelled us to find a safe and environmentally alternative sources of Energy. The alternative new sources of energy like Solar, Hydro, Wind and Bio-Energy have already demonstrated that it can fit the bill even though it may be a small contribution to our total energy requirements. The potential of these sources will grow

as the technologies in this field are improved year by year. The outlines of a successful climate sensitive energy strategy already existed. Schemes and projects under new and renewable sources of Energy though on a limited scale have been pursued with notable success in the State. The

**Objectives are:**

- To Formulate and Implement experimental promotion and Extension Projects and programme in New and Renewable Sources of Energy.
- Renewable Sources of Energy are Solar Energy, Bio-Energy, Wind Energy & mix/Hybrid energy.
- To promote Energy Conservation Projects and Programme.
- To impart Education in renewable energy through Exhibitions, Seminars, Training & Mass Media
- To generate Power through Grid-interactive SPV, Biomass Gassification and through Hybridise System in a decentralise mode.
- To access wind potential availability in the State for Power Generation.

**Activities Under Taken are:**

<b>1. Solar Photovoltaic :-</b> (i) Solar lantern (ii) Domestic home lighting system (iii) Street lighting System (iv) Power Plants	<b>2. Solar Thermal :-</b> (i) Solar water Heating Systems (ii) Solar water Pump (iii) Solar Dryier	<b>3. Bio-Energy :-</b> (i) Biogas Plant (ii) Community/Night Soil Biogas Plants (iii) Biomass Gassification
<b>4. Micro Hydel : Hydel Power Projects.</b>	<b>5. Water Mill Programme.</b>	<b>6. Electrification of Remote unelectrified villages and Hamlets of Electrified Villages.</b>
<b>7. Energy Conservation devices.</b>	<b>8. Power Generation</b> (i) Through Solar Photovolatic (ii) Through Biomass Gassification (iii) Hybridise System	<b>9. Wind Resources Assessment Programme.</b>

Source: Power Department, GOM Presentation

**Progress of Schemes during last five years:**

Sl. No	Item details	2004-05	2005-06	2006-07	2007-08	2008-09
1.	Solar Photovoltaics					
	(i) Solar lantern.	-	20000 Nos.	-	-	1000 Nos.
	(ii) Solar Domestic Home lighting System.	1000 Nos.	1500 Nos.	1700 Nos.	-	2000 Nos.
	(iii) Street lighting System	-	50 Nos.	-		500 Nos.
	(iv) SPV Power Plants	12 Nos.	12 Nos.	-	100 Nos.	-

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2.	Solar Thermal :- (i) Solar Water Heating System (ii) Solar Water Pump (iii) Solar Dryer	10Nos/100LP D 14 Nos. -	- - -	30 Nos/100 LPD - -	3/4000 LPD - -	5000 LPD - 1000 Sqm.
3.	Bio Energy (i) Biogas Plant (2 Cum) (ii) Night Soil/ Community Biogas Plants (10 Cum) (iii) Biomass Gassification	200 Nos. - -	50 Nos. 2 Nos. -	200 Nos. 2 Nos. 1No./250 KW	200 Nos. 2 Nos. 2Nos/50 KW	300 Nos. 3 Nos. 10Nos/10 KW
4.	Micro Hydel Project Survey Investigation	-	-	-	10 Nos.	-
5.	Water Mill Programme	-	-	-	5 Nos.	5 Nos.
6.	Remote Villages Electrification	-	5 Nos.	-	73 Nos.	80 Nos.
7.	Energy Conservation devices :- (i) Family Size Fixed Impd Chullah (ii) Community Fixed Impd Chullah (iii) Charcoal Briquetting	800 Nos. 900 Nos -	500 Nos. 1000 Nos .	- 200 Nos. -	- - -	1000 Nos. 1000 Nos. 1000 Nos.
8.	Hybrid Power Plant	-	-	-	2.5 KW	10 Nos / 5 KW
9.	Wind Mapping Station	-	-	-	3 Nos.	12 Nos.

Source: Power Department, GOM Presentation

### List of 10 Nos. of Micro Hydel Project where DPR completed:

Sl. No.	Name of Stream / Village	District	Instand Capacity (KW)	No. of House-hold	Type of Weir	Type of Turbine	Total Cost (Lakhs)	Amount Working expenses (Rs.in lakhs)	Annual Generation (MU)
1.	Rongmi	S.G.H.	1 × 25	20	Trench	Gross Flow	41.61	3.61	0.13
2.	Rongrong	E.G.H.	2 × 50	4	Trench	Gross Flow	84.00	5.11	0.52
3.	Kynrem	E.K.H.	2 × 22	Tourist Spot	Trench	Gross Flow	42.96	3.68	0.23
4.	Rongiip	E.G.H.	1 × 15	24	Trench	Gross Flow	44.98	3.63	0.08
5.	Pynker 'A'	Ri-Bhoi	2 × 50	21	Trench	Gross Flow	86.07	5.19	0.53
6.	Phudsohlang	W.K.H.	2 × 22	65	Trench	Gross Flow	58.12	4.47	0.26
7.	Wahjyrhat	W.K.H.	1 × 3.7	50	Trench	Gross Flow	52.09	3.91	0.03
8.	Wahkyrtein	W.K.H.	1 × 3.7	20	Trench	Gross Flow	50.76	3.87	0.03
9.	Elephant's Fall	E.K.H.	1 × 10	Tourist Spot	Trench	Gross Flow	37.71	3.74	0.05
10.	Rongband Dare	W.K.H.	2 × 45	Tourist Sport	Trench	Gross Flow	91.30	5.48	0.47

Source: Power Department, GOM Presentation

**Status of Remote Village Electrification :-** \* 158 Nos. of Villages approved; \* 5 Nos. of Villages Completed; \* 73 Nos. of undergoing work; \* 80 Nos of village to be taken



**Districtwise Status of Villages to Be Electrified under Renewable Energy:**

SL. No.	District	Total No. of Villages	Villages to be Electrified through Remote	Villages already Electrified	Undergoing Work to be Completed by Dec. 2008
1.	East Khasi Hills	920	47	-	24
2.	West Khasi Hills	924	44	02	16
3.	Jaintia Hills	467	16	-	08
4.	Ri-Bhoi	543	22	03	09
5.	East Garo Hills	864	20	-	10
6.	South Garo Hills	595	09	-	06
7.	West Garo Hills	1469	-	-	-
	Total	5782	158	05	73

Source: Power Department, GOM Presentation

## 6.5 TRANSPORT

Development of an efficient transport network comprising of roads, railways and waterways is a prerequisite for any development activity in any state.

### 6.5. (a) Roads And Bridges:

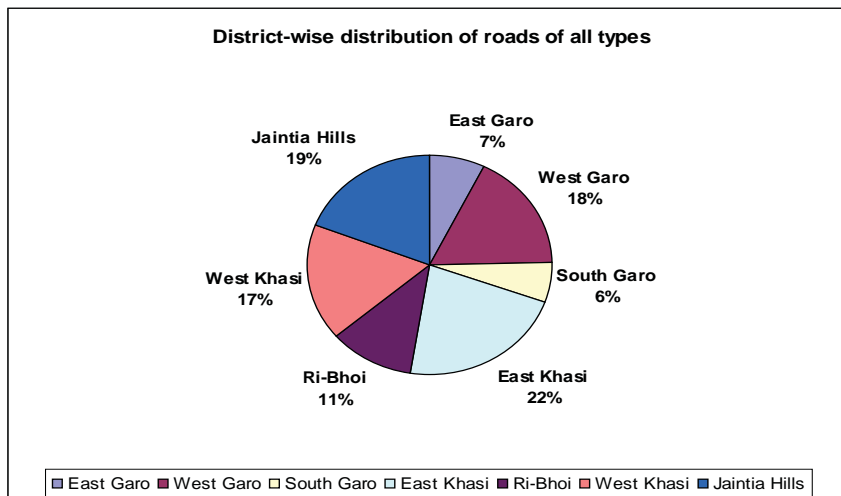
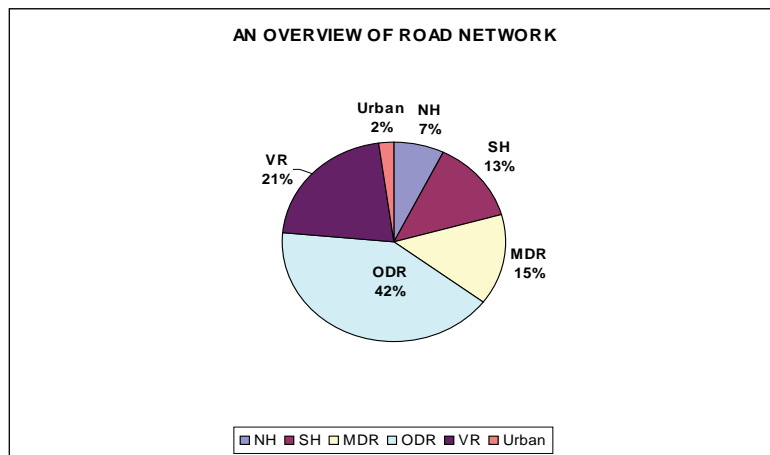
In Meghalaya road network<sup>2</sup> is the only form of transportation that connects the state with the rest of the country and also areas within the state to one another. The importance of developing an efficient road network is paramount for linking the villages to markets in the state and outside. Not only is the developing of the road network a prerequisite for the development of the local economy, it is also necessary to give the people in the villages access to medical and higher education facilities that are available at the block and district headquarters. Improved connectivity through roads and bridges is one of the important priorities of the State Government since this is the only mode of transportation in the state at present. **The road density per 100 square km in Meghalaya is 36.66 km on 1st April 2008 which is far below the national average of 100 km per100 sqkm. About 60.10% of roads are surfaced and remaining 39.90 % are still un-surfaced roads. 2578 Nos of habitations out of total 5782 habitations in the state are yet to be connected by motorable roads.** There are semi-permanent bridges having a total length of 17.50 km in the state, which are required to be converted to permanent RCC bridges.

<sup>2</sup>Discounting the fledgling air transport network that caters to a few.

PRESENT STATUS OF ROADS NETWORK

Category/ In Km.	Surfaced	Un-Surfaced	Total	Remarks
National Highway	603	-	603	1) 190 Kms under BRO not included
State Highway	1110	24	1134	
Major District Road (MDR)	867	352	1219	2) 1972 : total roads – 2787 km; road density – 12.42 km/100 sq. km.
Other District Road (ODR)	1614	1562	3165	
Urban Road (UR)	194	-	194	
Village Road (VR)	723	1055	1789	3) Road density : 36.98 km/100 sq. km.
<b>TOTAL</b>	<b>5112</b>	<b>2992</b>	<b>8104</b>	

Source: PWD Presentation, August 2008.



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SL. NO.	DISTRICT	NATIONAL HIGHWAY IN KM	STATE HIGHWAY IN KM	MAJOR DISTRICT ROAD IN KM	OTHER DISTRICT ROAD IN KM	VILLAGE ROAD IN KM	URBAN ROAD IN KM	TOTAL LENGTH IN KM	Road Density (Per 100 Sq,Km)
1	East Garo Hills	28.18	84.00	185.52	179.72	104.57	-	581.99	22.36
2	West Garo Hills	104.28	318.47	175.11	527.35	295.66	-	1420.87	38.26
3	South Garo Hills	104.00	82.40	-	85.18	192.63	-	464.21	25.09
4	East Khasi Hills	157.92	163.80	284.64	847.94	439.66	194.10	1788.05	65.07
5	Ri-Bhoi	65.00	110.00	96.25	558.84	92.11	-	922.20	37.67
6	West Khasi Hills	66.46	266.55	189.26	377.51	478.99	-	1378.77	26.28
7	Jaintia Hills	77.44	109.00	288.25	888.18	184.96	-	1547.84	40.53
8	<b>Total</b>	<b>603.28</b>	<b>1134.22</b>	<b>1219.03</b>	<b>3164.72</b>	<b>1788.56</b>	<b>194.10</b>	<b>8103.93</b>	<b>36.46</b>

The total length of National Highways in the state is only 793.044 km which comes to 3.54 km per 100 sq km only. Out of the total length of National Highways in the state 414.71 km is single lane and 41.28 km is intermediate lane which need improvement and widening to double lane standard. About 74% of the total road length consists of village roads, other district roads and major district roads, which are unable to cater to the present day traffic.

**The 3 (three) district headquarters in Garo Hills are yet to be connected by double lane roads with the capital city Shillong.** In absence of good road connectivity with Garo Hills Districts, the people of the State still have to travel via Assam and communications get disrupted whenever there are bandhs and agitations in Assam.

**Construction of Shillong Bypass is the most important scheme and requires immediate implementation by the Ministry of Road Transport and Highways** to avoid traffic congestion and accidents in the Shillong City, due to plying of heavy commercial vehicles to Southern part of Assam, Tripura, Mizoram and Southern part of Manipur via the capital city of Shillong.

The table below shows the development of the road infrastructure in Meghalaya.

**Table 6.6: Development of road network in Meghalaya**

Road infrastructure in Meghalaya			Road density	
Year	Total length Kms	Percentage of surfaced roads	Per 100 sq. km	Per lakh persons
1971	6668	12.85	29.65	658.89
1981	5211	52.95	23.17	329.39
1991	6481	42.35	28.90	360.10
2006	8165	60.10	36.40	NA
Decadal change in the road length:			<b>1980s</b>	<b>1990s</b>
percentage increase			24.4	40.8

Source: Basics Road Statistics in India, various issues.

In the last 35 years the road mileage in the state has increased by 22 per cent between 1971 and 2006 as shown in table 6.6. Along with the growth in the road mileage the percentage of surfaced road has also increased to 60 per cent from 13 per cent in the same period of time. The road density in relation to geographical area has also increased in the same time period. The road length maintained by the State Public Works Department (PWD) has more than doubled growing from 3315 Km in 1975-76 to 7978 Km in 2005-06. These developments in the road sector are given in tables 6.6 and 6.7.

**Table 6.7: Development of road network in Meghalaya**

Roads maintained by the PWD in Meghalaya (Km)			Road density	
Year	Total length Kms	Percentage of Surfaced	Per 100 sq. km	Per lakh persons*
1971-72	2787		12.42	
1975-76	3315	1028 (31.01)	-	-
1980-81	3824	1405 (36.74)	17.05	286.3
1986-87	5219	2123 (40.67)	-	-
1990-91	5687	2407 (42.32)	25.4	320.4
1996-97	6491	3355 (51.68)	-	-
2000-01	7328	3413 (46.57)	32.8	317.8
2005-06	7978	4721 (59.17)	35.57	-
2007-08	8294	5302(63.92)	36.98	

\*calculated against the 1981, 1991 and 2001 census.

Source: Directorate of Economics and Statistics, Govt. of Meghalaya; PWD and Planning Department.

**Connectivity of villages:** With about 80 per cent of the population residing in the villages connecting these villages to one another and to the nearest district roads, state roads, national highways is a priority for developing the rural areas. Though the number of unconnected villages has come down significantly as seen in table 6.8 in the NER, nevertheless, in Arunachal Pradesh and Meghalaya, close to 50 per cent of the villages still remain unconnected by all weather roads. For Meghalaya the percentage of unconnected villages has decreased significantly from 1971 but still remains higher than the all India average.

**Table 6.8: Percentage of Unconnected Villages in Northeast India**

State	1971*	1991*	1997**	2001*	As on 10-12-2008 #
Arunachal Pradesh	NA	NA	59.44	NA	53.25
Assam	80.45	74.07	25.44	40.21	35.88
Manipur	86.70	77.31	54.04	47.80	38.34
Meghalaya	92.71	83.66	54.67	51.99	47.02
Mizoram	NA	NA	16.69	NA	29.69
Nagaland	90.83	86.60	11.67	9.63	3.60
Tripura	91.24	46.55	46.55	38.91	7.98
All India	74.87	63.02	39.84	39.32	32.18

Source: \*State of the Indian Farmers (2004), \*\* Directorate of Economics and Statistics, Govt. of Meghalaya,

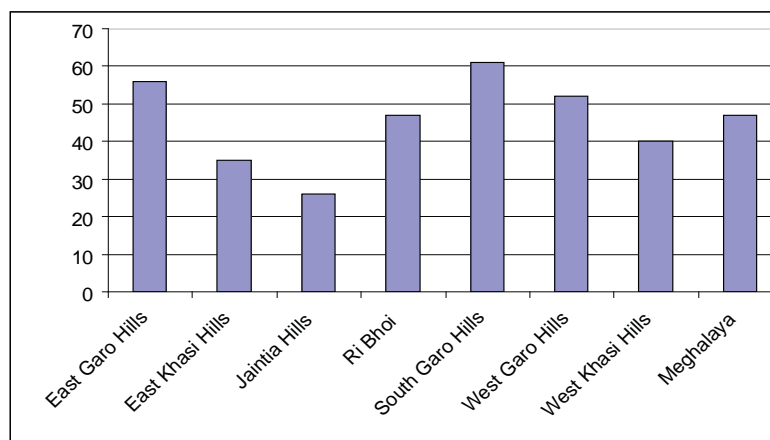
# <http://omms.nic.in/aspnet/citizens/NAT/01NCH/NCHStateWiseHab.aspx>

For the districts in Meghalaya, the percentage of villages connected by pucca roads have definitely increased since 1981. However, there is a wide variation in the availability of road infrastructure among the districts. In 1991, 27 per cent of the villages in Jaintia Hills were connected by pucca roads followed by East Khasi Hills at 24 per cent. In the rest of the districts only about 12 per cent of the villages were connected by pucca roads. The other districts have a very low percentage of villages connected by all weather roads ranging from 10 per cent to 19 percent. This clearly shows the poor status of rural road infrastructure in the State.

An important point that needs to be highlighted here is that majority of the villages that have not been connected by pucca roads are the small villages with population of less than 1000. With 56 per cent of the villages in the state having population less than 500, connecting all these villages that are located in the interior with all weather roads will need much resources.

With the launch of the Prime Minister’s Gram Sadak Yojana (PMGSY) on 25th December 2000 which aimed to provide rural connectivity in rural areas of the country; some progress has been made since 2000. The Programme envisages connecting all habitations with a population of 1000 persons and above (500 persons and above in respect of Hill States, Tribal and Desert areas). Table 6.10 shows that the number of habitations that are yet to be connected in all the districts of Meghalaya as in December, 2008.

**Figure 6.4: Percentage of Unconnected Habitations in Districts of Meghalaya as on 10-12-2008**



**Table 6.9: Road infrastructure in the district of Meghalaya**

State	Total length (in Kms) 1987*	Percentage of surfaced roads	Road density Per 100 sq km	Percentage of village connected by pucca road**	
				1981	1991
East Khasi Hills	1811	46.71	35.5	19.0	26.2
West Khasi Hills	728	36.26	13.9	7.61	11.9
East Garo Hills	557	55.30	21.4	7.62	12.7
West Garo Hills	1237	38.80	22.2	10.8	12.7
Ri Bhoi*	NA	NA	NA	10.5	19.3
South Garo Hills*	NA	NA	NA	9.1	10.1
Jaintia Hills	1066	42.87	28.0	11.88	27.1
Meghalaya	5399	42.50	24.1	11.1	16.4

Source: \* Directorate of Economics and Statistics, Govt. of Meghalaya and \*\*District Census Handbook, Census

**Table 6.10: Number of Unconnected Habitations in Meghalaya, 2008**

District/ Habitation Category	1000+	500-999	250-499	< 250	Total
<b>Total Number of Habitations</b>					
East Garo Hills	5	88	254	559	906
East Khasi Hills	49	148	212	435	844
Jaintia Hills	56	93	100	103	352
Ri Bhoi	18	98	163	261	540
South Garo Hills	1	11	87	528	627
West Garo Hills	55	169	421	795	1440
West Khasi Hills	28	106	214	298	646
<b>Meghalaya</b>	<b>212</b>	<b>713</b>	<b>1451</b>	<b>2979</b>	<b>5355</b>
<b>Unconnected Habitations as on 01-04-2000</b>					
East Garo Hills	0	22	124	391	537 (59)
East Khasi Hills	5	31	62	238	336 (40)
Jaintia Hills	0	16	37	66	119 (34)
Ri Bhoi	0	17	68	189	274 (51)
South Garo Hills	0	0	33	372	405 (65)
West Garo Hills	3	46	205	536	790 (55)
West Khasi Hills	1	18	70	199	288 (45)
<b>Meghalaya</b>	<b>9</b>	<b>150</b>	<b>599</b>	<b>1991</b>	<b>2749 (51)</b>
<b>Unconnected Habitations as on 10-12-2008</b>					
East Garo Hills	0	22	124	391	505 (56)
East Khasi Hills	5	31	62	238	295 (35)
Jaintia Hills	0	16	37	66	91 (26)
Ri Bhoi	0	17	68	189	251 (47)
South Garo Hills	0	0	33	372	380 (61)
West Garo Hills	3	46	205	536	741 (52)
West Khasi Hills	1	18	70	199	255 (40)
<b>Meghalaya</b>	<b>9</b>	<b>150</b>	<b>599</b>	<b>1991</b>	<b>2518 (47)</b>

Note: Figures in brackets are percentages of unconnected habitations out of the total number of habitations

Source: <http://omms.nic.in/citizens/en/STL/06SCH/NCHDistrictWiseHabs.asp>

**TARGET FOR 11<sup>TH</sup> FIVE YEAR PLAN (2007-2012)**

	New construction (Kms)	Upgradation (Km)	Bridges (Rm)	Village connectivity (Nos)	Amount (Rs.in crore)	Amount required for Spill over Schemes	Total Amount (Rs.in crore)
State Plan	544.00	1319.00	3987	100	800.00	-	800.00
PMGSY	600.00	500.00	370	140	450.00	-	450.00
NEC	116.50	457.54	300	10	500.00	95.00	595.00

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NLCPR	20.00	400.00	1000	5	450.00	15.00	465.00
CRF	-	120.00	-	-	60.00	-	60.00
Inter State Connectivity	-	38.00	-		38.00	-	38.00
Economic Importance	-	26.00	-	-	13.00	-	13.00
Externally Aided Project (ADB)	-	212.80	80	-	185.20	-	185.20
<b>Total</b>	<b>1280.50</b>	<b>3092.48</b>	<b>5737.00</b>	<b>255</b>	<b>2496.00</b>	<b>-</b>	<b>2606.00</b>

Source: PWD, GOM

The target may appear to be high but it is achievable. The Government has drawn up a plan in this regard and with the active support of the Central Government and the Ministry of DONER taking the role of a major player the State hope to reach this goal.

### **Total Achievement at the end of 11th Five Year Plan will be:**

Total road length	=	9445.24 Km
Surfaced	=	8136.32 Km
Out of which NH	=	793.044 Km (Inclusive of 189.76 Km under BRO)
Unsurfaced	=	1308.92 Km
No of villages to be connected	=	3459 Nos
No of un-connected villages	=	2323 Nos

### **Problems and Issues affecting the performance of PWD and Suggestions<sup>3</sup> :**

1. Contractors Capacity: A serious problem ;Lack of incentive to modernize, professionalize
2. System Of Award Of Contracts: Encourages small time contractors; Kills competition ; Sacrifices quality; Demoralisation; Erosion Of Professional Pride; Status Quoism;
3. Huge bank of sanction (BOS) unrelated to plan perspective and master plans of road development;
4. Leads to 'SYSTEMIC loss of CONTROL and ACCOUNTABILITY'.
5. **Immediate & Short Term action required:**
  - a. Drastically reduce BOS and consolidate: weed out all except critical on going schemes; No new schemes; If a new scheme, then compensate by de-sanction of 10 times the amount of new scheme; Adopt transparent criteria for de-sanction; Publish all on the web site.
  - b. Internalise work ethos to fully exploit the working season : this will be self reinforcing and will improve work culture.
  - c. Monitor Contractor performance and enforce contractual obligations: this will pay immediate dividends.
6. Encourage contractor professionalisation; Prepare Contractor Profile and use in Tender Committee to select contractors
7. Proritise Maintenance spending : Explore options eg. Annual maintenance contracts etc.
8. Explore ways to settle all pending bills and start afresh

<sup>3</sup> From PWD presentation, 2008.

9. Reform work award system comprehensively: At par bids to be rejected and contractors black listed for a period; Emphasis on turn key bids with monitorable performance parameters, no scope for revised estimates and penalties ; Work packages to be rationalised to encourage contractor capacity growth;Dismantling of law requiring bids at SOR to encourage serious competition
10. Professionalize and Incentivise The P.W.D
11. Reform Procedural Regime Governing Budget, Sanctions, Administrative Approval to Enforce Strict Accountability of P.W.D.
12. Improve Morale And Work Atmospherics through Upgradation of Skills, Performance Monitoring Etc.
13. **Concentrate On** : Maintenance; Completion of on Going Schemes, and Financial Consolidation
14. **Maximize** All other Sources of Funding for Construction, Improvement, Upgradation of Roads such as NH, PMGSY, ASIDE, RIDF and NEC,NLCPR. etc.
15. **Achieve This** By Reforming and Upgrading and Professionalizing the Roads Sector Viz. P.W.D. And Contractors.

**In conclusion**, Roads in Meghalaya has miles to go and bridges are too many and too far in this sector. **Business as usual** cannot sustain given P.W.D.'s size and complexities of issues as above, it can cause a crippling drain of the Govt's budget and economy's biggest handicap. Effective **CHANGE** and bringing professionalism has to be the new Mantra for P.W.D. **A professionally performing P.W.D.** can unlock Meghalaya's huge potential which can and must be enabled by **the political economy. Due to our dependence on roads**, Ministry of Road Transport and Highways are required to be more proactive and take upon the task of completing long committed past projects on a war footing. **SARDP NE phase A and B is required to be merged and implemented at the earliest.** The state also needs to address the issue of cost norms for land acquisition which appears to be highly suspicious or inflated given the state of current economic development and the benefits highways would bring. GOI is also required to adequately provide fund for the State for upgrading main arterial routes. A separate financial arrangement for maintenance of roads mentioned in the National 11th Plan document should also be put into practice by appropriate arrangement, may be through Finance Commission awards.

#### **6.5. (b) Railways:**

The discussions on transportation system as a basic infrastructure that promotes growth of the economy will not be complete without taking into consideration the other importance means of land transportation viz. railways. In most of the states in India, railway is an important means for movements of people as well as commodities. However, in the hill states of India the railway network is not well developed. An indicator of the development of railway transport is the railway route density, which in the northeast is very low for all states except for Assam.



**Table 6.11: Railway infrastructure in Northeast India**

State	Railway Route length (Km)	Density of route length (per '000 sq. km. of area)
Arunachal Pradesh	1	0.01
Assam	2516	32.08
Manipur	1	0.04
Meghalaya	0	0
Mizoram	2	0.09
Nagaland	13	0.78
Tripura	45	4.29
All India	63140	19.21

Source: Background Paper Authors' calculation based on CMIE, March 2004 ( MHDR2008)

In the state of Meghalaya railway transportation is yet to be established, while in Arunachal Pradesh, Manipur and Mizoram the railway route length is under 2 Kilometers. Almost 98 per cent of the railway route length in the North east is in Assam. At present, there is no railway line in Meghalaya. However, the Government of India is considering connecting all N.E. State capitals by railways and, in this context, the following projects are in the pipeline :-

- (i) The process of land acquisition for construction of a new railway line from Dudhnoi to Mendipathar is under consideration (sanctioned project).
- (ii) Joint survey and land acquisition process is on for construction of a railway line from Azara to Byrnihat and survey to extend upto Shillong is being undertaken. (Azara to Byrnihat is a sanctioned project).
- (iii) Survey of railway line from Pancharatna (Jogighopa in Assam) to Silchar along the southern slopes of Meghalaya along Bangladesh border is in progress.
- (iv) Proposal for connecting of Jowai to Laming/ Silchar has also been proposed .

#### **6.5. (c). Air Transport :**

The State has two airports viz Umroi Airport and Baljek Airport. The Baljek airport is yet to be made fully operational. Further, these airports needs to be upgraded to provide better air connectivity to the State. The Planning Commission has assisted the State Government partly in respect of the cost of land acquisition for expansion of Umroi Airport. The Government of India in the ministry of Civil aviation requires to take up the project for the upgradation of the Baljek and Umroi Airport. The NEC's sectoral summit's recommendations of operating intra regional dedicated air services need serious attention and prioritisation. Cargo facilities and other linkages for Horticulture produce evacuation are also essential.

**6.6 Tourism:** Tourism is a multi faceted activity – an amalgamation of transport, accommodation, cuisine, entertainment and other related industries. Among the smallest states in the country, Meghalaya is blessed with picturesque landscapes, salubrious climate, sparkling waterfalls, rich traditional culture and warm and hospitable people. The State has a high tourism potential because

of its geo-ecological and cultural settings. Cherrapunjee is distinct and renowned for receiving the highest rainfall in the world. Some of the wonderful and unexplored caves, rare plant species abound the state. The abundant natural beauty is a major asset which could be promoted with adequate provision for infrastructure.

Tourism in Meghalaya has gained momentum in recent years. The Government accords priority to Tourism infrastructure and Tourism Services. There has been a gradual increase in the arrival of foreign tourists in the State. About 12407 foreign and 4,33495 domestic tourists visited the State during the year 2004. With the State having vast potentials in eco- tourism, the endeavour of the State Govt. is to tap the abundant natural resources for tourism development with people's participation. This would generate both income and employment to the people in the State. The State Govt. on its part has taken up a number of schemes for development of tourist spots for tourism promotion. The support of the Ministry of DONER and N.E.C. is sought for to supplement the effort of the State Government for development of tourism in Meghalaya keeping into consideration an integrated regional tourism policy. Promotion of tourism by developing an integrated regional policy and action plan in consultation, cooperation and coordination with the Union Ministry of Tourism, ITDC and the State Governments of NE States would be necessary. Eco- tourism involving the local communities (e.g. in providing low cost facilities) with highlights of caves, rivers, bio-resources, and ethnic diversity has bright prospects. This will build capacities, improve livelihood and allow tourists to experience the North Eastern Region in an authentic sense through mission – mode people's participation approach.

#### **6.7 Social Infrastructure:**

**i). Health** - At present, the state has 9 Government Hospitals, 28 CHCs, 104 PHCs and 404 Sub-Centres. The strategy of the Department during the Plan period is to upgrade the existing Hospitals by providing more beds and facilities with a view to improve patient – to – bed ratio (1:730) drastically. It will also focus on upgradation of CHCs to Hospitals on case to case basis. Simultaneously, the Department will also set up new CHCs, PHCs and Sub-Centres to cover more population of the State as per the norms. The present set-up is well below the expected norms which should be 33 CHCs, 132 PHCs and 860 Sub-Centres. Fund flow and coordinated management plan to bridge the gap is desirable in this respect. Funds and shift in approach with innovation are also required for upgradation of existing hospitals and improving quality of service both in outreach and delivery. NEIGRIHMS should commence both the PG and UG classes simultaneously and the super-speciality hospital be made fully functional. Private sector also need to invest in world class infrastructure to tap medical tourism possibilities.

**ii). Education** - The enrolment in Primary, Upper Primary and Secondary during 2006-07 was 4.88 lakhs, 2.12 lakhs and 1.15 lakhs respectively. During 2007-08, the enrolment had increased to 518000 in the Lower Primary and 232000 in the Upper Primary stage. With the launching of the SSA programme and its various interventions the Department is making an effort to provide education of satisfactory quality, bridge the existing gaps in access, provision of infrastructure including educational curricula and teachers Training.

The number of Primary Upper, Primary and High & Higher Secondary schools as in 2005-06 were 5851, 1759 and 655 respectively. Cumulatively, 75 nos. of Secondary Schools have been upgraded to Higher Secondary level up to 2005-06 and the no. of Govt. Aided Colleges has increased from 20 in 1996-97 to 36 in 2005-06.

At present there are 8 Government Secondary, 19 Government Higher Secondary Schools and 3 Government Colleges in the State. The Government has also planned to provincialise 3 Colleges in the State soon. While the status of existing institutions shall have to be maintained, it is the vision of the Government to improve the quality of infrastructure in the educational institutions in the State. It may also be mentioned that many of the old existing institutions are badly in need of renovation. Some of the Govt and private institutions in the state has received capital cost under the NEC and NLCPR schemes. One of the aims of the State is to once again make Shillong and **Meghalaya as the educational hub** of the NE Region. To this end following are the recent initiatives / fruition:

- NEHU is now a centre of excellence; added technology institute and many new streams .
- an IIM (RGIIM) at Shillong has started functioning .
- A National Institute of Fashion Technology(NIFT) has already commenced its session 2008-09.
- under NEIGRIHMS, MBBS has started and Post Graduate course should shortly commence from 2009-10. One B.Sc. nursing college is already functional under its umbrella.
- One BSc Nursing College under PPP is supported by NEC and ILFS.
- An MOU with Public Health Finance Institute for setting up of an Indian Institute of Public Health at Shillong has been entered into.
- A PG college under CAU has started functioning near ICAR complex. Further, a Central Agri-Horti University and /or setting up of a Agricultural/ Horticultural Institute is under contemplation.
- An Indian Institute of Information Technology is under consideration by the Ministry of HRD and Planning Commission.
- Private University such as MLCU, ICFAI and others as well as Technical institutions have been encouraged.
- There is land measuring about 100 acres available for setting up of an IT Estate in PPP mode.
- The State will encourage several PPP partnerships for setting up of ITIs, Polytechnics, technical institutes, etc. these needs to be worked upon with sincerity and dedication.
- Besides the above, the State Government would actively pursue the idea of constructing model schools under PPP mode or state mode at each Block level.
- The state will follow up on NIT; other technical institute etc.
- The state is pursuing a world class music university.
- State would also like to have a world class English and foreign language University
- The State would tap various progammes which are available under the different ministries of the Government of India. For skill development, technical education, vocational education and IT education, partnership with private sector would be encouraged while also leveraging funds from the Government of India.

## **6.8. Border Trade Infrastructure**

6.8.1. The length of the international border with Bangladesh is about 443 kms. Before independence, people living in the border areas of Bangladesh used to cultivate crops like oranges, bananas, betel nuts, betel leaves, black pepper, bay leaf, etc. These commodities had a ready market in the areas presently in Bangladesh. Similarly some essential commodities were imported to the bordering areas of the state from Bangladesh. The communication from these areas to the interior of the state was virtually non-existent.

After the partition of the country abrupt stoppage of trade with the bordering Shylet and Mymensing resulted into tremendous economic hardship to the people living in the bordering areas of the state. The people of this region were deprived of the traditional markets to sell their agro products. Moreover, the traditional supply lines for the supply of essential commodities were also severed. With a view to ameliorate the suffering of the people inhabiting the area and to accommodate and improve their economy, the Border Areas Development Programme was initiated as a special area programme during the Fourth Five Year Plan. The Border Areas Development Department was created in 1973 and the Directorate of Border Areas Development in 1975 to co-ordinate efforts to undertake and implement schemes felt urgently needed to being about rapid development of the border areas. The schemes undertaken under the programme are supplemental in nature and are over and above the other developmental schemes undertaken by the different development departments of the State Government in the entire State, which also included the border areas.

### **6.8.1 Land Custom Stations (LCSs) in Meghalaya:**

The State of Meghalaya has 10 (ten) Land Custom Stations which plays a significant role in the economy of all the North Eastern states including the State of Meghalaya. This is because of the fact that in many cases, goods originating in one state finds its way to the neighbouring countries through another state. All these Land Custom Stations are along the Indo-Bangladesh border. These are:-

Sl. No.	Name of LCS with location	Functional / Non-Functional	Counter part LCS in Bangladesh
1.	Borsora, West Khasi Hills	Functional	Borsora
2.	Dawki, Jaintia Hills	Functional	Tamabil
3.	Gasuapara, South Garo Hills	Functional	Karaituli, Gobraakura
4.	Shella Bazar, East Khasi Hills	Functional	Chatak
5.	Dalu, West Garo Hills	Functional	Nakugoan
6.	Bholaganj, East Khasi Hills	Functional	Chatak
7.	Mahendraganj, West Garo Hills	Functional	Dhanua Kamalpur
8.	Baghmara, South Garo Hills	Functional	Bijoypur
9.	Balat, East Khasi Hills	Non-Functional	Dalura
10.	Ryngku, East Khasi Hills	Non-Functional	Sonamgunj

In addition, The State has proposed for opening 3 (three) more LCSs with Bangladesh, viz., 1. Kuliang, Jaintia Hills, 2. Maheshkhola, South Garo Hills, and 3. Iew Thymmai, East Khasi Hills.

6.8.2 As Meghalaya shares an international boundary of 443 km with Bangladesh in the South and West, therefore improvement of the road network in the Border Areas is very important for trade and commerce and also from strategic point of view. **Meghalaya has eight land custom stations** exporting goods to Bangladesh. **The Land Custom Stations at Mahendraganj, Gausapara, Baghmara, Borsora, Shella Bazar, Bholaganj, Dawki, Ryngku etc are not yet connected with double lane roads.** The value of export from Meghalaya for the year 2005-06 is Rs.211.77 crores which is about 48.37% of the total exports from the North Eastern Region. However most of the exports are coal, limestone and boulders and some fruits. The State Government is therefore very keen to develop the infrastructure in the LCSs including road connectivity. Except for Dawki there is absolutely no infrastructure in all the other LCSs. Even at Dawki the facilities are actually not commensurate to the volume of export.

Proper Phyto-Sanitary Laboratories, Plant Quarantine and Radiation Free Certification facilities need to be established at the major LCSs of Meghalaya and at the corresponding LCSs of Bangladesh to boost export of agricultural/horticultural products. Guidelines for Inland Transport Assistance of APEDA may be suitably modified. Ministry of Commerce may consider declaring Export Promotion Councils/Commodity Boards having a presence in North East as Multi-Product Registering Authorities for issue of Registration cum membership certificates.

The State Govt. has requested Govt. of India to include Borsora and Gasuapara in the list of Integrated Check Posts as our exports from these two LCSs was worth Rs.84.63 crores and Rs.23.36 crores respectively during 2005-06. We realize that creation of infrastructural facilities and improvement of road connectivity to the ICPs and LCSs will facilitate export activity and act like a catalyst for the all round development of the whole State.

Ministry of Commerce may create an Inter-Active Website with all the relevant information that would facilitate trade from the region. This website will also ensure that the inter-action between the traders of NER and the traders of the neighbouring countries is productive and focused.

For the development of professional manpower and creation of entrepreneurship in the field of Foreign Trade, Government may set up a branch of **Indian Institute of Foreign Trade at Meghalaya.**

### **6.8.3 Issues of Border Trade:**

Bangladesh is the destination for the majority of goods produced in the state. This is due to the complementary relation between the resource-base of Meghalaya and the demand structure of Bangladesh. Following measures are suggested for the promotion of the cross border trade between Meghalaya and Bangladesh:

#### ***a) Strengthening of Infrastructure***

First, export of minerals like coal and limestone requires good quality all weather roads connecting the source and delivery points so that heavy vehicles can move with ease. Besides roads, other infrastructure facilities like communication network, banks, and electricity are also important for the smooth flow of goods across the border. However, in most of the border trade points, these

services are in a poor condition, which requires urgent attention from the concerned authorities. Once these basic services are available, the other services like weight bridges, hotels, public telephone booths, Internet cafes, vehicle repairing facilities, etc., will be taken care of by the private service providers.

Besides the provision of infrastructure facilities at the border trade points, a wider multi-modal road and transportation linkages across north eastern region and Bangladesh in general, and Meghalaya and Bangladesh in particular needs to be put in place for the promotion of trade across these two regions. A Shillong-Dhaka bus service through Dawki on the lines of the Agartala-Dhaka bus service, will, no doubt, boost tourism in Meghalaya.

### **b) Addressing Security Concerns**

Provision of secure environment at the border trade points is one of the most fundamental prerequisites of border trade. Strengthening of security arrangements in most of the border trade points will necessary to build confidence among local exporters. It will also help to check the siphoning of a part of the trade surplus by the insurgent and extortionist groups for non-productive anti-social purposes.

### **c) Industry Linked Research and Development**

Presently Meghalaya's exports base mainly consists of minerals like coal and limestone. This base needs to be widened. For this to happen, institutional support is needed in areas like market research, product development, and technology up gradation, quality control and information dissemination. Institutions providing these services at the national level may be persuaded to cater the same through the establishment of their respective branch offices in the region.

### **d) Cross-border Information Exchange**

For the effective promotion of cross border trade, the exporters from the region need to have easy access to information relating to the demand structure across the border. This will be largely facilitated if arrangements could be worked out with the neighbouring countries to promote a greater exchange of trade information.

### **e) Resuming Border Haats**

Apart from ostensible value of cross border trade in terms of economic benefits, it has intrinsic value as well in terms of improving the quality of life of the people living in the border areas. Realization of this intrinsic value, no doubt, raises the well being of the people in the fringe areas. Resuming the border haats, which had hitherto been operating along Meghalaya-Bangladesh border, may further augment this.

### **f) Policy Matters**

In addition, the central government needs to perceive border trade as a strategic tool for the development of the Border States and devolve them the necessary powers so that they can utilize this tool to their benefits. The Border States also need to treat cross border trade as a separate sector and integrate its requirements into the state plan. So far, like other north eastern states, state plan in Meghalaya does not appear to have taken into account the needs and potentials of cross border trade. Finally, a strong government-business partnership is needed for the promotion

of cross border trade. Unless this partnership develops, policy makers will be unable to understand the requirements of cross border trade and would not be able to reap its social benefits to the fullest extent. At the same time, the exporters will remain handicapped due to inadequate policy support. A strong partnership will enable the exporters to maximize their profits and the government to optimise the social benefits. Border trade will additionally have to be viewed in the context of emerging global paradigm post WTO set up.

#### 6.8.4 Steps to Boost Trade from Meghalaya to Bangladesh:

1. **Creation of Proper Infrastructure:** State is taking Steps to create the necessary infrastructure like roads, buildings, warehouse, cold storage, power supply, drinking water facility etc. through ASIDE
2. **Telecom Facility:** Special Mobile phones need to be expanded upto border since Bangladesh has mobile connectivity up to border. This issue has already been taken up with Ministry of Communications.
3. **Proper Phyto-Sanitary Laboratories, Plant Quarantine and Radiation Free Certification facilities** need to be established at the major LCSs of Meghalaya and at the corresponding LCSs of Bangladesh to boost export of agricultural/horticultural products. This needs to be taken up with Bangladesh
4. **Proper Banking facilities** needs to be established at the LCS for quick transaction and to prevent informal trade.
5. **Transport Subsidy:** Ministry of Commerce & Industry may consider Road Transport subsidy and Air Freight Subsidy @ 90% for all the items of export through L.C.S/Airport or nearest port of call located in the region since the exporters of the region have to pay double freight charge, as there is no or little import through various L.C.S of the Meghalaya. The transport subsidy given to tea, fruits and horticultural products in North Eastern should also be given to other items like coal, limestone etc.
6. Ministry of Commerce may consider declaring one **Export Promotion Council** based at North East as Multi- Product Registering Authority for issue of RCMC to facilitate all items of export from the region. Because except Commodity Board like APEDA, MPEDA, TEA BOARD, COFFEE BOARD, RUBBER BOARD & CAPEXIL no other export promotion council have their presence in the North East Region.
7. Ministry of Commerce may pursue Nationalised Bank to charge Rs 500/- for L/C advising instead of existing Rs.1,500/- considering L/C value less then US \$5000 in general.
8. Ministry of Commerce may create an **Inter-Active Website** with all the relevant information that would facilitate trade from the region. This website will also ensure that the inter-action between the traders of NER and the traders of the neighbouring countries is productive and focused.
9. **Special MDA for North East Exporters:** According to one of the clause, an exporter has to complete 12 months of membership with the concerned EPC in order to be eligible for MDA grants. This clause may be exempted for the exporters of North East. They may be allowed to avail MDA after taking the membership of the EPC/ commodity Board.

**10. Consulate:** Ministry of Commerce may take up with the Ministry of External Affairs of Bangladesh for Consulate office at Shillong for issue of visa to exporters of the region. Govt. of Bangladesh may also be requested to issue multiple entry visa upto one year to Meghalaya exporters since at present they have to obtain visa either from Kolkata or Agartala which is far off from Meghalaya.

**11. Entrepreneurship Development:** For the development of professional manpower and creation of entrepreneurship in the field of Foreign Trade, Government may set up a branch of Indian Institute of Foreign Trade at Meghalaya.

**12.** To boost **agro-exports** from the state of Meghalaya, Guidelines for Inland Transport Assistance of APEDA may be suitably amended :

- All applications received will be granted transport assistance.
- Applications may be allowed to be submitted up to 180 days without any penalty.
- Inland Transport Assistance on transportation by road/rail @ Rs. 2 per kg for the products which can be taken by road/rail from North Eastern Region to any place in North East Region & West Bengal for processing and export.

**13. Duty free imports** from Bangladesh be allowed for ceramics, malamine, edible oils, textiles, leather goods etc. This will make such goods available at lower cost and lead to higher exports as Bangladesh may then take more products from us.

**14.** Introduction of **regular bus service** between Shillong –Sylhet- Dhaka and Chittagong (Meghalaya & Bangladesh) would help boost tourism & improve bilateral relation.

**15.** Govt. of Bangladesh may be requested to set up **Weight Bridge at all the LCSs** of Meghalaya to check leakage of revenue from both sides.

**16. Export Corridor:** Government of Bangladesh may be requested to provide access to Chittagong Port for exports/import from and to the Meghalaya to the outside world

### **6.9 Communication:**

In the present knowledge economy information plays a very important role. However, the extent to which communication, more specifically telecommunication can promote economic growth depends on the availability and the quality of the infrastructure facility connected to this sector. As per the data reported by CMIE (2004), in March 2002 the number of cellular and fixed line subscribers in the northeast was 743532, which is about 1.7 percent of the total number of cellular and fixed line subscribers at all India level. There has been a phenomenal growth in the cellular subscribers in the Northeast since this service was introduced in the late nineties. Between 1999-00 to 2002-03 the number of cellular subscribers has increased almost 9 times from 6545 to 56023.

#### **6.9.a. Telecommunication:**

Meghalaya has in 2007 117 telephone exchanges of which 97 are Rural and 20 Urban exchanges. The Total connections in Meghalaya as on June 2007 were 150879 with Waiting List on demand and over all Tele-density of 6.51 %. The land line exchanges were 90 with STD/ISD facility and 66809 working connections. Meghalaya also had 27 branch telephone stations(BTSs) with 11205 WLL connections, and 62678 Mobile connections as on 2007 March. The state had 3390 PCOs of which 225 were on highways, 2736 were with STD facility. The BTSs with GSM facility were 103 with 72865 connections (95046 equipped).



**Box 6.9.(i) Progress of telecommunication in Meghalaya:**

Years	Land Line	WLL	CMTS	Total
2004-05	52535	2603	10462	65600
2005-06	55222	2890	31572	89684
2006-07	53417	4830	50151	108398
Villages with <100 & "0" population	948	Total number of Uncovered Villages as per USO No: 30-130/2004-usf dt 10.11.04		1957
Villages provided with VPTs	2925	Covered		201
USO claim made on ( as on 31.12.06)	2309	No of Villages not existing		2
Balance to be covered*	1756	<100 population		239

Source: BSNL Presentation 2007

**Table 6.12: Number of Telephone Connections in Meghalaya, 2007**

District	Working Landline Connections		
	Urban	Rural	Total
East Khasi Hills	27233	18315	45548
West Khasi Hills	1430	739	2169
Ri-Bhoi	456	2783	3239
Jaintia Hills	2519	3648	6167
East Garo Hills	1211	501	1712
West Garo Hills	5979	3664	9643
South Garo Hills	360	113	473
<b>Total</b>	<b>39188</b>	<b>29763</b>	<b>68951</b>
<b>Total</b> Note: Data pertain to BSNL facilities only. Source: BSNL, NE-I Telecom Circle, Shillong.	WLL connections		10592
	Mobile connections		62678
	Telephone Exchanges		114

It may be mentioned despite efforts by 2007, only 6 out of 7 District, 13 out of 15 Sub-divisions and 25 out of 39 blocks were connected by telecom. Capital City Shillong is protected by 2 Rings with Guwahati; Other DHQs on Ring are Nongpoh and Nongstoin; Ring for Tura, Jowai, Williamnagar and Baghmara were under execution. About 1226 Km of telenetwork existed by mid 2007. BSNL, NE-I Circle has the following development plans in Meghalaya for 2006-07 & 2007-08.

**Box 6.9 (ii): BSNL Development Plan for Meghalaya, 2006-07& 2007-08**

2006-07		2007-08	
New Exchanges	2		11
New WLL BTS	27	WLL BTS	212
Provision of Wired line	1000	GSM BTS	9
Provision of WLL Connection	10000	No of City/ to be overed	382.0 Kms by Circle & 690.0 Kms by NETF
Broadband port capacity	2194	<u>Laying of OFC</u>	

**102 towers sanctioned for strengthening mobile telephony in the State through the United Service Obligation** (USO Fund) has been sanctioned. Each tower will be shared by all the Service Providers, the progress is being monitored closely.

**6.9.b. IT Infrastructure:**

The growth of the Information Science and Technology Industry or simply IT Industry in India since the mid 1980s has been phenomenal placing the country today as a global leader in this sector. While the southern states like Karnataka and Andhra Pradesh have made significant contribution to the growth of the IT industry, this industry is also recording a steady progress in other states in India. The North East has shown average e-readiness. In Northeast India, in the absence of industrial growth, the IT industry can play an important role in transforming the backwardness of the economy and generating productive employment and economic growth in the region. The region possesses certain conducive feature for the growth of this industry like pool of educated English speaking manpower and climate conducive to the industry. It is for this reasons that in recent times considerable attention and focus has been given to facilitate the development of this sector in the region. However, the prospect for the growth of this industry in the region will depend upon many critical factors, among them being the availability of physical infrastructure and manpower.

As on 2007, 7360 internet connections were available in the state. The Broadband facility **indicated 10 DSLAMs with 1621 Working broadband Connections**. There is one private Internet Service Provider, besides the PGCIL's online monitoring control hub. Committed Connectivity 512 Kbps for all Citizens by 2008 Stm-4 Connection Available Now To IT Park and 1 Lambda Connection By March 2009. By now, about 20000 Broadband Connections in City is expected. VPN over Broad Band is available which can be exploited by IT enabled industries for higher B/W and their networking needs.

**Box 6.9 (iii): Status of Transmission Media for connectivity of Exchange / BTS,**

Media	Exch.	WLL BTS	GSM BTS
OFC	74	20	69
MW	11	7	26
SAT	5	0	4

**Box 6.9 (iv): Broad Band Multi-play Roll Out Plan in Meghalaya, 2007**

Name of Station	Capacity	
Shillong	1872	Port
Jowai	384	Port
Nongpoh	168	Port
Nongstoin	168	Port
Baghmara	60	Port
Tura	324	Port
Williamnagar	120	Port
Khlieriat	108	port
Byrnihat	60	port
Phulbari	60	port
<b>Total</b>	<b>3324</b>	<b>ports</b>

Source: BSNL, NE-I Telecom Circle

The National e-governance Programme which is under implementation in the state will have: State wide Area Network (SWAN); Common Service Centre (CSC); State Data Centre and Several Central and State Mission mode applications along with capacity building. The State e-Governance Mission Team (SeMT) has been formed to manage the entire programme at the State level in a coherent manner. The **State Wide Area Network (SWAN)** to provide network architecture, communication infrastructure and internet connectivity to connect the State capital with all Head Quarters up to Block level will have a total 55 PoPs across the State (1 SHQ + 7 DHQ + 8 SDHQ + 39 BHQ).

The **State Data Centre (SDC)** is expected to be housed in a floor space of 2100 sq feet.

**The Common Service Centres (CSC)** in Meghalaya will have 225 CSCs in all 7 districts which will be established in phases. The Existing CICs would be integrated to the CSCs. And it will be utilized as efficient distribution channels to offer Government services, information and schemes etc. to citizens in a cost effective, sustainable and efficient manner. The First CSC rolled out on 2nd October 2008 with VSAT Connectivity.

BSNL has identified the **following constraints in the development of Telecom and IT** facilities in the NE-I Telecom Circle comprising Meghalaya, Mizoram and Tripura.

- Law & Order problems: Restricted movements.
- Delay in project execution in the scenario of controlled environment of insecurity.
- Delayed OFC ring formations due to terrain and other logistic problems. In many cases, there is no alternate road for OFC ring formation. For example, Shillong-Silchar route.
- OFC faults due to landslides and asynchronous developmental works by NHAI, PWD, PHE & Municipal authorities.
- LOS problems for MW media and prolonged execution time of OFC schemes due to hilly terrain.
- Blockages in WLL/GSM coverage by hilly peaks.
- Difficulty in getting cable laying permissions from state government agencies. It is proposed that a cable duct provision should be made while making any new road project ,the cost of this duct may apportioned to BSNL It is also proposed that state can give laying permission in lieu of their B/W requirements.
- Unavailability of reliable power

**6.9.c. Postal Infrastructure:**

In northeast India, the position of Meghalaya in respect to availability of post office in villages has increased from 3 percent to 8 percent from 1971 to 2000. In comparison to other states in the region, the availability of this facility in Meghalaya is very poor (table 6.15). Tripura with 81 per cent of villages having post offices has an excellent facility. Even states like Manipur and Nagaland have much better postal facility.

Tables 6.13 reflect the growth in postal and telecommunication sector in Meghalaya.

**Table 6.13: Growth in postal & telecom sectors in Meghalaya**

Year	General post office	Head post office	Sub post office	Branch post office	Telephone exchange	Public call office	Telephone connections
1984-85	1	1	59	375	2	75	4707
1994-95	1	1	64	413	38	857	14558
1999-00	1	1	62	419	61	512	38146
2001-02	1	1	64	424	74	655	46283

Source: Directorate of Economics and Statistics, Govt. of Meghalaya

**Table 6.14: Postal infrastructure in northeast India**

State	Population under one post office			Area under one post office sq/km/post office		
	1981	1991	2000	1981	1991	2000
Arunachal Pradesh	3292	3378	2856	435.2	329.69	278.07
Assam	5972	5925	5696	31.97	20.84	20.04
Manipur	2924	3020	2648	46.0	36.9	32.27
Meghalaya	3196	3862	3613	53.8	49.16	45.99
Mizoram	1968	2030	1724	84.01	62.37	52.74
Nagaland	3638	4537	3788	77.59	61.86	51.24
Tripura	3416	4122	3847	17.43	15.74	14.6
All India	4906	5675	5462	23.62	22.1	21.26

Source: 10th Plan document, Planning Commission, GOI.

**Table 6.15: Percentage of inhabited villages having post and telegraph office in Northeast India**

State	Post offices			Post and telegraph offices	
	1971	1991	2000	1971	1991
Arunachal Pradesh	NA	NA	NA	NA	NA
Assam	7.38	12.33	14.69	0.82	0.82
Manipur	8.73	13.02	29.19	0.10	NA
Meghalaya	2.57	5.38	8.22	0.24	0.62
Mizoram	NA	NA	NA	NA	NA
Nagaland	6.87	12.83	26.44	0.21	0.16
Tripura	5.10	57.89	81.28	0.23	4.68
All India	14.36	22.48	23.36	0.92	2.38

Source: State of the Indian Farmers (2004).

In the districts of Meghalaya the percentage of villages having post and telegraph facility ranges from 17 per cent in East Khasi Hills to 3 per cent in South Garo hills in 1991. Between 1981 and 1991, there is only a marginal increase in the percentage inhabited villages having post and telegraph office in Meghalaya (table 6.16). The Census of India, 2001 shows decline in the percentage of villages having these facilities.

**Table 6.16: Post and telegraph infrastructure in districts of Meghalaya  
Percentage of inhabited villages having post and telegraph office in Meghalaya**

District	1981	1991	2001*
East Khasi hills	8.8	7.9	1.27
West Khasi hills	5.07	7.0	0.95
East Garo hills	4.12	3.6	0.44
West Garo hills	3.3	4.6	0.65
Ribhoi	6.3	3.4	0.76
South Garo hills	4.6	2.7	0.40
Jaintia hills	8.24	16.66	1.86
Meghalaya	5.4	6.0	0.85

Note: \* 2001 figures show the percentage of inhabited villages having post, telegraph and telephone facilities.

Source: District Census Handbook, 1981, 1991 and Census of India, 2001.

### 6.10 Irrigation

With more than two thirds of the population dependent on agriculture the provision of irrigation facility has always been a priority to the government for raising the productivity of agriculture. In Meghalaya from 1973-74 to 1998-99 the gross irrigated area has increased at an annual compound growth rate of 1.14, while the net irrigated area has risen by 0.68 per cent. During the same period the irrigation intensity improved from 102.6 to 115.9 (table 6.17). The growth of infrastructural facilities in Meghalaya in the last 25 years measured in terms of indicators such as gross and net irrigated area and the irrigation intensity are given in table 6.17.

**Table 6.17: Development of irrigation infrastructure in Meghalaya**

Year	Net irrigated area (in hectares)	Gross irrigated Area	Irrigation intensity	
			Meghalaya	India
1973-74	44735	45912	102.6	123.8
1977-78	45310	46660	103.0	126.1
1980-81	49398	50873	103.0	128.6
1984-85	49354	49836	101.0	129.4
1990-91	46236	46970	101.6	131.6
1995-96	46998	47321	100.7	133.6
1998-99	47626	55182	115.9	132.4
2000-01	53752	62382	116.1	-
Compound annual growth rate 1973-74 to 1998-99.				
		Net irrigation area	Gross irrigation area	
Meghalaya		0.68	1.14	

Source: Directorate of Economics and Statistics, Government of Meghalaya and State of the Indian Farmers (2004).

The percentage of gross irrigated area to gross sown area has improved for all the states in the region but there is considerably degree of variation. In Mizoram the percentage of gross irrigated to gross sown area is 8 percent, while for Manipur it is 39 per cent. In Meghalaya only 18 per cent of gross sown area has irrigation facility (Table 6.18). There is also vast potential in minor irrigation in both surface and ground water in the region. However, very small percentage of the potential has been utilized. The comparison of the irrigation facility in the districts of Meghalaya has not been undertaken due to lack of data.

**Table 6.18: Net and gross irrigated area and irrigated holdings**

State	Net irrigated are as percentage of net sown area 1994-97	Gross irrigated are as percentage of gross sown area 1994-97	Percentage of holdings receiving irrigation. 1991
Arunachal Pradesh	NA	14.8	NA
Assam	20.67	14.54	6.34
Manipur	46.43	39.28	45.77
Meghalaya	21.69	18.52	37.43
Mizoram	NA	8.3	NA
Nagaland	29.01	30.22	18.31
Tripura	12.64	13.44	11.32
All India	37.74	38.16	46.52

Source: State of the Indian Farmers (2004).

**6.11 . Bio resources related Infrastructure:** These needs to be strengthened. Government of India should facilitate the entry of established Lab/Commercial organisation for the inventory, conservation/management and resource based activities. This could further be leveraged due to the presence of ICAR, NEHU,BSI, NBPGR, BRDC etc. in Shillong, ICAR or NEHU may be assigned the task of focusing on Bio resources development and investments in high and Research oriented infrastructure, Bioregulations and inventorisation.

#### **6.12. BANKING<sup>4</sup>**

The existence of a well-developed banking infrastructure is essential for the growth of all sectors of the economy. Accessibility to finance is key to the growth of any economic activity, especially in the region where saving and thrift culture has not traditionally been strong. The Shillong Cooperative Town Bank Ltd. was established as the first credit cooperative society in the North Eastern Region on 03-09-1904. The banking industry started with the considerable presence of the State Bank of India and its branches, more for the State Government and its employees on behalf of the Reserve Bank of India, than for retail banking and the people in general. At present, Scheduled Commercial Banks (20 institutions), one Regional Rural Bank and one Cooperative Apex Bank besides 5 private banks provide formal credit in Meghalaya. The total number of branches or offices of scheduled commercial banks and of Regional Rural Bank has increased from 18 in 1974 to 189 in 2006. The Meghalaya State Co-operative Apex Bank Ltd. (MCAB) is the only State

<sup>4</sup>Dr. Shreeranjana 2006: Credit Related Issues in Meghalaya

Cooperative Bank of Meghalaya. The number of its branches has increased from 27 in 1991 to 40 as on 31-03-2005 (Shreerajan, 2006).

**Table 6.19: Growth of bank offices in Meghalaya, 1983 to 2006**

Years	State Bank of India	Nationalised Banks	Regional Rural Bank	Other scheduled commercial banks	Meghalaya State Co-operative Apex Bank	Total
1983	48	29	11	3	-	91
1991	77	36	50	3	27	193
2001	86	42	51	1	37	217
2005	86	43	51	2	40	222

Source: Credit Related Issues in Meghalaya, Shreerajan, 2006, p. 91.

The availability of banking facility in the northeast region shows that while there has been an increase in the number of bank branches in all the states, the average population served per bank branch has increased for some of the states. For Meghalaya the same has improved during the period 1981 to 2004 (Table 6.20). The average population per bank office in the state in 2006 was 10342.

**Table 6.20: Area wise distribution of scheduled commercial bank branches in Northeastern States**

State	Total branches		Average population (in 000) per bank office/branch		Credit-Deposit Ratio
	1981	2004	1981	2004	March 2004
Arunachal Pradesh	-	67	21	16	25.4
Assam	507	1221	29	22	32.5
Manipur	37	77	29	31	34.5
Meghalaya	59	180	17	13	30.6
Mizoram	12	78	12	11	39.3
Nagaland	40	69	13	28	17.9
Tripura	85	179	18	18	29.2

Source: Basic Statistics of NER (1982 & 2006), North Eastern Council, Shillong

Another indicator that is also linked to the development of banking infrastructure is the credit and deposit (C.D.) ratio. The northeastern region has the lowest credit deposit ratio in the country. For Meghalaya the C.D. ratio has decreased over the years. In 2002 the credit deposit ratio for the state was only 26 per cent, far below the national average of 58 per cent. The aggregate C.D. ratio of Meghalaya has improved to 30.6 percent as on 31-03-2004.

Meghalaya has 0.27 percent of the total scheduled commercial banks in the country, which is indicative of the poor status of banking facilities. The Regional Rural Bank has its presence in three of the seven districts. On the other hand, the state Cooperative Bank has its presence in all the seven districts. During the decade 1994-2004, the number of branches of scheduled commercial banks increased by only 2.25 percent, which is too marginal to make any effective dent in rural

access to formal credit. However, during the same period, MCAB showed an increase of 21 percent in the number of its branches. Experience has shown that easy accessibility of banks to people can not only inculcate and improve banking habits but also substantially increase credit business. In Meghalaya, around the late 1970s, about 36 percent of the bank branches were located in the city of Shillong. However, by the end of March 2005, out of the total number of 222 branches of various banking institutions, 54 branches were serving the city of Shillong and the surrounding areas. This means that 25 percent of the bank branches in Meghalaya serve just one city. Moreover, East Khasi Hills is the well-banked district with 90 branches out of 223 in 2006. The regional spread of bank branches also appears to be skewed and lopsided. The Garo Hills region of the state having 37 percent of the population and 50 percent of the net sown area, has only 28 percent of the bank branches.

From the above analysis, it is clear that banks have functional and locational urban bias. Except for SBI, MCAB and to some extent RRB branches, all other banks have their presence only in East Khasi Hills, and that too, in Shillong Town (Shreeranjana, 2006, pp. 92-93).

**Table 6.21: Banking infrastructure in the districts of Meghalaya, 2006**

District	Percentage of Population	Number of branches	Percentage of branches	Population coverage per branch
East Khasi Hills	29	90	40	7344
West Khasi Hills	13	23	10	12788
Jaintia Hills	13	29	13	10200
Ri Bhoi	8	18	8	10711
East Garo Hills	11	18	8	13753
West Garo Hills	22	38	17	13574
South Garo Hills	4	7	3	14158
Meghalaya	100	223	100	10342

Source: Credit Related Issues in Meghalaya, Shreeranjana, 2006, p. 93.

### 6.13. Status of rural infrastructure in Meghalaya - A field survey <sup>5</sup>

In 2001 a study funded by NCAER was undertaken to find out the condition of infrastructural facilities in rural area of Meghalaya. For this purpose 81 villages were selected for the field study from East Khasi Hills and Jaintia Hills. The study used PRA methods to get the people's participation in rating the conditions of the roads, telephone, electricity, and water and sanitation facilities and in suggesting measures for improvement. Summary of the results of the field study are given below.

<sup>5</sup> MHDR(2008): Govt of Meghalaya, Shreeranjana ed



**Table 6.22: Rural infrastructure in Meghalaya – Results from field survey**

Infrastructure	Percentage
Villages with tarred internal roads	11 %
Villages with tarred external roads	51 %
Villages with telephone connection	20 %
Villages with electricity connection	74 %
Villages with piped water supply	35 %
Villages with drainage systems	38 %
Villages with latrines	59 %

Source: MHDR 2008, NCAER Survey

The high percentage of villages having tarred external roads is because 16 of the 81 surveyed villages are from Myllem block<sup>6</sup>, which because of its proximity with the state Shillong have excellent roads. If we exclude this block, then the percentage of village having tarred external roads comes down to 17 per cent only. In many of the villages with tarred external roads, the conditions of these roads are found to be very bad. While the percentage of villages with telephone is only 20 per cent, in most cases the telephones at the villages are generally out of order for long periods of time.

Public telephone office or PCO that is a common sight in most part of the country can hardly be seen in the rural areas of Meghalaya. Just 4 out of the 81 villages had public telephone facility. Most of the villages did have telephone towers installed by the government for providing telephone connection. However, this project has been abandoned halfway in many of the surveyed villages. While the percentage of villages electrified is 74 per cent, which is above the state average of 48 per cent, in most cases the villagers have reported not getting quality and regular power supply, especially during the monsoon. The provision of safe drinking water facility and sanitation are also grossly inadequate in the villages in the state (table 6.22).

#### 6.14. Infrastructure Index<sup>7</sup>:

The MHDR 2008 had made assessment of Infrastructure Index as indicated below.

**Table 6.23: Infrastructure index and States Ranking**

States	Index Value	Rank
Nagaland	0.39	1
Tripura	0.37	2
Manipur	0.35	3
Mizoram	0.33	4
Assam	0.30	5
Meghalaya	0.23	6
Arunachal Pradesh	0.22	7

Source: MHDR 2008

It is clear from this index that Meghalaya is lagging behind most of the other northeastern states on the indicators of infrastructural facilities used above. The above four infrastructure variables used in preparing the index represent four of the core economic infrastructures. However,

<sup>6</sup> Myllem block also includes large part of Shillong city itself.

<sup>7</sup> MHDR (2008): Govt of Meghalaya, Shreeranjana ed.

this index has been prepared without taking in to consideration Railway infrastructure, Water transport, posts and telegraphs facilities and telecommunication infrastructure. The ranking may change, if these infrastructural facilities are included in the construction of this index. The position of Assam will definitely improve if railway infrastructure is included.

**Table 6.24: Changes in availability of selected infrastructure in Meghalaya vis-a-vis India**

Infrastructural indicators	Indicator value			Indicator value		
	Year	Meghalaya	India	Year	Meghalaya	India
Surfaced road per square km.	1982	12	22	1997	17	42
Villages electrified (%)	1980	14	45	2001	46	73
Area under one post office (sq Km)	1980	54	24	2000	46	21
Net irrigated are to net cultivated area (%)	1981	26	28	1994-97	22	38
Credit deposit ratio (%)	1981	20	68	1997	14	57

Source: MHDR 2008

The above analysis shows that in respect of road, postal, irrigation and banking infrastructures, the position of Meghalaya with respect to the Indian average has deteriorated in the last twenty years; which is a matter of concern. The deterioration is very sharp in irrigation sector. It is only in respect of the village electrification that the relative position has improved, although it is still below the Indian average.

The study of the state of infrastructure in Meghalaya clearly reflects the poor status of the economic infrastructure. While the infrastructure of the states in the northeast is generally poor compared to the rest of the country, that of Meghalaya is much worse compared to some of its neighboring states. According to the composite infrastructure index devised by the Eleventh Finance Commission for 1999, Meghalaya has been ranked fifth from the bottom in terms of the availability of physical, social and institutional infrastructure; with states like Manipur, Tripura, Jammu & Kashmir and Arunachal Pradesh ranked lower than Meghalaya. The Twelfth finance commission prepared an index of infrastructure for the purpose of allocation of resources among states. In their exercise they focus on concerns relating to the effect of infrastructure on the cost and quality of governance and more specifically the provision of public services. It prepared this index taking in to consideration three important dimensions: power, communications and transportation. On the basis of this index, the seven north eastern states are in descending order ranked as given in Table 6.25.

**Table 6.25: Twelfth Finance Commission Ranking of the North Eastern States by Infrastructure Index**

States	Rank
Tripura	1
Assam	2
Nagaland	3
<b>Meghalaya</b>	<b>4</b>
Mizoram	5
Manipur	6
Arunachal Pradesh	7

Source: MHDR 2008

Our analysis in MHDR 2008 placed Meghalaya at the 6th position in the ranking of 7 North Eastern states. Further, in the last twenty years the gap in the relative availability of some of key infrastructural facilities like road, postal, irrigation and banking in Meghalaya compared to rest of the country has widened.

At the district level, the availability of infrastructure is skewed. East Khasi Hills and Jaintia Hills districts are comparatively well off in terms of availability of both economic and social infrastructure. In case of the rural areas the field study conducted in 2001 shows the poor state of rural infrastructure in Meghalaya. Key infrastructural facilities are not available in a large number of villages. Also, wherever these infrastructural facilities are available, their quality is poor. In Meghalaya, the private sector has played a pivotal role in the field of health and education. Now, with the entry of private sector in the infrastructure sector being encouraged, the role played by the private sector in providing social infrastructural facilities in the state of Meghalaya needs to be analysed.

**6.15 Conclusion & Recommendation:** The task of bridging the socio economic infrastructure gap in the North East in general and specific to Meghalaya, is a challenge. The suggestions have been incorporated while dealing issues relating to various infrastructures. In addition, it is imperative that the following steps be taken into account to achieve this task:-

- (i) Promotional policies in various sectors to create enabling environment for investment.**
- (ii) Project and location specific Action Plan both by Central Ministries and State Government with defined commitments and time frame.**
- (iii) A road map and action plan frame work for PPP in select sectors such as Power, Health, Education, Tourism, IT, etc. is required.**
- (iv) Proactive delivery set up and building capacities across sectors in government institutions.**
- (v) A large investment by central government with mission and task force/ dedicated agencies based action and implementation frame work.**
- (vi) To facilitate faster infrastructure development** – one common legislation to facilitate infrastructure creation of Public and National importance in NER–acquisition of land / clearances from a single window/incentive based contract and project completion with PPP models and other modalities may be worked out.



**MAIN DAM**

## **GREATER SHILLONG WATER SUPPLY SCHEME**



**INTAKE POINT**



**STATE PWD ROAD**



**Steel works in Super-Structure**

**R.C.C Br. No. 3/5 ON N.E.C. BYE PASS ROAD**



**MYNTDU LESHKA  
HYDRO ELECTRIC  
PROJECT  
(2 X 42 MW)**





**TUNNEL WORK UNDER CONSTRUCTION**



**PENSTOCK**



**POWER HOUSE**

**CHAPTER - VII**

**RURAL  
DEVELOPMENT**



## CHAPTER –VII

### RURAL DEVELOPMENT IN MEGHALAYA

#### 7.0. Development in the Rural Sector:

Meghalaya is predominantly a rural State. The rural population in Meghalaya is 1,864,711, thereby constituting about 80.4 percent of the total population of Meghalaya i.e. 2,318,822. This is higher than the all India figures of 72.2 percent. Rural development is probably the biggest challenge before planning and policy makers in India today. Rural Meghalaya is marked by high incidence of poverty, illiteracy, unemployment poor infrastructure and absence of basic facilities. Despite the efforts made in the past few decades, rural poverty in Meghalaya continues to be an issue of great concern. The failure in improving the rural scenario is perhaps attributable less to formulation of appropriate policies and more to their implementation. The present approach in rural development intervention involves initiatives towards improving the lot of people through direct self-employment programmes on one hand and indirect wage employment and infrastructure development programme on the other. In addition there are programmes for shelter, old age, destitutes, watershed and wasteland development programme. The extent to which these programmes have contributed to poverty reduction needs to be examined on the basis of analysis of actual implementation of the programme and their impact in the specific locales.

Rural areas in Meghalaya are characterized by limited opportunities, low level of skill development, poor infrastructure base and ineffective decentralized decision-making capability, which in turn affects the quality of Governance. Moreover, the rugged terrain of the state, a low percentage of cultivable land, scattered nature of the settlements have presented serious problems for necessary interventions in terms of infrastructure development. A reflection of these can be seen in the incidence of poverty of the state estimated by various agencies from time to time. As per the estimate of Planning Commission, 33.9 percent of the total population of the state was below the poverty line in the year of 1999-2000, as against the national figure of 26.1 percent. The department of Community and Rural Development (C&RD) on the instruction of the Government of India (GOI) conducted the Below Poverty Line (BPL) survey in the state in 2002 and finalized it in 2008. The percentage of the rural BPL families of the state was 54 percent during the 9th Plan. During the 10th Plan (2002 survey finalized in 2008) the percentage of rural BPL families is 48.90 percent in the state.

#### 7.1. Current level of development – some key indicators

The current level of development in the rural areas of the state can be viewed from a variety of indicators. The present section considers some of them such as food grain production, value of agricultural product per agricultural worker, rural road connectivity, rural employment and amenities e.g. types of housing, electricity connection, availability of latrines, sources and location of drinking water etc.

### 7.1.1 Agriculture:

The Meghalaya economy is basically agrarian whereby 70 percent of the population's livelihood is dependent on agriculture. However, the contribution of this sector to the economy of the state is around 22 percent of the NSDP. This reflects that the majority of the people dependent on agriculture are living close to subsistence level and a large percentage of them are below the poverty line. As such, proper management for development of the crop husbandry / horticulture and allied sector is vital for the healthy growth of this primary sector. Enhancement of food grain production in the hill state of Meghalaya is constrained by its topography making only about 12 percent of its geographical area suitable for cultivation of crops for food grain production. However, improvement of production to the extent possible by way of more coverage and improvement of irrigation methods, use of HYV seeds, crop rotation, judicious application of fertilizers and pest control taken up needs to be sustained in light of the fact that much of the paddy land is being degraded due to indiscriminate and unscientific mining. The production of food grains during 2006-07 was 269.93 thousand tonnes and the anticipated achievement for 2007-08 is 291.00 thousand tonnes. By the end of the 11th Plan, the food grain production is expected to touch 379.00 thousand tonnes. The target during 2008-09 is to produce 291.00- thousand tonnes of food grains.

The goal for the 11th Plan was laid out to usher in a paradigm shift from the implementation of omnibus schemes widely dispersed all over the seven districts with dissipating effect on scare resources, to a more focused approach based on cluster and backed by an integrated package of practices. The strategy would be to consolidate traditional strengths and past gains and at the same time capitalize on emerging opportunities.

#### **Value of agricultural product per agricultural worker**

The agricultural output in value terms per agricultural worker has been estimated at Rs. 15752 for the state as a whole during 2005-06. However, there exists a wide inter-district variation in the value of agricultural output. It is the highest in East Khasi Hills with Rs. 37,095 followed by South Garo Hills with Rs. 19,916 and West Garo Hills with Rs. 18,403. All the other districts are lying below the State's average figure. It is found that the districts with a high proportion of agricultural labourers to total workers have a lower value of agricultural product in per agricultural worker. This situation clearly indicates the prevalence of pre-capitalist mode of production where agricultural labourers are less prominent in the contribution to production.

Table 7.1. Value of Agricultural product per Agricultural Worker

District	Value of agricultural output (Rs. In lakh)**	Agricultural worker*	Value of output per agricultural worker (Rs.)	Proportion of agricultural labourer to total worker
East Garo hills	9718	89519	10855	12.1
East Khasi hills	28470	76748	37095	13.3
Jaintia hills	9059	96402	9397	28.6
Ri Bhoi	8040	68217	11785	18.4
South Garo hills	6978	35037	19916	12.6
West Garo hills	28067	152508	18403	16.4
West Khasi hills	8935	111739	7996	23.3
Meghalaya			15752	12.54

Source: Directorate of Economic and Statistics, Meghalaya

\*Sum total of cultivator and agricultural workers (2001 census). \*\*At constant (1999-2000) prices

### 7.1.2. Road Connectivity:

Good road connectivity for habitations, particularly in rural areas with sub divisional towns and district headquarters, is often the primary means of enhancing the effectiveness of public effort directed at providing basic health and educational services as well as infrastructure support for production, trade and commerce at the village level. In many cases, particularly in sparsely populated areas and towns with large hinterland, good road connectivity may help make these areas self sufficient and altogether obviate the need for public provisioning of some of these services in each and every village. At the same time it will help forge durable economic linkage of such habitations with the rest of the economy. Road connectivity is therefore **a useful indicator of “inclusionary”** aspect of development process and, accessibility, perhaps reach of the market as well. It is particularly relevant in the context of Meghalaya where over 80 percent of population continue to live in rural areas and in which over 55 percent of villages with population of less than 1000 are yet to be connected. This has a significant bearing upon the state of rural development in Meghalaya, as the majority of villages have a population of less than 1000. The following table shows the position of the state in terms of road connectivity.

Road coverage in the table refers to all categories of roads (both surfaced and un-surfaced) including NH, SH, Major district roads, other district roads and rural roads.

**Table 7.2 Percentage of villages connected by road**

State	Population less than 1000			Population between 1000 and 1500			Population above 1500		
	1991-92	1994-95	1996-97	1991-92	1994-95	1996-97	1991-92	1994-95	1996-97
Meghalaya	46.76	49.49	44.51	100	100	86.49	100	100	64.29
All India	36.52	37.45	49.18	72.32	76.54	74.58	89.82	91.72	78.04

Source: Meghalaya Human Development Report (2008)

Inheriting a road length of 2786.68 kms with a road density of 12.42 km/100 sq. km from Assam in 1970, at the end of the 10th Plan period the state had achieved a total road length of 8221.68 kms with a road density of 36.66 km/100 sq. km. The road density is anticipated to further improve to 36.93 km/100 sq. km with a total road length of 8919.68 kms by the end of 31st March 2008. The table below indicates the progress of achievement from the 8th plan period to the end of the 10th plan period with an anticipated achievement by 31st March, 2008:

**Table 7.3. Progress of Achievement under Road Sector up to 2007-08**

Sl. No.	Plan Period ending	Total road Length Achieved (cum.)	Of which		Road Density (Km/100 Sq. Km.)
			Blacktopped Road	Gravelled Road	
1.	Eight Plan (1192-1997)	6707	3004	3703	29.90
2.	Ninth Plan (1997-2002)	7553	3571	3982	33.67
3.	Tenth Plan (2002-07)	8221.68	5159	3062.03	36.66
4.	Eleven Plan (2007-2011) Anticipated for 2007-08	8919.68	NA	NA	36.93

Source: Meghalaya Plan Supplement, 2008-09

### **RURAL ROADS (PMGSY) UNDER BHARAT NIRMAN**

The PMGSY was launched on 25th December 2000 as a fully funded Centrally Sponsored Scheme (CSS) of the Ministry of Rural Development which aimed to provide road connectivity in rural areas of the country. The Programme envisages connecting all habitations with a population of 500 persons and above (250 persons and above in respect of Hill States, Tribal and Desert areas).

### **Physical and financial progress under PMGSY**

The total fund released by the Ministry of Rural Development up to 31st March 2008 was Rs. 123.17 crore against which, the expenditure was Rs. 125.74 crore. The expenditure includes Rs.6.26 crore against the sanctioned amount of Rs. 39.62 crore for Phase IV, which is yet to be released. The state PWD being the nodal department for PMGSY is still working out 2004-05/-06 schemes. The State PWD needs to put itself in full gear to bridge its lags of 3-4 years. This would

call for multi agencies approach, sectoral strengthening, capacity building, etc.

**Projects sanctioned and road length completed as on 31st March, 2008:**

Against a total of 85 nos. Road works with a total length of 230.50 kms cleared by MORD, 53 Nos. Road works covering a total length of 148.91 kms. was completed. The percentage Physical Achievement against the projects sanctioned was 62.35 % for Road works and 64.60 % for Road Length respectively.

**Habitations connected up to 31st March, 2008:**

A total of 178 Habitations were connected up to 31st March 2008:

- 1000 + = 6 nos.
- 500 - 999 = 86 nos.
- 250 - 499 = 58 nos.
- < 250 = 28 nos.

A look at the Table below would reveal that the PWD (Roads) Deptt. (the SRRDA) needs to go a long way before it covers all the villages. It is pertinent that for Hill Areas, villages up to 250 need to be connected. **Thus more than 1/3 of the numbers of villages in the State is yet to be connected.**

Total No. of Habitations					Unconnected As on : 31-03-2008					Connected as on 31.3.2008								Balance						
										1000+		500-999		250-499		>250							Total	
1000+	500-999	250-499	>250	Total	1000+	500-999	250-499	>250	Total	N*	U*	N*	U*	N*	U*	N*	U*	N*	U*	1000+	500-999	250-499	>250	Total
212	713	1450	2987	5362	9	150	597	1996	2752	6	-	86	-	58	-	28	-	178	-	3	64	539	1968	2574

**Table 7.4 Habitations coverage as on: 31st March, 2008**

Source: Ministry of Rural Development Website(2008)

**Issues:**

• **Strengthening of Institutional Capacity**

There are Programme Implementation Unit (PIU) in each of the 7(seven) districts of the state. The PIUs are being looked after by existing Executive Engineers in-charge of PWD (Roads) Divisions. Decision is yet to be taken to engage other Agencies i.e. Meghalaya Government Construction Corporation, Meghalaya State Electricity Board and other national agencies to augment institutional capacity to expedite progress of PMGSY. Augmentation of contracting capacity and reinforcing and organizing the construction sector in a well planned manner is the need of the hour given the growing economy and requirements of the State.

The amendments made in the Standard Bidding Document (SBD) should be implemented while inviting tenders for Phase V works



**Table 7.5(a) Distribution of Rural Households by number of Dwelling Rooms (%) 2001**

State/ District	No exclusive room %	One room %	Two rooms %	Three rooms %	Four rooms %	Five rooms %	Six rooms and above
West Garo Hills	7	35	36	17	3	1	1
East Garo Hills	3	31	43	17	4	1	1
South Garo Hills	3	21	43	26	5	1	1
West Khasi Hills	4	22	33	21	10	5	5
Ri-Bhoi	4	17	32	26	11	5	5
East Khasi Hills	7	23	30	20	11	5	4
Jaintia Hills	3	15	24	19	16	11	13
<b>Meghalaya</b>	<b>5</b>	<b>25</b>	<b>33</b>	<b>20</b>	<b>9</b>	<b>4</b>	<b>4</b>

Source: Table on Amenities; Census of India 2001

It may be mentioned that every year about Rs 6-7 crore worth of CGI sheets (3 bundle each) is given under the Rural Housing scheme of Housing department supplemented also by SRWP (by some of the MLAs).

#### **Rural Housing Indira Awas Yojna (IAY)**

The main aim of this scheme is to provide shelter to SC/ST and freed bonded labourers living below the poverty line free of cost. The assistance provides Rs. 27,500/- (now revised to Rs 38500) for construction of new houses and Rs.12,500/- (now revised to Rs 15000/-) for Upgradation or conversion of unserviceable kutcha houses to pucca /semi pucca houses. Fund for the programme is shared by Central and State government in the ratio of 75:25. (now 90:10).

#### **Cumulative financial and physical achievement during the last 5 Years from 2003-04 to**

##### **2007-2008:**

##### **A. New construction:**

- The cumulative availability of fund during this period was Rs. 5604.13 lakhs, against which the expenditure incurred was Rs. 4852.53 lakhs.
- Percentage of achievement was 86.59 %.
- The physical achievement during the period was a total of 21733 houses completed against the target of 31086 numbers of houses.
- Percentage of achievement was 69.91 %.

##### **B. Upgradation:**

- Total availability of Fund was Rs.1154.50 lakhs out of which Rs. 1026.00 was spent during the period.
- The percentage of physical achievement was 88.91%.
- Physical achievement during the period was 10165 houses upgraded against the target of 8126 Nos. of houses.
- The percentage of achievement was 125 %.

## MEGHALAYA STATE DEVELOPMENT REPORT

On the face of it, the progress appears satisfactory. However, this hides the fact that many a times most of the DRDAs have not been able to fully utilise the allocated fund from the Govt. of India due to delay in submission of UCs. Many DRDAs have not claimed/ taken 2nd installments under the programme. There is also delay in selection of beneficiaries and approvals or changes. The scheme also suffers from its acceptance in the shape of cost norm, socio-customary requirements and local impediments.

The detailed year-wise progress of achievement of both schemes from 2003-04 to 2007-08 is indicated in the tables below:-

**Table 7.6 ACHIEVEMENT UNDER IAY FROM 2003-04 TO 2007-08**  
**NEW CONSTRUCTION**

Sl. No.	Year	Financial achievement (Rs. In lakhs )		Target (No. of houses)	Physical performance (No of houses constructed)
		Total fund available	Fund utilised		
1	2003-04	1086.69	916.30	4821	4331
2	2004-05	1050.21	912.95	5076	4394
3	2005-06	1437.98	1265.55	3494	5775
4	2006-07	1153..22	1040.30	7467	4012
5	2007-08	876.03	717.43	10228	3221
<b>TOTAL</b>		<b>5604.13</b>	<b>4852.53</b>	<b>31086</b>	<b>21733</b>

Source: Department of C. & R.D., Meghalaya.

**Table 7.7 ACHIEVEMENT UNDER IAY FROM 2003-04 TO 2007-08**  
**UPGRADATION**

Sl. No.	Year	Financial achievement (Rs. In lakhs )		Target (No. of houses)	Physical performance (No of houses constructed)
		Total fund available	Fund utilised		
1	2003-04	249.81	231.20	2651	2416
2	2004-05	195.82	168.02	2791	1902
3	2005-06	317.90	295.92	2684	2647
4	2006-07	246.62	211.05	-	2086
5	2007-08	144.35	119.81	-	1114
<b>TOTAL</b>		<b>1154.50</b>	<b>1026.00</b>	<b>8126</b>	<b>10165</b>

Source: Department of C. & R.D., Meghalaya.



**Progress of implementation:**

**1) Physical achievement:**

Hilly tracts of land, high rainfall and limited working season combined with late receipt of funds under IAY hinder the achievement of the targets set by the government under the scheme. The delay in submission of UCs and Audit Report by DRDAs made the Govt. of India to hold up sanction for the Second Installment of the scheme to many DRDAs. Hence targets could not be achieved. DRDAs are instructed from time to time to improve performance under IAY so that the set targets could be achieved in full. It may be suggested here that funds under the scheme should be released in one installment only at the beginning of the financial year instead of fragmented installments at the fag end of the year. This perhaps will facilitate speedy implementation of the scheme and achievement of the target in full. This scheme also requires rigorous monitoring, social audit and effective vigilance.

**2) Status of Permanent IAY Wait Lists:**

In Meghalaya 5 districts namely, Jaintia Hills, East Khasi Hills, West Garo Hills, West Khasi Hills and South Garo Hills have completed preparation of Permanent IAY Wait List based on the draft BPL List 2002. The other two districts i.e. East Garo Hills and Ri-Bhoi are yet to complete the same. It is expected to complete preparation of the Waiting Lists shortly.

**3). Construction of Sanitary latrines:**

It has been the tradition and habit of the people in Meghalaya to construct toilets at some distance from the dwelling unit. As a result construction of sanitary latrines along with the IAY house is not so popular in the State. **Total Sanitation Campaign (TSC) as a separate scheme** (*implemented by the PHE department*) which is not included in the IAY scheme. Therefore, no financial assistance from Total Sanitation Campaign is allotted to the IAY beneficiaries for constructing latrine along with IAY house. Efforts are being made to co-ordinate it in Urban / Rural Areas of the state.

**4). Homestead plots:**

In Meghalaya, land does not belong to the government and is privately owned. Site for constructing a house construction is provided free of cost to the people by the village authority. The site is selected by the people along with the Headman of the village anywhere according to their will. Hence, it may be said that the house site is not a problem. However, cluster formation and other innovative models could only happen if done with greater involvement and consultation with the community, hitherto missing in rural development efforts.

**5). National rural housing and habitat policy:**

The policy is under the consideration of the government. However, a wider consultation and consultancy would be required in the matter.

**7.1.4.A. Supply of drinking water by source and location:**

About 62% of the rural households in Meghalaya have access to safe drinking water. However,

there exist large inter-district variations. Only 12% of the total rural households have the source located within the premises, and another 56% have the source near the premises. The following Tables show the inter-district variations.

**Table 7.8 Distribution of rural households by source of drinking Water (%) 2001**

State/ District	Tap	Hand Pump	Tube Well	Well	Tank, Pond, Lake	River, Canal	Spring	Any other
West Garo Hills %	10	5	7	40	10	5	20	3
East Garo Hills %	19	0	0	36	1	3	40	1
South Garo Hills %	27	0	0	9	2	13	47	2
West Khasi Hills%	24	1	3	32	8	5	26	1
Ri-Bhoi %	36	1	2	18	6	7	28	2
East Khasi Hills%	46	2	2	22	7	5	15	1
Jaintia Hills%	13	1	2	46	4	4	27	3
<b>Meghalaya</b>	<b>24</b>	<b>2</b>	<b>3</b>	<b>33</b>	<b>6</b>	<b>5</b>	<b>25</b>	<b>2</b>

Source: Table on Amenities; Census of India 2001.

**Table 7.9 Distribution of Rural Households by Location of Drinking Water (%) 2001**

District	Within Premises (%)	Near Premises (%)	Away(%)
West Garo Hills %	19	54	27
East Garo Hills %	19	57	24
South Garo Hills%	8	59	33
West Khasi Hills %	4	52	44
Ri-Bhoi %	12	51	37
East Khasi Hills %	10	62	28
Jaintia Hills %	6	53	41
<b>Meghalaya</b>	<b>12</b>	<b>56</b>	<b>32</b>

Source: Table on Amenities; Census of India 2001

#### **7.1.4.B. Sustainability of drinking water supply sources and systems**

Provision of drinking water supply to all the rural habitations has been included as one of the components under Bharat Nirman Programme launched by Govt. of India. All the Not Covered (NC), Partially Covered (PC) Habitations and Quality Affected Habitations (Iron in Meghalaya) are to be provided with adequate safe water supply by 2008-09.

As per the survey conducted during 2003-04 (based on 2001 census) at the behest of Govt. of India and subsequently validated by IIPA, New Delhi, the state has 9326 Nos. of habitations, of which 2285 habitations (25%) are Not Covered (NC), 2849 habitations (31%) are Partially Covered (PC) and the balance 4192 habitations (44%) are Fully Covered (FC) habitations.

Consequent to coverage since validation, the status of NC, PC habitations in the state as on 1.4.07 was as below:-

**Table 7.10 NC/PC/FC Habitations**

Sl No.	Type	Number of habitations
1	Not Covered(NC)	1325
2	Partially Covered(PC)	1884
3	Fully Covered(FC)	6117
<b>TOTAL HABITATIONS</b>	<b>NC/PC/FC</b>	<b>9326</b>

Source: Department of PHED, Meghalaya

Thus, 3209 (1325+1884) nos. of habitations were yet to be provided with water supply as on 1.04.07. Out of these 3209 nos. of habitations, 45 nos. were CAP 99 category (i.e. habitations identified during 1991-94 Survey & remained uncovered/partially covered). Govt. of India desired that these left out CAP 99 Habitations were covered on a priority basis.

Number of quality (Iron) affected habitations in Meghalaya as per survey was 160 numbers. Consequently upon subsequent coverage, left out Iron affected habitations in Meghalaya as on 1.04.07 was 45 nos.

Progress of Accelerated Rural Water Supply Programme (RGARWSP)

- Under State Sector there was an achievement of 894 nos. of villages against the target of 776. Hence the percentage of achievement is 115.20 %.
- Under the Central Sector there was an achievement of 1887 no of villages against the target of 1540. The percentage of achievement is 122.53 %

**Table 7.11**

**Physical Target Vs Achievement during Tenth Plan on Coverage of habitations under RWSP**

Year	State Sector		(% age ) Achievement	Central Sector		(% age ) Achievement	Total		(% age ) Achievement
	Target	Achievement (No. of villages)		Target	Achievement (No. of villages)		Target	Achievement (No. of villages)	
2002-03	152	131	86.18 %	258	244	94.57 %	410	375	91.46 %
2003-04	150	151	99.33 %	260	246	94.61%	410	397	96.82 %
2004-05	154	197	127.92 %	263	222	84.41 %	417	419	99.52 %
2005-06	150	192	128 %	229	280	122.27 %	379	472	124.53 %
2006-07	170	223	131.17%	530	895	168.86 %	700	1118	159.71 %
<b>TOTAL</b>	<b>776</b>	<b>894</b>	<b>115.20 %</b>	<b>1540</b>	<b>1887</b>	<b>122.53 %</b>	<b>2316</b>	<b>2781</b>	<b>120 %</b>

Source: Department of PHED, Meghalaya

**Expenditure under ARWSP during the 10th Plan (2002-03 to 2006-07)**

- Out of a total available fund of Rs 19682.45 crores, the expenditure is Rs. 14388.27 crores which is 73.10 %

**Table 7.12 Year-wise Expenditure under ARWSP during Tenth Plan (Rs in crore)**

Year	Total available fund	Expenditure	% Achievement
2002-03	3089.12	1663.69	53.84 %
2003-04	3237.21	2138.55	66.06%
2004-05	3520.66	2739.83	77.82 %
2005-06	4003.78	3276.69	81.83 %
2006-07	5831.68	4569.51	78.35 %
<b>Total</b>	<b>19682.45</b>	<b>14388.27</b>	<b>73.10%</b>

Source: Department of PHED, Meghalaya

**Sanction and completion of schemes under ARWSP (2002-03 to 2006-07)**

- Out of a total 1201 nos. of schemes sanctioned, 672 schemes have been completed which is 55.95% and out of the total amount sanctioned which is Rs. 21703.6 lakhs, Rs.5817.35 which is 26.80%

**Table 7.13 Year-wise sanction and completion of schemes under ARWSP**

Year	Sanctioned		Completed		Achievement
	No. of schemes	Amount (Rs. in lakhs)	No. of Schemes	Amount (Rs. in lakhs)	% of schemes completed
2002-03	97	1058.20	123	694.25	126.80 %
2003-04	93	1973.30	102	1196.60	109.67 %
2004-05	63	2949.50	112	1038.60	177.77 %
2005-06	325	6798.20	176	1583.90	54.15 %
2006-07	623	8924.40	159	1304.00	25.52 %
<b>Total</b>	<b>1201</b>	<b>21703.60</b>	<b>672</b>	<b>5817.35</b>	<b>55.95 %</b>

Source: Department of PHED, Meghalaya

**Achievement during Annual Plan 2007-08 under PHED**

**Financial:**

- Original Approved outlay during 2007-08 for the sector was Rs.4700.00 lakhs, which was subsequently revised to Rs.5334.00 lakhs. As against this, the expenditure was Rs.5124.00 lakhs (96.06% of the approved outlay).
- The expenditure under State Sector Rural Water Supply Programme was Rs. 3984.00 lakhs and another Rs. 290.00 lakhs made available as loan from RIDF, totaling to Rs.4274.00 lakhs.
- Under Central Sector, the total available fund under ARWSP was Rs.6791.17 lakhs for 2007-08. As against this, the expenditure was Rs. 5661.16 lakhs.

### Physical:

- 1205 nos. of NC/PC/Quality affected habitations were provided with adequate safe water supply against a target of 1500 nos. of habitations (196 nos. under MNP, 998 nos. under ARWSP, 8 nos. under NLCPR and 3 nos. under Swajaldhara).
- Against the total of 1950 nos. schools without water supply as on 1.04.06, 726 & 149 nos. were provided with water supply under ARWSP with 50:50 funding by Central 7 State Govt. during 2006-07 & 2007-08 respectively.
- Thus a total nos. of 1075 schools are without drinking water supply facilities as on 31.03.08. This however does not take into consideration new schools that have come up newly under Sarva Siksha Abhiyan (SSA) or other programmes.
- As on 31<sup>st</sup> March 2008 a total of 1075 schools are without drinking water supply facilities. This does not include new schools that have come up under the Sarva Siksha Abhiyan (SSA) or other programmes.
- Remaining schools would be provided with water supply in the next two years with funds under ARWSP & SSA.

With the passage of time, the yield of existing sources reduces or the sources dry up completely, population increase, existing schemes becomes non functional on attainment of the design, new habitations grow up, life style improves with more demand for water. This gives rise to slippage of habitations and in Meghalaya also, the slippage of habitations has taken place. The figures of left out habitations as indicated above do not include habitations slipped back between 2005-06 to 2007-08.

**Sustainability of sources/schemes is a major challenge** in order to reduce the occurrence of slippage and is given highest priority by the Department. For ensuring sustainability of surface sources, the Department is also taking up schemes like check dams, rain water harvesting etc. As regards ground water, the depletion position is not alarming in the State, since the ground water has been explored in a limited way in selected areas only in the State. It has come to light that people's sense of ownership of water supply scheme is lukewarm. Very often the community demand water supply as a matter of right, but hardly involves themselves in facilitating, monitoring the progress of the scheme or take upon themselves the duty of maintenance. Besides, the community has a role in protecting the catchments and the source from pollution and unsustainably. Moreover, impediments are created during the implementation. This calls for a policy shift of principle of polluters to pay, social agreement concept, as well accepted in NERCORMP livelihoods project to be enforced. Besides, this vital natural resource has to be managed well and sustained with the involvement and ownership of the community.

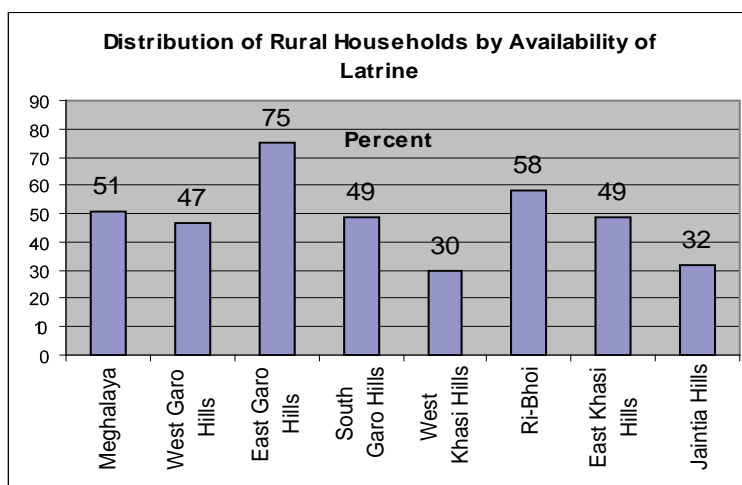
### Drinking water in all rural schools:

The number of schools without drinking water supply facilities as per the record available with PHED as on 1.4.06 is 1950 nos. During 2006-07 and 2007, 726 & 149 nos. of Schools were respectively provided with water supply facilities as on 1.4.08 = 1950-726-149 = 1075 nos. this however does not take into consideration new schools that have come up new under Sarva Siksha Abhiyan (SSA) or other programs.

The figures of schools without drinking water supply needs to be reconciled with the information available with Elementary and Mass Education Department for which necessary action would be taken shortly. Remaining schools could be provided with water supply in the next two years with funds under ARWSP and SSA.

**7.1.5. Availability of latrine facilities**

Facilities for the safe disposal of night soil can have a great bearing on rural health. In the rural areas of Meghalaya only about 51% of the households have access to latrine facilities. The distribution of latrine facilities is not uniform throughout the State, East Garo Hills with 75% has the highest percentage of latrine facilities. On the other hand, West Khasi Hills with 30% has the lowest availability of latrine facilities. Jaintia hills with only 32% is also among the lowest.



*Source: PHE Deptt. GOM*

**Table 7.14 Distribution of rural households by availability of latrine facility (%) 2001**

State/ District	Availability of latrine (%)	State/ District	Availability of latrine (%)
Meghalaya	30	West Khasi Hills	30
West Garo Hills	16	Ri-Bhoi	38
East Garo Hills	14	East Khasi Hills	57
South Garo Hills	13	Jaintia Hills	34

**Source: Table on Amenities; census of India 2001**

**Total Sanitation campaign (TSC)**

Ministry of Rural Development, Department of Drinking Water Supply, Govt. of India launched Total Sanitation Campaign (TSC) in 1999-2000. TSC guidelines were revised and modified in January 2004. In Meghalaya, in January 2004, TSC project for East Khasi Hills & West Garo Hills were sanctioned. Subsequently for other districts, TSC projects were sanctioned. The project for South Garo Hills district was last sanctioned on 15.1.2008. Summary of the cost of TSC projects for all the seven districts during the period 2003-04 to 2007-08 are as below:-

Details	Amount (Rs. In Lakhs)
Total cost	7186.05
Central share	4530.95
State share	1679.80
Beneficiary contribution	975.30

*Source: Department of PHE, Meghalaya*

Implementation of TSC is now picking up in the State. Till May, 2008, 13,265 nos. of Individual House Hold Latrines (BPL), 12,076 nos. of Individual House Hold Latrines (APL), 1261

nos. of School Toilets, 32 nos. of Sanitary Complexes, 109 nos. of Balwadi Toilets & 1 RSM have been constructed. Target /Objective vis-à-vis achievement under TSC is as below:-

**Table 7.15 Target & Achievement under TSC**

Details	Target under TSC programme (nos.)	Achievement up to May 2008 (nos.)
IHHLs BPL	199837	13265
IHHLs APL	66414	12076
<b>IHHLs TOTAL</b>	<b>266251</b>	<b>25341</b>
San. Complex	290	32
School Toilets	8842	1261
Balwadi Toilets	1405	109
RSM	26	1

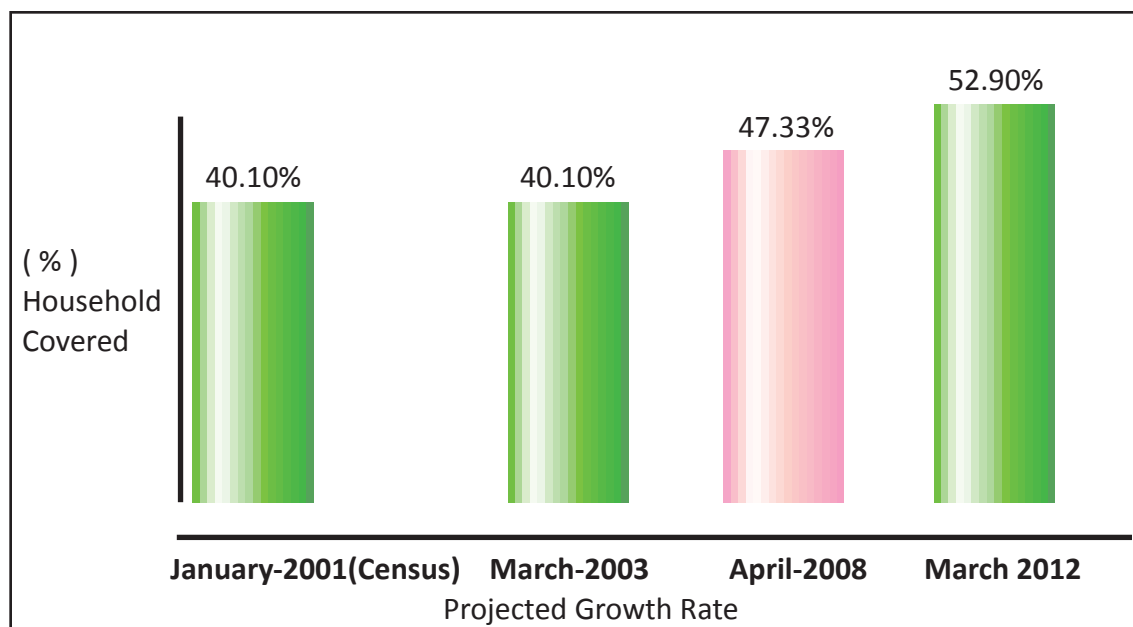
Abbreviations: IHHL: Individual Household Latrines, SCW: Sanitary Complex for Women, RSM: Rural Sanitary Marts. Source: Department of PHE, Meghalaya

During the period, Rs. 987.83 lakhs had been released as Central Share for all seven districts. The State Share required to be provided for implementation of TSC is Rs. 16.80 crore. An amount of Rs. 27.23 lakhs was received as contribution from beneficiaries. As against this, the expenditure up to May 2008 was Rs. 506.28 lakhs. During 2008-09, an outlay of Rs. 250.00 lakhs has been kept in the Annual Plan proposal for providing state share under TSC. Efforts are being made to arrange additional Rs. 100.00 lakhs under State Plan during the year.

As per the guidelines, the TSC projects are to be implemented by the District Water and Sanitation Mission (DWSM) of respective Districts, which were constituted on 1<sup>st</sup> August 2003 in the state. The State Water and Sanitation Mission (SWSM) headed by the Chief Secretary as Chairman and Commissioner & Secretary, PHE, as Member Secretary was also constituted to monitor the progress of TSC implementation. Earlier ADMs were made member secretary of DWSM. However subsequently in December 2005, Superintending Engineers/ Executive Engineers of PHED were made member secretaries as it was observed that this would help in speedy implementation of the Project.

So far Rs. 844.83 lakhs has been released as Central Share for six districts, except for South Garo Hills District. The State Share required to be provided for implementation of TSC is Rs. 16.80 Crore. During 2007-08, State Share of Rs. 100.00 lakhs was released. Another Rs. 300.00 lakhs was proposed from RIDF as loan. However, this could not materialize. An amount of Rs. 27.23 lakhs was received as contribution from beneficiaries. As against this, the expenditure up to March 2008 is Rs. 432.43 lakhs. During 2008-09, an outlay of Rs. 250.00 lakhs has been kept in the Annual plan proposal for providing State Share under TSC.

As per 2001 Census Data, 40.10% of the total households in Meghalaya have sanitation facilities. Up to May, 2008 with the implementation of TSC, 47.79% of the total households have Sanitation facilities. It has been estimated that with current growth rate, by 2012, 52.90% of the total households would have sanitation facilities.



Source: Department of PHE, Meghalaya

#### Sanitation Facilities In All Rural Schools:

Providing sanitation facilities in school has also been included under Total Sanitation Campaign (TSC).

**Table 7.16 Target *vis-à-vis* achievements in construction of Toilet facilities in schools are as below**

Sl. No.	Name of District	Target for construction of School Toilets under TSC	Achievement on construction of School Toilets under TSC up to March 2008
1	EAST GARO HILLS	1294	242
2	EAST KHASI HILLS	2148	199
3	JAINTIA HILLS	595	0
4	RI BHOI	474	209
5	SOUTH GARO HILLS	1074	0
6	WEST GARO HILLS	2244	419
7	WEST KHASI HILLS	1013	0
	<b>GRAND TOTAL</b>	<b>8842</b>	<b>1069</b>

Source: Department of PHE, Meghalaya

TSC Programme is now picking up in all the districts & thus 100% sanitation facilities in all schools are likely to be achieved in the next two years.

#### 7.1.6. Electricity Connection:

Rural Electrification in India has long been regarded as a vital programme for socio-economic development of rural areas. The access to electricity to rural households in the State is quite low as per 2001 census. The difficult terrain and scattered nature of the settlements (48% villages less than 200 population, density of population in rural areas less than 80/ sq. km.) may partially explain this phenomenon. Moreover, high incidence of rural poverty might have also been acting as a constraint behind low access to electricity in rural areas. As per 2001 census about 30% of



the rural households in the State have electricity connection though there are wide inter district variations in electricity connection. It is maximum in East Khasi Hills (57%) and minimum in South Garo Hills (13%).

**Table 7.17 DISTRIBUTION OF RURAL HOUSEHOLDS BY ELECTRICITY CONNECTION (%) 2001**

State/ District	Electricity connection	State/ District	Electricity connection
Meghalaya	30	West Khasi Hills	30
West Garo Hills	16	Ri-Bhoi	38
East Garo Hills	14	East Khasi Hills	57
South Garo Hills	13	Jaintia Hills	34

Source: Table on Amenities; Census of India 2001

Present (March 2008) status of rural electrification is as below:

- Total Number of Villages : 5782 (2001 Census)
- Villages Electrified As on 31.03.08: 3428 (60%)
- No. of Villages to be electrified under:
  - (i) RGGVY: 1945
  - (ii) MNRE: 158
  - (iii) To be declared Electrified 148
  - (iv) PMGY (Spill over): 103

TOTAL 2354

Recognizing the need, the problems associated with rural electrification in India, to accelerate the pace of village electrification programme and its critical role in poverty alleviation, the Government of India, in April 2005, launched the new scheme for attainment of the National Common Minimum Programme (NCMP) goal of providing access of electricity to all households in five years. The aim was to electrify over one lakh villages and release of electricity connections to 2.34 crore rural households. The approval was given at that time for capital subsidy of Rs.5000 crore for remaining two years of the 10<sup>th</sup> Plan period. However, the situation in the State of Meghalaya did not improve dramatically in the State by the end of 10<sup>th</sup> plan. Only 43% of the household (157375) has been electrified by the end of 10<sup>th</sup> plan.

Now, the Government has given the approval for continuation of “Rajiv Gandhi Grameen Vidyutikaran Yojana - Scheme of Rural Electricity Infrastructure and Household Electrification”, Scheme in the 11<sup>th</sup> Plan for attaining the goal of providing access to electricity to all households, electrification of about 1.15 lakh un-electrified villages and electricity connections to 2.34 crore BPL households by 2009. The approval has been accorded for capital subsidy of Rs.28000 crore during the Eleventh Plan period, at this stage. Rural Electrification Corporation (REC) would be the nodal agency for the scheme. In the State of Meghalaya MeSEB is the implementing agency.

#### **Progress of Implementation of RGGVY in the State**

This is a programme related to rural electrification taken up by MeSEB covering all the seven (7) districts of the State. The programme aims at providing electricity in the rural villages. Under this programme the following schemes are included :-

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- No. of villages to be covered for electrification for two separate categories (a) Un-electrified villages (b) De-electrified villages.
- No. of BPL Households to be covered for electrification.
- No. of Households to be covered for electrification.
- No. of electrified villages covered under the scheme.

The report furnished by MeSEB highlighted the fact that the Board had just started the implementation works in some districts of the State viz., Ri-Bhoi District, Jaintia Hills and East Khasi Hills District and that also Block-wise. As the schemes were sanctioned only in 2007 and 2008 the time frame for completion of these schemes has been fixed till 2009. In the case of East Garo Hills, South Garo Hills, West Garo Hills and West Khasi Hills sanctions of schemes are yet to be awarded. The total amount sanctioned under RGGVY is Rs. 29041.99 lakhs.

**Table 7.18 Status of RGGVY SCHEME FOR 11<sup>th</sup> PLAN:**

Name of the District	Virgin Villages (No.)	De-electrified villages	Extension in electrified villages	Electrification of BPL households	Sanctioned cost (Rs. in Crores)	Status	Length of lines (Km.)		Sub-station (MVA)	
							33 KV	11 KV	33/11 KV	11/0.4 KV
East Khasi Hills Dist.	-	19	314	14193	16.63	Sanctioned 11.03.08 and work is in progress	Nil	340.55	Nil	5.903
Jaintia Hills Dist.	18	50	360	14029	26.11	Sanctioned on 21.11.06 and work is in progress	Nil	673.78	Nil	13.750
Ri-Bhoi Dist.	72	34	84	9647	19.89	Sanctioned on 26.09.06 and work is in progress	Nil	303	Nil	4.337
West Khasi Hills Dist.	224	20	126	17592	34.67	Sanctioned 11.03.08 and tender evaluation is in progress	Nil	513.9	Nil	4.262
West Garo Hills Dist.	534	123	861	40543	81.43		13	1374.85	1 x 1.6	11.242
South Garo Hills Dist.	364	15	32	5384	49.74		81	564.8	2 x 1.6	5.182
East Garo Hills Dist.	361	111	358	15059	61.95		38	1164.98	2 x 1.6	7.835
<b>TOTAL</b>	<b>1573</b>	<b>372</b>	<b>2135</b>	<b>116447</b>	<b>290.42</b>		<b>132</b>	<b>4917.86</b>	<b>8.0</b>	<b>52.511</b>

Source: Power Department GOM (2008)

The detailed sanction and progress report of 7(Seven) Districts under RGGVY are as follows:-

- **Ri-Bhoi is Rs.1989.07 lakhs** and the total number of households to be covered for electrification under this scheme is 9647. The no. of electrified villages covered under the scheme is 423. The schemes awarded on the 28.09.07 and the target date for completion is 27.09.2009.

- **Jaintia Hills is Rs.2610.73 lakhs** and the total number of households to be covered for electrification under this scheme is 31848. The No. of electrified villages covered under this scheme is 374 numbers. The schemes awarded on the 16.07.07 and the target date for completion is 15.07.2009.
- **East Khasi Hills is Rs.1662.51 lakhs** and the total number of households to be covered for electrification under this scheme is 26169. The No. of electrified villages covered under this scheme is 834. The schemes awarded on the 09.06.08 and the target date for completion is 08.12.2009
- **East Garo Hills is Rs.6195.43 lakhs** and the total number of households to be covered for electrification under this scheme is 24353. The No. of electrified villages covered under this scheme is 335. The schemes are yet to be awarded.
- **South Garo Hills is Rs.4973.50 lakhs** and the total number of households to be covered for electrification under this scheme is 15104. The No. of electrified villages to be covered under this scheme is 248. The schemes are yet to be awarded.
- **West Garo Hills is Rs.8143.42 lakhs** and the total number of households to be covered for electrification under this scheme is 67026. The No. of electrified villages covered under this scheme is 816. The schemes are yet to be awarded.
- **West Khasi Hills is Rs.3467.33 lakhs** and the total number of households to be covered for electrification under this scheme is 26477. The No. of electrified villages covered under this scheme is 506. The schemes are yet to be awarded.

**Activities Under Taken By Meghalaya Non-Conventional & Rural Energy Development Agency (MNREDA):**

MNREDA is the agency in the state which undertakes various non-conventional and renewable sources of energy. The details of items of activities and progress in last 5 years are depicted below:

**Table 7.19 Progress of Scheme during last five years:**

Sl. No.	Item details	2004-05	2005-06	2006-07	2007-08	2008-09
1.	<b>Solar Photovoltaics</b>					
	(i) Solar lantern.	-	20000 Nos.	-	-	1000 Nos.
	(ii) Solar Domestic Home lighting System.	1000 Nos.	1500 Nos.	1700 Nos.	-	2000 Nos.
	(iii) Street lighting System	-	50 Nos.	-	100	500 Nos.
	(iv) SPV Power Plants	12 Nos.	12 Nos.	-	-	-
2.	<b>Solar Thermal :-</b>					
	(i) Solar Water Heating System	10Nos/100LPD	-	30 Nos/100 LPD	3/4000 LPD	5000 LPD
	(ii) Solar Water Pump	14 Nos.	-	-	-	-
	(iii) Solar Dryier	-	-	-	-	1000 Sqm.

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3.	<b>Bio Energy</b> (i) Biogas Plant (2 Cum) (ii) Night Soil/Community Biogas Plants (10 Cum) (iii) Biomass Gassification	200 Nos. - -	50 Nos. 2 Nos. -	200 Nos. 2 Nos. 1 No./250 KW	200 Nos. 2 Nos. 2Nos/50 KW	300 Nos. 3 Nos. 10Nos/10KW
4.	<b>Micro Hydel Project Survey Investigation</b>	-	-	-	10 Nos.	-
5.	<b>Water Mill Programme</b>	-	-	-	5 Nos.	5 Nos.
6.	<b>Remote Villages Electrification</b>	-	5 Nos.	-	73 Nos.	80 Nos.
7.	<b>Energy Conservation devices :</b> (i) Family Size Fixed Impd Chullah (ii) Community Fixed Impd Chullah (iii) Charcoal Briquetting	800 Nos. - 900 Nos.	500 Nos. - 1000 Nos.	- 200 Nos. -	- - -	1000 Nos. 1000 Nos. 1000 Nos.
8.	<b>Hybrid Power Plant</b>	-	-	-	2.5 KW	10 Nos / 5 KW
9.	<b>Wind Mapping Station</b>	-	-	-	3 Nos.	12 Nos.

Source: Power Department .GOM (2008)

### Status of remote village electrification (March, 2008)

#### **D. Remote Village Electrification :-**

- \* **158 Nos. of Villages approved**
- \* **5 Nos. of Villages Completed**
- \* **73 Nos. of undergoing work**
- \* **80 No.s of to be taken up.**

#### **DISTRICTWISE STATUS OF VILLAGES TO BE ELECTRIFIED UNDER RENEWABLE ENERGY**

SL. No.	District	Total No. of Villages	Villages to be Electrified through Remote	Villages already Electrified	Undergoing Work to be Completed by Dec. 2008
1.	East Khasi Hills	920	47	-	24
2.	West Khasi Hills	924	44	02	16
3.	Jaintia Hills	467	16	-	08
4.	Ri-Bhoi	543	22	03	09
5.	East Garo Hills	864	20	-	10
6.	South Garo Hills	595	09	-	06
7.	West Garo Hills	1469	-	-	-
	<b>Total</b>	<b>5782</b>	<b>158</b>	<b>05</b>	<b>73</b>

Source: Power Department .GOM (2008)

## 7.2. Rural Income/Employment/ Livelihoods:

### Programmes initiated by Central and State Government

#### (I). Swarnjayanty Gram Swarozgar Yojna (SGSY)

Swarnjayanty Gram Swarozgar Yojna (SGSY) is a centrally sponsored scheme implemented on cost sharing basis between the centre and the state in the proportion of 75:25 (now 90:10). The Programme was launched from the year 1999-2000 with the merger of all the earlier programmes of IRDP, TRYSEM, DWCRA, GKY, and MWS etc under this scheme. The Ninth Plan Outlay for SGSY was Rs. 25 crore. However during this period the total expenditure was only about Rs. 13.50 crore. Thus there has been a marked gap between plan outlay and actual expenditure during the Ninth Plan Period. Further actual deployment of state share to the programme has been less than 40%.

The Projected Outlay for the Tenth Plan (2002-2007) was Rs. 25 crore. The expenditure during 2002-03 and 2003-04 was Rs. 1.742 crore and Rs. 2.75 crore respectively benefiting 200 Self Help Groups and 524 individual self-employed (Swarozgaries) during 2002-03 and 485 Self Help Groups and 965 individual Swarozgaries during 2003-04. During 2004-05 and 2005-06, Rs. 2.79 crore and Rs. 2.99 crore was utilized. The aims and objectives of the Programme are to bring the assisted poor families above the poverty line by providing them with income- generating assets through Government subsidies and bank credits. During 2004-05, 1014 Self-Help Groups and 709 Individual Swarozgaries were benefited. During the Tenth Plan, a total of 4413 Self-Help Groups and 2007 Individual Swarozgaries have benefited.

#### Swarnjayanty Gram Swarozgar Yojna

SGSY is a subsidy driven programme, which is dependant on the existence suitable economic and technical infrastructure for its success. Unless there is substantial improvement it will not be possible for the beneficiaries to enhance their income by traditional and conventional practices. Thus the Tenth Plan emphasized on infrastructure development on a priority basis. Creation of more facilities and services are necessary for the enhancement of the income related economic activities of the beneficiaries.

The implementation of SGSY in the last few years appears to be moving with a slow pace in the State. The procedure of implementation through Self Help Groups is new to the culture of the tribal people. As a result it needs a lot of persuasion, awareness and guidance to encourage the people to take up the schemes. The sparse location of households in rural areas, small size of villages and remoteness from the branches of the Banks are also other hurdles. However, in the last two years the implementation has improved. During the year 2007-08, 1622 Nos of Swarozgaris were assisted, out of which 847 Nos. were Women Swarozgaris. The total Nos of SHGs formed during the period were 829 Nos. to whom income generating activities provided during the year was 1570 Nos. During 2008-09 upto May, 2008, 50 Nos. of Swarozgaris were assisted, out of which 20 Nos. were Women Swarozgaris. The total nos. of SHGs formed upto May, 2008 was 273 nos. to whom income generating activities provided during the period was 50 nos.

### Issues in Implementation of the Scheme

- a. **Strengthening of Implementation of Delivery Mechanism** - Implementation of SGSY in the state is not up to the mark and needs improvement. The Scheme itself is quite a complex one. DRDAs are over burdened and stretched. The State therefore would suggest creating dedicated rural poverty alleviation/ livelihoods machinery or strengthening of DRDA with sufficient manpower, expertise and technical support with stability of tenure of key official in the agency.
- b. **Convergence & co- ordination with other Agencies / Deptts** - Different Departments have formed SHGs in the state. However, SHGs formed under SGSY have their own identity where the members of the groups are the persons living below the poverty line and are linked with the back ended subsidy. There are altogether 8022 number of SHGs formed so far (2008 July) from inception of SGSY, though some overlaps and adoption of SHG appears to have crept in; nevertheless the performance of bank linkage and their impact appears somewhat lackluster.  
The success of implementation of SGSY varies from districts to districts within the State. This is due to the fact that in some Districts NGOs are being actively involving themselves as facilitators for formation and development of SHGs. In some Districts like South Garo Hills, East Garo Hills & Jaintia Hills there is dearth of NGO venturing for development of SHGs. Involvement of SHGs with other implementing agencies for various other government programmes such as Mid-day Meal, Rural Health Mission is being initiated by the Block official.
- c. **Monitoring & Review mechanism** - Monitoring of SGSY by different committees such as State Level Co –ordination Committee (SLCC), District Level SGSY and the Block Level SGSY Committee has been hitherto tardy and ineffective. So has been the fate of online monitoring. Department needs to emphasize the matter.
- d. **Awareness Generation and Transparency** – Though steps have been taken up by the Project Directors/ Block Development Officers to publicize the schemes, including in local languages; being a time taking process more involvement of grassroots are necessary in a sustained manner.
- e. **Low level of capacity Building and Training under SGSY** - Basic orientation programme and skill training were conducted by the DRDAs/ NGO and the Blocks meeting the cost of expenditure from 10% of the allocation under SGSY for training and Capacity Building. Further revolving fund is also provided to the groups to augment the group corpus and embark on further capacity building of its entire team. However, fund utilization is low.
- f. **Special Projects under SGSY** - Special Project on Disabled Persons. The project was approved by Government of India and implemented by the DRDA East Khasi Hills, Shillong. The project cost was Rs 116.16 Lakhs which is being sponsored by the Central & the State at 75:25. In this regard the Government of India has already released Rs 69.70 Lakh and the State share has also released Rs 11.62 lakh. The project is in progress.
- g. **Credit Disbursement** - The issue of credit has been a cause of concern for the State. The major responsibility of implementation of SGSY lies with Banks. The success of the scheme is

therefore dependent on the Banks. Insistence for collateral from the SHGs under SGSY for a loan of just over Rs. 50,000/- only; slow and time consuming processing of loan application by the Banks and long time gap between sanction and disbursement; ineffective coordination between the Banks and the BDOs and poor participation by Banks especially at the Block level are some of major credit related bottlenecks. Besides, there are Community & Rural Development Blocks with no Banking facilities.

- h. 'State coordinator for SHG' & RBI's financial inclusion:** Some policy suggestions and focus on SHG has been given in the State by assigning a senior official as the 'State coordinator for SHG' (megselfhelp.gov.in). The policy recommendations/ suggestions / coordination have been made and are also likely to emerge from the State coordinator for SHG. Besides, there has been focus on financial inclusion by the RBI and business correspondence and business facilitator models are being experimented in close collaboration of Banks, NABARD, RBI, State Coordinator for SHG and the Finance Department of the State Govt. [The Survey conducted by the State coordinator and the gist of analysis of SHG is referred at Chapter X on Industrial Development at 10.7.2.]

Thus, selection of beneficiaries, credit related bottlenecks, poor mobilization, awareness, training, creation of necessary infrastructure, inadequate linkage with marketing of products are some of the major problems encountered in the programme.

## **(II). Sampoorna Grameen Rozgar Yojna (SGRY)**

Sampoorna Grameen Rozgar Yojna (SGRY) initiated from the year 2002-03 after the merger of erstwhile JGSY and EAS for the generation of rural employment. SGRY was self-targeting in nature and available to all rural poor (BPL/APL) who were in need of wage employment and willing to take up manual/unskilled work. Under SGRY, 5 kg of food grains was distributed as part of wage per man-day and the remaining wage is paid in cash to ensure the payment of "notified minimum wage" every week. The scheme was implemented on cost sharing basis between the Centre and State in the ratio of 75:25 of the cash component. The State Share when taken against the total allocation including the value of food grains therefore came to only 12.5%. During the Tenth Plan (2002-07) State Plan outlay for this Programme was Rs. 3,500 lakhs, out of which the total expenditure was Rs. 3,310.66 lakhs. The Central Share released during the same period for the Programme was Rs. 10,050.17 lakhs and the amount was fully utilised. The Programme aimed to provide additional wage employment in the rural areas and also food security combined with the creation of durable community, social and economic assets as well as infrastructure development. For the Annual Plan 2007-2008, an outlay of Rs. 3 crore was proposed. This Programme, (SGRY) has been completely merged to National Rural Employment Guarantee Scheme (NREGS) from the year 2008-09.

## **(III). National Rural Employment Guarantee Act (NREGA)**

The Meghalaya Rural Employment Guarantee Scheme (MREGS) is a Scheme formulated following the implementation of NREG Act which gives a legal guarantee of 100 days of wage employment in a financial year, to adult members of rural households who demand employment and are willing to do unskilled manual works. MREGS was notified by the Government on 28.07.2006. It is implemented through Local Employment Councils initially in South Garo Hills & West Garo

Hills Districts. The Govt. of India extended the Scheme to Jaintia Hills, East Khasi Hills & Ri Bhoi Districts during 2007-08 and the remaining 2 Districts Viz. West Khasi Hills and East Garo Hills w.e.f. 01.04.2008. The scheme is being implemented as Centrally Sponsored Scheme on a cost-sharing basis between Centre and State in the ratio of 90:10 in all the districts in the state Financial Achievement during 2007-08: Against the total availability of Fund amounting Rs. 7700.72 lakhs, a total of Rs.5405.67 lakhs was spent during 2007-08. The percentage of achievement was 70.20 %. Physical Achievement: Job cards issued during 2007-08 were 166137 Nos out of which 127319 Nos of Households were provided employment. Person days generated during the year was 48.17 lakh person days.

The District-wise Financial and Physical achievements during 2007-08 are indicated in the Table below:

**Table 7.20 Financial & Physical Achievements during 2007-2008 upto March, 2008**

(Rs. in lakhs)

Sl. No.	Name of the District	Opening balance as on 1.4.2007	Financial Achievement					Balance	No. of Households getting employment	Achievement (Lakh No. Person days)
			Fund released during 2007-08 includes the fund of 2006-07 and 2007-08			Total availability of Funds	Expenditure			
			Centre	State	Others					
1	2	3	4	5	6	7	8	9	10	11
1	Tura	411.54	3444.61	273.28	18.22	4147.65	3874.37	273.28	92486	36.07
2	Baghmara	390.21	879.98	52.00	11.03	1333.22	1086.98	246.24	17778	10.55
3	Shillong	0.00	900.91	95.15	66.35	1062.41	206.39	856.02	9000	0.11
4	Jowai	0.00	601.79	61.92	0.67	664.38	28.01	636.37	0	0.00
5	Nongpoh	6.63	440.43	43.22	2.78	493.06	209.92	283.14	8055	1.44
	<b>Total</b>	<b>808.38</b>	<b>6267.72</b>	<b>525.57</b>	<b>99.05</b>	<b>7700.72</b>	<b>5405.67</b>	<b>2295.05</b>	<b>127319</b>	<b>48.17</b>

Source: Ministry of Rural Development Website

**Financial & Physical Achievements during 2008-09 (upto May'08):** Against the total availability of Fund which was Rs. 3955.95 lakhs, the expenditure was Rs. 1303.58 lakhs. Percentage of achievement was 32.95 %.The Nos of Households getting employment during this period, were 77416 Nos. 16.17 lakhs person days has been achieved.

- a) **Strengthening of Village Level Institutions & Delivery Mechanism** - PRI does not exist in Meghalaya. However for NREGA, the State Govt has to adopt a new system for implementation of the scheme by way of establishment of new institutions at the village level which are similar to Panchayats. Clearance from the Ministry was received in July 2006 with certain suggestions for amendment in our State Scheme. The scheme has been framed in consistent with the Act by involving traditional tribal authorities at the village level called Village Employment Council (VEC), at the cluster level comprising of 4/5 villages within a radius of 2.5 kms called Area Employment Council (AEC) and Block Employment Council at Block level and District



Employment Council at the District level .These councils act in a similar way like the Gram Sabha and Gram Panchayat for purpose of NREGAS.

The existing man power of the DRDA at the District level, Block Development functionaries at the Block level are being utilized for the purpose of NREGS implementation. The additional personnel required such as APOs Asstt/ Junior Engineers/ Computer Operators etc are appointed by the District programme Co-ordinator concerned after making an assessment of the requirements. However, it may be mentioned that the placement of Technical Assistants at AEC level could not be fully made due to shortage of technical manpower especially in Rural areas of the State.

- b) **Convergence & Co-ordination with others related agencies and departments** -Convergence and Co-ordination with other Departments has been taken up in West Garo Hills to optimize impact and quantify development interventions. In this connection the scheme is successfully converging with the Rural Health Mission, where a Village Health & Sanitation Committee is constituted by the VEC to monitor and to ensure that all health relates interventions are effectively carried out under NRHM., Mid day meal Scheme and TLC are also converged with the scheme. In other districts, efforts have been also made to follow the same example as carried out in the West Garo Hills by also converging with the livelihoods programmes of NERCORMP and The MRDS.
- c) **Vigilance & Monitoring Committee** - The Vigilance & Monitoring Committee has been set up in West Garo Hills & South Garo Hills Districts. The Committee extended assistance to the VEC in implementing the schemes as well as to achieve targets within the planned budget. It is also extends help to NGO in conducting of Social Audit. Verification of Muster roll has been carried out by VMC.
- d) **Social Audit by Gram Sabhas** - Social Audit is being conducted in West Garo Hills & South Garo Hills District in each VEC by the village monitoring committees which are facilitated by the NGOs. The reports are placed before the public at the Block Head Quarters where elected members like MLAs , MDCs and officers of all levels are invited.
- e) **State Employment Guarantee Council** – Meghalaya State Employment Guarantee Council was constituted on 4.9.2006. The SEGEC met on 6.8.2007 to review the performance of NREGS and to suggest policy recommendations for improvement of the scheme to GOI. The decisions of the meeting were endorsed to Government of India for consideration especially on preferred works. The Annual report is under process and will be placed before Legislature with SEGEC approval.
- f) **Awareness Generation and transparency** - IEC activity has already been done in Phase I & II Districts. Pamphlets/Booklets in both the local languages about NREGA, State Scheme, Dos and Don'ts for VECs/AECs, and RTI and Social Audit Concepts under NREGAs have been published by SIRD. The Districts are also distributing pamphlets on NREGAs in local language. Hoardings were erected at prominent places. Songs are composed in local lyrics and cassettes distributed to villagers so that those who cannot read will understand about the scheme.

**Problems faced by the Department**

- 1) There is no Panchayati Raj Institution at village level. Village Employment Council has been created which is a time consuming process and would require time, energy and capacity to build it up.
- 2) On line monitoring and entry of data for MIS at the Block Level is not feasible as many CICs including new CIC have not been operational. The quality of connectivity at the Block level and at times at the District level is poor due to various factors.
- 3) Non availability of Technical personnel at the village level.
- 4) Administrative cost of 4% is not enough to meet contingencies especially in remote areas

***(IV). Indira Gandhi National Old Age Pension Scheme (IGNOAPS)***

NOAPS was implemented in the State since 1995. It aims at providing Rs 75 per month to the destitutes of 65 years and above per beneficiary per month. The scheme covered destitute having little or no regular means of subsistence from his / her own sources of income or through financial support from family members or other sources. However, the GOI has made slight modification of the guidelines under NOAPS in respect of the eligibility criteria for assistance under restructured Indira Gandhi National Old Age Pension Scheme (IGNOAPS). Under the Scheme, pension is granted to a person who is 65 years and belonging to a household below the poverty line according to the criteria prescribed by the Government of India. The scheme is formally launched on 19.11.2007. During the year 2007-08, 32883 beneficiaries were assisted in the State of which 20127 were Women and Rs.530.92 lakhs was utilized under the scheme. During the current year 2008-09, the total availability of fund under the Scheme is Rs. 969.18 lakhs out of which Rs. 811.84 lakhs has been spent upto September, 2008. The total number of beneficiaries for the same period was 28886, including 16611 Women.

**Implementation of the Scheme**

- A. Identification of additional beneficiaries under IGNOAPS** – Identification of additional beneficiaries is being undertaken by the Govt. However, provisional information has been sent to Govt.of India that 144834 number of additional IGNOAPS beneficiaries in the state is based on the % of BPL families of the 9th Plan (2002 survey finalized in 2008).
- B. Certificate of full coverage :-** So far the state has not yet identified all the eligible beneficiaries under IGNOAPS as mentioned in 'A' above and hence the certificate of full coverage could not be furnished at present.
- C. Opening of Bank/Post Office Account :-** The present procedure adopted by the Govt in disbursement of pensions to the IGNOAPS is by cash. Disbursement of pension is carried out in market day at Block Development Block Office. However, necessary steps are being considered for disbursement of pension through Post Office, if it is convenient to the beneficiaries depending on their option. The state would like to go for computerization of IGNOAPS if supported by the GOI.
- D. Coverage under National Family Benefit Scheme (NFBS) :-**The State is implementing the scheme by providing a grant of Rs.10,000/- in case of death of the primary bread winner

male or female between the age of 18 to 64 years to the bereaved BPL family. The primary breadwinner as specified in the scheme, whether male or female, had to be a member of the household whose earning contributed substantially to the total household income. During the year 2007-08, 884 beneficiaries were assisted in the State and Rs 88.40 lakh was utilized under the scheme.

**E. Monitoring & Verification :-** Deputy Commissioners/BDOs have been directed to take necessary steps to safe guard that only the eligible beneficiaries will be benefited from the scheme.

**F. Transfer of funds from State to the District: -**

- All funds sanctioned are released immediately to the Districts. However, there is communication gap between the GOI and the Nodal Department for release of ACA as copies of sanction not available. It is therefore proposed that a copy of the release of ACA is also marked to the Nodal Department.
- Sanction is not available with Nodal Department. Thus the process for release is slow due to communication gap.

#### **(V). Rashtriya Sam Vikas Yojana (RSVY)**

The Planning Commission in the Tenth Plan period launched the Backward Districts Initiative under the Rashtriya Sam Vikas Yojana (RSVY). The primary objective of RSVY is to address the problems of the pockets of high poverty, low growth and poor governance by putting in place programmes and policies which would remove barriers to growth, accelerate the development process and improve the quality of life of the people. The programme aims at focused development for backward areas that would help reduce imbalances and speed up development. Planning Commission selected the West Garo Hills District of Meghalaya as one of the Districts in the country to be covered under the Backward Districts Initiative under the Rashtriya Sam Vikas Yojna (RSVY) from the year 2004-05. The Planning Commission will provide Rs. 15.00 crores annually for three years from the year 2004-05 as Additional Central Assistance for this programme. The District Administration has prepared a three-year Master Plan with nested Annual Action Plans for this programme. During Annual Plan 2005-06, an amount of Rs. 15 crore was approved for implementation of RSVY. The expenditure during the Tenth Plan was Rs. 22.50 crore.

#### **Release & Utilisation of Fund for RGVY:**

- 2003-04 to 2008-09 – Amount released was Rs. 37.50 crore against the total entitlement of Rs. 45.00 crore, leaving a balance of Rs. 7.50 crore, out of which Rs. 22.50 crore was utilised.
- The percentage of utilisation against the total fund released was 60 %.

*Rashtriya Sam Vikas Yojana (RSVY) Scheme has been subsumed as Backward Regions Grant Fund (BRGF).*

#### **(VI). Backward Regions Grant Fund (BRGF)**

The Backward Region Grant Fund (BRGF) is designed to redress regional imbalances in development. The Fund will provide financial resources for supplementing and convergence existing developmental inflows into identified districts, so as to:

- (a) Bridge critical gaps in local infrastructure and other development requirements that are not being adequately met through existing inflows,
- (b) Strengthen to this end Panchayat and Municipality level governance with more appropriate capacity building, to facilitate participatory planning, decision making, implementation and monitoring to reflect local felt need,
- (c) Provide professional support to local bodies for planning, implementation and monitoring their plans,
- (c) Improve the performance and delivery of critical functions assigned to Panchayats and counter possible efficiency and equity losses on account of inadequate local capacity.

**Implementation of BRGF in the State**

Existing RSVY has been subsumed into BRGF Programme. The erstwhile districts under RSVY will receive their full allocation of Rs. 45.00 crore per district as per norms of RSVY. Thereafter, they will shift to the BRGF mode of Funding. In Meghalaya, BRGF covers only 3 (three) Districts, viz. West Garo Hills District, which was earlier covered under RSVY, South Garo Hills District and Ri-Bhoi District.

**Release & Utilisation of Fund for BRGF:**

- During 2007-08 an amount of Rs. 0.30 crore has been released against the total entitlement of Rs. 37.01 crore.
- Of the Total Amount released, Rs.12.07 crore has been earmarked for Ri Bhoi District, Rs. 11.52 crore, for South Garo Hills District and Rs. 13.42 crore for West Garo Hills District. However no amount has been utilised during the year.
- During 2008-09 against the total entitlement of Rs. 37.01 crore an amount of Rs. 33.61 crore has been released and the amount is yet to be utilised.

**(VII). Community Development and Panchayats :**

This is a State Plan Scheme and the entire amount is borne by the State Government from the plan. The outlay during the Tenth Plan is Rs. 40 Crore. There are two schemes under this programme that are discussed below.

**(i) Community Development and Panchayats (including up-gradation of Standard of Administration and Special Problems for the seven new C & RD Blocks):**

Under the scheme, emphasis has been made for increasing agricultural production. Roads, education and social education, safe drinking water, health and sanitation, better staff accommodation, good office buildings, guest houses, renovation of both office buildings and staff quarters etc are the main components of this scheme. The 10th Plan (2002-07) outlay for this sector is Rs.4000.00Lakhs and the expenditure is Rs.3496.42 Lakhs. For the Eleventh Five Year Plan (2007-12), an outlay of Rs.12,000.00 lakhs, inclusive of Rs.300.00 Lakhs for Tribal Development Programmes under Article 275, has been proposed. An outlay of Rs.650.00 Lakhs is anticipated to be utilized during 2007-08 while an amount of Rs.815.00 Lakhs is proposed for the Annual Plan 2008-09 inclusive of Rs.54.00 Lakhs for Tribal Development Programmes under Article 275(1). Target could not be fixed for the schemes as the items are heterogeneous in nature and are not uniform. The schemes/item of works are selected and approved by the Committee depending on the felt needs of the people/villages etc.

**(ii) Construction of Rural Roads Programme (CRRP):**

Construction of Rural Roads is a programme being implemented by the Community and Rural Development Department as a part of poverty alleviation measure by transferring certain funds from Roads & Bridges Sector to Community and Rural Development Sector. It envisages improvement of rural connectivity by active involvement of village community force for construction of village link roads to boost up rural economy. The scheme is implemented through village durbars under the close monitoring of the respective Deputy Commissioners of the Districts. The expenditure for the 10th Plan is Rs.1,200.00 Lakhs. An outlay of Rs.1,200.00 lakhs was approved for 11th Plan. The agreed outlay for the year 2007-08 is Rs.240.00 Lakhs and the actual expenditure is Rs.240.00 Lakhs. Rs.280.00 Lakhs is proposed for the Annual Plan (2008-09). The allocation is shown under the Roads & Bridges sector.

**(VIII) Land Reforms**

There is no systematic and regular record of land in Meghalaya. Lands in the state have never been surveyed earlier. The absence of any kind of maps and records is detrimental to any kind of systematic development planning. Moreover this is the cause of unnecessary litigation. The government enacted the Meghalaya Land Survey and Record Preparation Act 1980 to implement land reforms and introduced the scheme of Cadastral Survey to have all lands to be surveyed and the preliminary records prepared with a view to identify the owner/user of the land. The management and control of land in the State is vested with the District Councils. In order to make this scheme successful and operational the Meghalaya Land Survey and Record Preparation Act 1980 was amended in August 1991. Subsequently, the survey staff and the officers were placed at the disposal of the District Councils. The approved outlay for the 11th Plan (2007-12) is Rs.1,600.00 lakhs. The approved outlay of Rs.200.00 lakhs for 2007-2008 is expected to be utilized in full. The proposed outlay for 2008-09 is Rs.250.00 lakhs

**Achievements made during the Tenth Plan:**

- During the 10th Plan, cadastral survey works were done in 100 villages and in 61 government lands. Computation has covered 45 numbers of villages and 62 numbers of government lands. The 10th Plan (2002-07) outlay for Land Reforms Sector was Rs.1,030.00 lakhs and an expenditure of Rs 873.25 lakhs was incurred.

**Annual Plan 2007-08 & 2008-09:** The following schemes which are under implementation during Annual Plan 2007-08 are also proposed to be implemented during 2008-09:-

**Table 7.21 The break up proposed expenditures for the Annual Plan 2008-09**

Sl. No.	Name of Schemes	11th Plan projected outlay (2007-12)	Approved outlay 2007-08	Anti. Expn. 2007-08	Proposed outlay 2008-09
1.	Cadastral Survey	676.27	92.20	92.20	101.42
2.	Metric System	576.14	85.80	85.80	94.38
3.	Enforcement Branch	44.25	6.60	6.60	7.26
4.	Land Tenure Research Cell	22.10	3.30	3.30	3.63
5.	Grants-in-aid to the District Councils	81.24	12.10	12.10	13.31
6.	Procurement of Survey Equipments	200.00	-	-	30.00
	Total	1600.00	200.00	200.00	250.00

Source: Meghalaya Plan Supplement, 2008-09

### **(IX). Special Rural Works Programme (SRWP)**

Under this programme schemes of varied nature, are selected by the MLAs and implemented through village durbars/ local committees under the supervision of respective BDOs. Deputy Commissioners of the District sanctions the projects. Presently Rs 100 lakh per MLA is allocated. The outlay for the 10th Plan (2002-07) was Rs.6812.50 lakhs and the expenditure was Rs.15061.50 Lakhs including Rs.2000.00 lakhs as CM's Special Rural Development Fund. An outlay of Rs.28,500.00 lakhs has been proposed for the 11th Plan (2007-12). An outlay of Rs.5850.00 Lakhs is anticipated to be utilized during 2007-08, and Rs.5,850.00 lakhs is proposed for 2008-09 including Rs.400.00 lakhs for the CM's Special Rural Development Fund during 2008-09.

### **Other Programmes of Rural Development in the State:**

#### **I. Livelihood Improvement Programmes:**

**A. The North Eastern Region Community Resource Management Project (NERCORMP)** is funded by the International Fund for Agricultural Development (IFAD). The overall objective of NERCORMP is to improve the livelihood of vulnerable groups in a sustainable manner through improved management of their resource base in a way that contributes to preservation and restoration of the environment. The **NERCORMP** is looking at participatory, sustainable, and viable community based institutions that is expected to carry out a people driven mode of rural development. The project concentrated on building up Community based Institutions (CBIs) at the grassroots level called - Natural Resources Management Groups (NaRM-Gs) and Self Help Groups (SHG). One of the significant achievements through the creation of CBIs is the emergence of a bottoms-up planning approach by the village communities based and perceived on their felt needs.

A pilot project with IFAD support on participatory development process is also under implementation in the State under the (NERCORMP). The project is working for participatory, sustainable, and viable community based institutions that are expected to carry out a people driven mode of rural

development. The programme gives thrust upon increasing local capabilities, improving livelihood opportunities, enhancing saving habit and capacity and improving delivery systems through local participation, especially that of women. It has been concentrating on building up Community Based Institutions (CBIs) at the grassroot level, called Natural Resources Management Groups (NaRM-Gs) and Self Help Groups (SHG). In Meghalaya, West Garo Hills and West Khasi Hills are being covered. SHGs are supposed to play a crucial role in the success of the programme. 257 and 520 SHGs have been formed in West Khasi Hills (162 villages) and West Garo Hills (192 villages) respectively with the help of selected NGOs. Of these about 302 SHGs (April 2005) have been graded in West Garo Hills District, and have received 12.12 lakhs as loans and in addition Rs. 24.80 lakh as loans for transport etc. The project cost In Meghalaya is about Rs 159.36 crore which has contributions from IFAD (Rs 109.92 cr- 68.9%), GOI (Rs. 26.88 Cr- 16.86%), beneficiary (Rs.16.80 Crore-10.54%) and financial institutions (Rs. 5.76 crore- 3.63%).

The project covered 162 villages, 6900 households having 162 NARMGs and 454 SHGs in West Khasi Hills district. Similarly the project covered 192 villages, 7070 households having 257 NARMGs and 852 SHGs in West Garo Hills district.

**7.3. Livelihoods Improvement Project for the Himalayas (LIPH):** Another IFAD project is being implemented by the Meghalaya Rural Development Society (MRDS) with planning department of the Govt. of Meghalaya as the nodal department. The project goal is to improve livelihood of vulnerable group in a sustainable manner through livelihood opportunities and strengthening local institutions that relate to livelihood development. The project component include Promotion and capacity building of SHGs; Capacity building of SHGs promoters, grassroot trainers and formal financial institutions; enabling networking of SHGs and capacity building of federations; revolving fund assistance to SHGs and federations; funding mobile banking facility; technical assistance to federations; need based studies and research. Approximately 29300 households in over 570 villages of 14 blocks covering about 30% of each block are likely to benefit and is expected to cause ripple effect. The total project cost is around Rs 172.14 crore. The cost sharing is likely to be 48.34% by the IFAD, 27% by the banks in the form of credit, 10.63 % by the stakeholder i.e. poor people, 14 % by the state govt. Thus, the programme holds a good promise to enhance credit deployment and absorptive capacities in the State.

**Important Project Milestones as of SEPTEMBER 2008:**

10th Jun 2004	Establishment of MRDS
22nd Jun 2004	Registration of MRDS under Society Registration Act 1860
14th Dec 2004	Financial & Administrative Rules 2005 approved
31st Oct 2005	Completion of recruitment process of core staff
23rd to 25th Nov 2005	1st Review Mission by UNOPS
16th & 17th Mar 2006	State level Project Launch Workshop
12th May 2006	MoU signing with partner NGOs for 1st phase Blocks
27th Nov - 8th Dec '06	2nd Review Mission by UNOPS
27th & 28th Mar 2007	MoU signing with partner NGOs for 2nd phase Blocks
9th July 2007	Approval from BoD for formation of Social Venture Capital Company (SVCC); advertisement for CEO floated, interview tentatively scheduled in November 2007
May 2008	Joint Review Mission
September 2008	Mid Term Review

## MEGHALAYA STATE DEVELOPMENT REPORT

### Achievements at a Glance (upto September, 2008):

					Achieved	AR Target
District					5	5
Block					15	14
Villages					614	570
No. of Social Agreement Signed					218	NS
No. of Household Covered (As per WBR)	I	II	III	IV	<b>Total</b>	
	12995	13544	6848	3219	36606	29300
No. of SHGs					1267	1955
			M	F	Total	NS
No. of Project Staff			43	14	57	NS
No. of FNGO Staff			71	29	100	NS
No. of VLGP			82	28	110	NS
No. of CRPs			235	327	562	NS
No. of RNGOs					18	NS
No. of Direct Project Beneficiaries					13185	

**Direct project beneficiaries are the total number of SHG members.**

**7.4. INTEGRATED CHILD DEVELOPMENT SERVICES (ICDS):** Integrated Child Development Services (ICDS) scheme was launched in 1975 seeking to provide an integrated package of services in a convergent manner for the holistic development of the child. ICDS symbolizes the country's commitment to its children the scheme targets the most vulnerable groups of population including children up to 6 years of age expectant and nursing mothers and adolescent girls .

#### Physical and Financial Progress for the year 2007-08:

- A total of 441791 beneficiaries which included children up to 6 years of age expectant and nursing mothers and adolescent girls have been covered during the 2007-08. No. of feeding days is 300 during the Year @ of 25 days in a month.

**Table 7.22 Financial Progress for the year 2007-08**

(Rs. in lakhs)

Name of the scheme	Budget provision	Funds released by GOI	Pattern of sharing		Expenditure	Physical achievement
			State share	Central share		
ICDS General scheme	2724.35	1299.26	-	100%	1324.84	3195 AWCs
KSY	42.90	42.90	-	100%	32.95	12100
SNP	(O) 1900.00 (R) 1500.00	1205.56	50%	50%	1345.07 (State) 1203.03 (Central)	360408 beneficiaries
NPAG	20.00	17.50		12.36	(Met from State)	2750

Source: Social Welfare Department, Meghalaya

#### Financial Achievement for I.C.D.S for the year 2008-09:

Against the Approved Outlay for 2008-09 of Rs. 2996.03 lakhs, the department utilised Rs. 577.65 lakhs (19.28 %) by the 2nd quarter.



**Physical Achievements against the Physical Targets of Each Components  
under ICDS up to 30.9.08:**

<b><u>Component</u></b>	<b><u>Target In Nos.</u></b>	<b><u>Cumulative Achievement Up to 30.9.08</u></b>
i) State Cell	1	1
ii) DPOs	5	5
iii) ICDS Projects	39	39
iv) Urban ICDS Projects	2	2
v) AWCs	3388	3325
vi) Mini AWCs	1234	1214
vii) Children covered	370962	366470
viii) Moderate	15000	15533
ix) Severe	295	295
x) Rehabilitation of handicapped	5 NGOs	5 NGOs

with 799 beneficiaries    with 799 beneficiaries

(Source Social welfare Department, Meghalaya)

Selection of AWWs/AWHs to be recommended by the VLCC.

### **7.5. Nutrition and Health Education**

The Nutrition and Health education component of the ICDS scheme aims, at effective communication of certain basic health and nutrition messages with a view to enhancing the mother's awareness of the child's needs and her capacity to look after these within the family environment.

The AWWs conducts regular home visits in all the AWCs. The AWW through home visit were able to discuss the problems and difficulties with regard to health and nutrition problems of the family and necessary guidance and instructions are also given during the visit.

#### **Non-formal Pre-school Education**

Non-formal Pre-school education is one of the important components of the ICDS scheme which covers children in the age group of 3-6 years of age. Pre-school education is conducted in all the Anganwadi Centres with the help of pre-school kits supplied by the Department and the colourful wall paintings has helped the children enjoyed learning joyfully through play way methods.

#### **Immunisation and Health Check-up**

Immunisation and Health Check-up is conducted in all the Anganwadi Centres in close coordination with the Health functionaries. Each Anganwadi Centre is provided with a weighing scale and growth cards are maintained by the Anganwadi Workers for all the children beneficiaries below 6 years so that the workers can detect the growth faltering of the beneficiaries and in turn can educate the mothers to take care the health and nutrition aspects of their children.

### **7.6. National Nutrition Mission/Nutrition Programme for Adolescent Girls (NPAG)**

National Nutrition Mission a new scheme introduced by the Govt. of India during 2002-03 as a Pilot Project for East Khasi Hills District for implementation of subsidized foodgrains to adolescent girls, expectant and nursing mothers belonging to Below Poverty Line families and undernourished.

**The Nutrition Surveillance System** is implemented in all the ICDS projects to check and prevent malnutrition through the monthly reports submitted by the AWWs. Through this system children with Grade III and IV are monitored and double ration for such children have been provided. Through the survey conducted by the AWWs, the child population is also being monitored. Birth and deaths records is also maintained by the AWWs and the same was reported and discussed during the submission of the monthly report for further action to be taken if necessary. Food and Nutrition Board also monitors the nutrition growth of the children in the Centre.

**Impact of the Scheme:-** The most important impact of the scheme is reflected in significant decline in the level of Severely Malnourished Children and Malnourished Children and Infant Mortality Rate in the State. The percentage of Children suffering from Severely Malnourished have significantly decline within a short gap from 0.2% during 2005-06 to 0.1% during 2006-07 % and Malnourished Children decline from 8.9% during 05-06 to 8.3% during 06-07.

**7.7 Border Areas Development Programme:** In 1969, Meghalaya was accorded the status of an autonomous (independent) region within Assam. Meghalaya was granted full statehood in 1972 and became the 21st State of Indian union. The state is bounded by the state of Assam on the north and east. The districts of Goalpara, Kamrup and Nowgong (of Assam) lie in the north and Karbi Anglong and North Cachar Hills districts lie in the east. It is bounded on the South and Southwest by Bangladesh. This international border, which runs for about 443 kilometres, is of strategic and economic significance to the state.

The Border Areas have been defined and demarcated as a territory to the distance of 10 Kilometres belt inside the state from the international border with Bangladesh. The following criteria were taken into account:

- Distance from the international boundary with Bangladesh (approximately 10 kilometres distance of crow's flight),
- Degree of economic backwardness, and
- Dependence upon the traditional trade relations with areas that now fall into the present day Bangladesh

For the implementation of integrated schemes under the Border Areas Development Programme (BADP) in 1974, the Government prepared a master list of border villages. This list was subsequently revised in 1982 and 1992. At present, there are 1,566 villages falling in the border areas, which cover an area of 4,430 square kilometres, running laterally about 443 kilometres from Dona-Malidor areas in Jaintia Hills District to Mahendraganj in the West Garo Hills District and for some distance towards Mankachar in the West Garo Hills District. The District-wise break up in respect of number of villages and length of area is as given below :

Name of the District	Number of villages	Length of international boundary (km)
Jaintia Hills	152	107
East Khasi Hills	383	101
West Khasi Hills	208	53
West Garo Hills	367	114
South Garo Hills	456	68
Total	1566	443
Source: Directorate of Border Area Development		

**Table 7.23: Border Districts, Number of Villages and Border Length in the state**

These 1,566 villages were divided into 12 areas. One Border Area Development Officer (BADO) has been appointed for each of these areas for administrative convenience and for the efficient implementation of schemes. Each of these notified areas fall either fully or partly under the 19 Blocks identified by the state government.

The length of the international border with Bangladesh is about 443 kms. Before independence, people living in the border areas of Bangladesh used to cultivate crops like oranges, bananas, betel nuts, betel leaves, black pepper, bay leaf, etc. These commodities had a ready market in the areas presently in Bangladesh. Similarly some essential commodities were imported to the bordering areas of the state from Bangladesh. The communication from these areas to the interior of the state was virtually non-existent.

After the partition of the country abrupt stoppage of trade with the bordering Shylet and Mymensing resulted into tremendous economic hardship to the people living in the bordering areas of the state. The people of this region were deprived of the traditional markets to sell their agro products. Moreover, the traditional supply lines for the supply of essential commodities were also severed. With a view to ameliorate the suffering of the people inhabiting the area and to accommodate and improve their economy, the Border Areas Development Programme was initiated as a special area programme during the Fourth Five Year Plan. The Border Areas Development Department was created in 1973 and the Directorate of Border Areas Development in 1975 to co-ordinate efforts to undertake and implement schemes felt urgently needed to bring about rapid development of the border areas. The schemes undertaken under the programme are supplemental in nature and are over and above the other developmental schemes undertaken by the different development departments of the State Government in the entire State, which also included the border areas.

Over the years, various developmental schemes have been taken up under the Border Area Development Programme. However, execution of these schemes have been entrusted to other development departments like P.W.D., Agriculture, Education, Soil Conservation, Co-operation, etc., as the Directorate of Border Area Development did not have any technical personnel of its own to enable it to undertake even minor construction works.

The Border Area Development Program (BADP) is a 100% centrally funded Special Area Program, which also covers the Border Blocks of the North Eastern States having international borders with Bangladesh, Myanmar, China and Bhutan. Ministry of Home Affairs (Department of Border Management) administers the BADP programme in respect of the North Eastern states. The guidelines under BADP have been framed by the Empowered committee in the Planning Commission and now in the Ministry of Home Affairs in consultation with the Ministry of Finance and the State Governments implementing the BADP and the state level screening committee under the Chairmanship of the Chief Secretary approves the schemes. The main objective of the programme is to meet the special needs of the people living in the remote and inaccessible areas near the international border.

In Meghalaya, the Border Area Development Department is implementing the State Plan Schemes and also schemes of the Special Central Assistance under Border Area Development Programme which is 100% funded by the Central Government. Schemes of the Special Central Assistance under Border Area Development Programme are being implemented by the Local Committees formed by the concerned villages with technical supervision from the Department for (1) Generating Employment opportunities among the local people of the area (2) better quality and early completion of the schemes, except those schemes which are highly technical in nature where implementation has to be done through the Technical Wing of the Department.

The State Government has undertaken schemes mainly under the following activities - Rural Electrification, Micro Hydel Projects, Ropeway Projects, Construction / extension of school buildings, Illumination of caves, Construction of footpath / footbridges, Construction of Community Halls, Construction of link roads, Construction of playground, Construction of market stalls, Construction of bus waiting sheds, Drinking water & sanitation facility, and also Individual schemes under Agriculture, Horticulture, Industries, Veterinary, Fisheries, Handloom & Sericulture.

#### **7.8. Conclusions and recommendations:**

The State of Meghalaya has wide rural urban disparity in terms of level of development if viewed from access to amenities and other economic and social indicators of developments of the State. The widespread prevalence of common property resources as ensured by the Constitutional provisions have not contributed to the desired level of change in terms of removal of wide spread inequality among the inhabitants.

The State, till date, remain insular to the paradigm shift in the development policies in India during the last decade of the twentieth century which took shape in the form of 73rd and 74th Amendment of the Constitution. A considerable amount of debate persists on whether the absence of Panchayati Raj institution limits the level of effective participation of the people in the development activities at the grass root level. Moreover, it also limits the participation of women in the decision-making processes. It is nevertheless believed that a more enabled, empowered, effective, accountable and participatory governance is required at the grass root level.

There has been a reduction of poverty at the national level in recent time, but the rural areas in Meghalaya continues to exhibit a high incidence of poverty. Though the general poverty scenario as mentioned in various reports has been acknowledged by the policy makers at different level, there has been no detail database on this subject in Meghalaya so far. This has complicated the issues of objective identification of the poverty stricken areas and has limited the effectiveness of the required interventions. Moreover, there is no formal database on land use, which has further complicated the situation.

The development activities in the rural areas of the State show that there has been wide gap between targets and achievements. The schemes of employment generation and self-employment have suffered most in this respect. The low level of asset formation is also evident from the small proportion of capital expenditure to the total expenditure in the rural development in the State.

The level of access to amenities to rural households also point out very low level of penetration of various facilities. A lot of ground has to be covered in areas like rural sanitation and water supply. The scattered nature and small size of the villages also pose a great problem in terms of connectivity. The remoteness of settlements on one hand is a major stumbling block for the government to provide social and economic infrastructure in a cost effective manner and on the other hand limits the expansion of economic endeavours of the rural population. All these factors can be identified for the general economic backwardness in the backdrop of an otherwise socially progressive society in Meghalaya.

The recommendations of this section mainly points out the necessary measures in terms of the subjects discussed above. But these must be supplemented with those in agriculture and resource management that are dealt separately.

- The absence of decentralized governance at grass root level is the major concern. The Sixth Schedule has hardly helped as an instrument of self-management and social and economic changes. The 73rd Amendment on the other hand promises more democratic way of land and community asset management for a better rural society of economic viability. It also provides for empowerment of the socially vulnerable sections in general and women in particular. There is enough scope within the provisions of 73rd amendments to accommodate the existing form of governance by State in transforming the Autonomous District Councils and role played by the traditional tribal councils. Thus the State must take initiative to look into the prospect of introducing some form of decentralized governance. In the Northeast Arunachal Pradesh has gone ahead by accepting the 73rd constitutional Amendment and constituted the Panchayat institutions. A close scrutiny of the Arunachal law on this subject should be taken up immediately involving all the concerned parties of the state.
- There should be formal database on rural poverty. The proposed study of Human Poverty Index should be expedited. The result of the household survey of the BPL families should be

consulted at every step of programme implementation and necessary corrective measures should be taken up in the process without any prejudice if any discrepancy is noticed.

- The financial performance of various schemes of rural development though available its spatial coverage should be maintained and published. Moreover the physical achievements should be made accessible to all concerned. The methodology and format to generate data and information on physical achievements of various schemes and their special coverage should be prepared with the help of competent agencies. Special effort should be in place to identify and document the best practices in rural development activities.
- The involvement of the NGOs, CBOs have been found to be very crucial as suggested by the better performance of Special Rural Works Programme (SRWP) where local communities participated actively. The government should take up necessary steps to involve such organizations to improve the effectiveness of the programme implementation. Conversely, hijacking or pocket boroughing Rural Development schemes should be firmly rejected and contained
- The share of capital expenditure in rural development works should increase to the desired level to sustain the development initiatives. Special care should be given to generate economic assets of the rural people.
- The rural population of Meghalaya is almost entirely dependent upon agriculture and allied sectors. These sectors however are characterized with low input output ratio and poor productivity. A development of agriculture, horticulture, animal husbandry and fisheries etc. can help provide sustainable employment to many rural households and help alleviate rural poverty. Rural development, indeed any development is linked to shifting an economy from primary production level to that producing value added products. This shift is facilitated by an efficient knowledge creation and dissemination system. This system should in the interest of efficiency be supported by government but managed by independent widely networked institutions with wide, efficient and rapidly upgrading learning organization. Performance and support to this organization should be outcome achievement linked. Given the rather small size of the State such a model can be successfully implemented.



**RAIN WATER HARVESTING**



**RURAL WATER SUPPLY SCHEME**



**IAY SCHEME**



**RURAL SANITATION**



## RURAL DEVELOPMENT IN WEST GARO HILLS





# **CHAPTER - VIII**

## **URBAN DEVELOPMENT**

## CHAPTER VIII

### URBAN DEVELOPMENT

#### 8.1. Introduction

Urbanization in Meghalaya has maintained a steady growth. As per 2001 Census, the state has only 19.58% urban population, which is much lower than the national average of 28%. Majority of people of the State continue to live in the rural areas and the same has also been highlighted in the previous chapter. As the urban scenario is a reflection of the level of industrialization, commercialization, increase in productivity, employment generation, other infrastructure development of any state, this clearly reflects that the economic development in the state as a whole has been rather poor. Though urbanization poses many challenges to the city dwellers and administrators, there is no denying the fact that the process of urbanization not only brings economic prosperity but also sets the way for a better quality of life. Urban areas are the nerve centres of growth and development and are important to their regions in more than one way. The current section presents an overview of the urban scenario of the state.

#### 8.2. Urban settlement and its growth in the state

Presently the State has 16 (sixteen) urban centres, predominant being the Shillong Urban Agglomeration (UA). The Shillong Urban Agglomeration comprises of 7(seven) towns viz. Shillong Municipality, Shillong Cantonment and five census towns of Mawlai, Nongthymmai, Pynthorumkhrah, Madanrting and Nongmynsong with the administration vested in a Municipal Board and a Cantonment Board in case of Shillong municipal and Shillong cantonment areas and Town Dorbars or local traditional Dorbars in case of the other towns of the agglomeration. The entire Shillong agglomeration has been considered as a single unit in this chapter. Among the other nine urban settlements eight are statutory towns with local administration in form of Town Committees or Municipal Boards, and one i.e. Sohra a census town. The following table shows the status of the urban centres in the State.

**Table 8.1 List and Administrative Status of the Urban Centres in Meghalaya**

Sl. No	Name of Town	District	Administrative Status
01	Shillong Municipal Board	East Khasi Hills	Municipality
02	Shillong Cantonment	East Khasi Hills	Cantonment Board
03	Mawlai	East Khasi Hills	Census Town
04	Madanrting	East Khasi Hills	Census Town
05	Nongthymmai	East Khasi Hills	Census Town
06	Nongmynsong	East Khasi Hills	Census Town
07	Pynthorumkhrah	East Khasi Hills	Census Town
08	Cherrapunjee	East Khasi Hills	Census Town
09	Nongstoin	West Khasi Hills	Town Committee/District Headquarter
10	Mairang	West Khasi Hills	Town Committee
11	Nongpoh	Ri-Bhoi	Town Committee/District Headquarter

12	Jowai	Jaintia Hills	Municipality/District Headquarter
13	Tura	West Garo Hills	Municipality/District Headquarter
14	Williamnagar	East Garo Hills	Municipal Board/District Headquarter
15	Resubelpara	East Garo Hills	Municipal Board
16	Baghmara	South Garo Hills	Municipal Board

Source: Census of India, 2001

On the increase of settlements, it has been found there has been nominal addition in the number of urban areas in the state ever since its inception. There were only six towns from 1971 – 1981 namely Shillong Municipality, Shillong Cantonment, Mawlai and Nongthymmai within Shillong Urban Agglomeration and Jowai and Tura. During 1981 census, six more towns were included namely Pynthorumkrah and Madanrtng within Shillong Urban Agglomeration and Sohra (Cherrapunjee), Nongstoin, Williamnagar and Baghmara taking the count to twelve. No new towns were included during 1991. However, in the last census of 2001 four more new towns came up, namely, Nongmysong within Shillong Urban Agglomeration and Mairang, Resubelpara and Nongpoh taking the number to sixteen altogether.

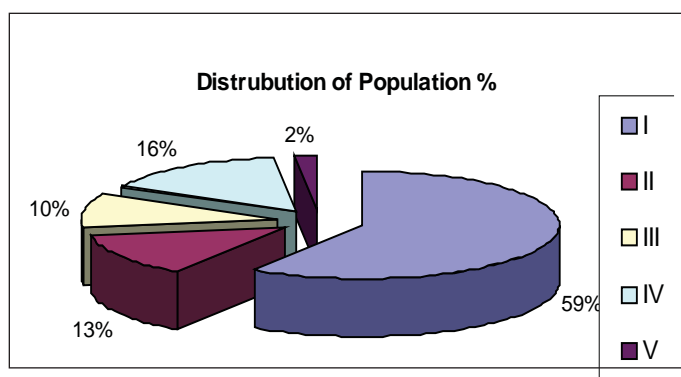


Figure 10.2 : Size Class Distribution of Urban Population 2001 (Source : Census of India, 2001)

On the status of the urban centres, study indicates that there are eight towns of class IV size, five towns of class III size and one town each of class I, II and V sizes. The distribution of population class wise shows the towns of Shillong Urban Agglomeration constitutes about 59.2% of the total urban population. This indicates absolute primacy in the settlement hierarchy of urban centres in the state. The other class II town constitute only 12.9% of total urban population implying that there is a wide gap between the largest and second largest town in the State.

### 8.3. Urban Population

#### Growth Trend

The urban population in Meghalaya has grown from 147,150 in 1971 to 240,733 in 1981, 330,047 in 1991 and finally 454,111 in 2001. The decadal growth rate of urban population was 63.60% in 1971-81, 37.10% in 1981-91 and 37.59% in 1991-2001. For the country as a whole, the decadal growth of population in urban areas during 1991-2001 was 31.2%. Thus the growth rate has remained higher than the national figure, which conforms to the general pattern of the urban growth in India since 1950s. Further, the trend of concentration of urban population in the State continues to be in the urban agglomeration of the capital city. Shillong and Tura accounts for 71.93% of the total urban population. It is expected that the increasing trend of urbanization will continue in

the near future. The individual growth rate of Shillong Urban Agglomeration has been 19.83% during the last census decade (1991-2001). Among the three other important towns, the growth rate for the same period has been 61.14% for Nongstoin, 21.63% for Jowai and 28.03 for Tura. If the towns within the Shillong UA are taken individually it is evident that the growth of population during 1991-2001 within the Shillong Municipality area has been nominal (less than 1%). However, the five smaller census towns within the Shillong UA has grown considerably during this period which has actually contributed to the over all growth of Shillong UA.

#### **District Wise Distribution of Towns and Urban Population**

The East Khasi Hills, West Khasi Hills and East Garo Hills district have two towns each while the other four districts have one town each. The contribution of district to the total urban population also varies to a large extent. The highest contribution is made by East Khasi Hills District, which accounts for 60% of the total urban population of the state. However, the lowest concentration of urban population is in the South Garo Hills district, which has only 2% of the total urban population. The population distribution indicates that there are significant inter district variations in the distribution of urban population. The East Khasi Hills has the highest level of urbanization as nearly 42% of the total population of the district lives in the urban areas. Apart from the East Khasi Hills, all other districts have low level of urbanization ranging from 14.33% in East Garo Hills to 6.84% in Ri-Bhoi district. The level of urbanization in all the districts except East Khasi Hills is below the state average of 19.8%.

#### **8.4. Urban Management and Service Delivery**

A complex legal framework *vis-à-vis* the constitutional status of the State dominates the urban governance and management in the State. Except for the Shillong Municipality, all the areas of the State are classified as "Tribal Area" as per Article 244 of the Constitution of India whereby powers to make laws and rules on a number of subjects have been vested in the Autonomous District Councils. The Meghalaya Town and Country Planning Act, 1973 (The Assam Town and Country Planning Act, 1959 as adopted by Meghalaya) as well as the Meghalaya Municipal Act, 1973 (The Assam Municipal Act, 1956 as adopted by Meghalaya) are in force over the whole State. While Municipal Boards have been constituted in some towns under the provision of the Municipal Act, management of some towns are with the Town Committees constituted by the Autonomous District Councils. In some town like Sohra there is no urban local body. However, because of various underlying problems, these bodies are yet to establish themselves firmly and are mostly dependant on the government for most of their obligatory functions. In this scenario, government departments and parastatal agencies besides traditional village bodies have been involved in the civic management and service delivery in most of the towns.

#### **8.5. Urban Infrastructure**

Process of urbanization has created a huge gap between demand and supply of urban services and infrastructure. Under such a scenario, the supply of urban infrastructure to meet the existing demand and ever increasing demand is a huge task, which asks for better efficient management

to solve the problem of quality and availability of urban services and infrastructure. The style of urban infrastructure provision that encourages more efficient pattern of resource consumption is the basis for development of sustainable cities. Therefore, the biggest challenge for the urban management agencies is to provide its citizens with reliable services that are financially and environmentally sustainable. This section details the quality of urban services offered by various agencies in the state of Meghalaya.

### Water Supply

The PHED provides the bulk water supply in the urban areas of the state whereas the distribution is vested either in the Department concerned or the Municipal Board as in case of Shillong and even to the Autonomous District Council as in the case of Tura. Besides village bodies are also involved in water supply management. They developed small water schemes supplying the water through stand posts. Small springs are also used by nearby residents to meet their water needs. As per the Census report almost 71% of the households in the urban areas receive drinking water from tap, though there are considerable inter-town variations. With population increasing, it is imperative that water demand would be a serious challenge in all the towns. Major issues of drinking water include improvement in distribution system, inequitable distribution, water resource management & treatment, rationalization of water usage, institutional arrangements, besides capacity enhancement. The table below gives the distribution of households by location of drinking water among the different towns.

**Table 8.2 Distribution of Households by Location of Drinking Water (in %)**

	Within Premises	Near Premises	Away
Tura (M)	54	32	14
Resubelpara (MB)	45	43	12
Williamnagar (MB)	40	51	9
Baghmara (MB)	27	40	33
Nongstoin (TC)	18	55	27
Mairang (TC)	13	69	18
Nongpoh (TC)	17	26	58
Mawlai (CT)	28	51	21
Shillong Cantt. (CB)	47	28	25
Shillong (M)	73	20	7
Pynthorumkhrah (CT)	33	47	19
Nongmynsong (C)	7	29	64
Nongthymmai (CT)	67	19	14
Madanrting (CT)	23	35	42
Cherrapunjee (CT)	31	51	18
Jowai (M)	51	29	20

Source: Census, 2001

### Sanitation

There is no sewerage system in any of the urban areas of the State. The domestic wastewater, comprising of sewage and sullage, is either disposed off into individual septic tanks and soak pits or flows into the primary, secondary and natural drains and finally to the nearby rivers. Based on the Census Report 2001, coverage in the urban areas is about 91.58% of which 47.54% have sanitary latrines and 52.46 % have pit and other types of latrines. About 8.41 % have no toilet facility. Septic tank systems are used by majority of the households. A major drawback of these systems is the high potential for ground water pollution. The other disadvantages of the septic tank systems are high capital cost per user and need for regular desludging. The table below gives the distribution of households by type of latrine facility among the different towns.

**Table 8.3 Distribution of Households by Type of Latrine (in %)**

Area Name		Type of Latrine within the house			
		Pit Latrine	Water closet	Other Latrine	No Latrine
Tura	Municipal Board	45	20	25	10
Resubelpara	Municipal Board	84	6	6	4
Williamnagar	Municipal Board	63	20	9	8
Baghmara	Municipal Board	41	15	20	24
Nongstoin	Town Committee	42	36	5	17
Mairang	Town Committee	67	8	4	21
Nongpoh	Town Committee	56	10	14	20
Mawlai	Census Town	52	32	14	2
Shillong Cantt.	Cantonment Board	14	31	32	23
Shillong	Municipal Board	14	66	15	5
Pynthorumkhrah	Census Town	44	39	17	0
Nongmynsong	Census Town	57	29	10	4
Nongthymmai	Census Town	11	67	16	6
Madanrting	Census Town	24	66	7	3
Cherrapunjee	Census Town	13	26	14	47

Source: Census, 2001

### Storm Water Drainage

A major problem in all the towns is absence of adequate drainage system which is posing problems of water logging and flooding, causing landslips and soil erosion. This situation is aggravated by indiscriminate and uncontrolled developmental activities add to the problem causing obstruction of drains and encroachments on rain flow paths. The table below shows the distribution of households by type of connectivity of drainage facility revealing that almost all the urban areas are either connected to open drains or no drain at all.



**Table 8.4 Distribution of Households by Connectivity of Drainage (in %)**

Area Name		Type of drainage connectivity		
		Closed drain	Open drain	No drain
Tura	Municipal Board	9	34	57
Resubelpara	Municipal Board	2	19	79
Williamnagar	Municipal Board	7	29	64
Baghmara	Municipal Board	3	27	70
Nongstoin	Town Committee	10	27	63
Mairang	Town Committee	8	28	64
Nongpoh	Town Committee	4	54	42
Mawlai	Census Town	12	80	8
Shillong Cantt.	Cantonment Board	18	76	6
Shillong	Municipal Board	24	72	4
Pynthorumkhrah	Census Town	11	75	14
Nongmynsong	Census Town	5	79	16
Nongthymmai	Census Town	17	78	5
Madanrting	Census Town	6	89	5
Cherrapunjee	Census Town	6	68	26

Source: Census, 2001

### Solid waste Management

Management of solid wastes is perceived as a crucial civic service with great environment implications. In the Municipal areas collection of waste in the city is through primary collection from waste depots/garbage bins. There is also a system of street sweeping in all municipal towns. However, there are still problems of collection, since not all garbage generated is removed leading to spill over to drains, streams and public places. In the non municipal towns, collection of garbage is not regular but managed on adhoc basis and operated through the system established by the local village bodies /community/NGO. Typically, residents bring their garbage to the collection trucks or drop it at a designated location, which may be just an open spot. This garbage is then loaded into the trucks manually, necessitating multiple handling of waste. The estimated waste generation for the major towns is provided as follows:

**Table 8.5 Estimated Waste Generation in major towns**

Sl. No.	Source of Data	Estimated Waste Generation (MT)
1.	Shillong Urban Agglomeration	174
2.	Tura Municipal Board	24.5
3.	Jowai Municipal Board	22
4.	Williamnagar Municipal Board	18
5.	Baghmara Municipal Board	10

6.	Resubelpara Municipal Board	13.30
7.	Nongstoin	8.15
8.	Nongpoh	3.83

Source: DUA, Shillong, 2007

At present, Shillong is the only urban centre to boast of a centralised waste disposal and treatment facility. As part of that facility, a 100 TPD compost plant has been developed on a PPP mode. However the smooth operation of the plant has been affected to a large extent by the absence of a landfill site to absorb the rejects from the composting process. A site for a sanitary landfill site has now been identified. An incinerator for bio-medical waste disposal is also operating in the same site. In Tura, a 40 TPD vermin-composting plant has been developed and the same is under operation. Municipal Boards of Williamnagar, Baghmara and Resubelpara have already identified permanent sites for waste disposal and the same is under development. There is problem of a permanent disposal site for Jowai Municipal Board and the Board is presently using a site belonging to the Jaintia Hills Autonomous District Council. In the non-Municipal towns, there is no proper system of waste disposal and waste is generally dumped on any available site without any environmental considerations.

### **Quality of Housing**

Housing condition in the towns is mainly characterized by medium density development, mostly either semi pucca or pucca structures with a substantial number of kutcha houses. As per the Census, the condition of houses used for residence and other purposes in the urban areas shows that 60.8% are in good condition, 34.7% in liveable condition and 4.5% in a dilapidated condition. Moreover 87.7% of the households live in houses with pucca roof material. In 1988, the Government of Meghalaya evolved State Housing Policy which lays emphasis on increasing the housing stock and qualitative upgradation of existing shelters by way of providing necessary construction material at subsidized rate and soft loan for the poorer section of the people. As regards other income group people it envisages to facilitate flow of institutional finance for constructing houses. The main emphasis of is to encourage private individuals and co-operative societies for owning the houses.

### **Transportation**

Transport Infrastructure is one of the important needs of the people in order to facilitate various productive activities in any area and general well being of the society at large. This sector of urban development seems to be entirely neglected in most of the urban centers of the state. It has been assessed that except for Shillong, transportation facility in the other areas is far from satisfactory. Further the topographic and concentric development of most of the towns has aggravated the problem. Though most of the towns are very small but because of the narrow roads and yearly growth of vehicles, the signs of traffic congestion have already appeared in many of the town's roads. In most cases the major highways passes through the city centre as a result of which

regional traffic comes in conflict with the local traffic. The role of public transport is also limited in most cases because of inadequate road network, poor infrastructure and scattered demand. Shared Taxi and other modes such as buses are plying in the city for intracity movement. Absence of sufficient footpath network along the busy corridors of the roads also affects smooth movement of both vehicular and pedestrian traffic. It is clear from the above that to address the various issues more innovative and calculative approach would be required to address the various issues. It is essential that besides improvement of the various intersections and construction of off-street parking facilities, an efficient system for the town can be achieved by evolving functionally inter-related land use pattern by optimizing both travel time and travel costs.

### **8.6. Urban Poverty**

Slums have emerged in the urban areas of the State purely due to lack of basic infrastructure in such areas. As per the provisions of Meghalaya Slum Areas (Improvement and Clearance) Act, 1973 (The Assam Slum Areas (Improvement and Clearance) Act, 1959 as adopted by Meghalaya), 45(forty five) slums have been identified and notified and 5(five) more have been identified but yet to be notified, in 6(six) towns in the State. Slum population constitutes around 42 % of the population of these towns.

Most of the slum pockets are located in low lying and water logged areas and is in very poor sanitary condition and unhygienic surroundings. Most of them are temporary structures. Significant percentage of people do not have access to basic services viz. water supply, electricity, toilets, sewerage, drainage, solid waste disposal facilities, health care facilities, schools paved streets etc. Poor civic amenities and inadequate sanitation are widespread in slums thus increasing the vulnerability of the urban poor. The Urban Affairs Department and the municipalities are the agencies taking up slum improvement works in the state.

The problem of poverty is complex and multidimensional and its solution requires harnessing resources to tackle urban poverty in its numerous dimensions. The subject is complex due to the little insight available on the socio-economic characteristics of the State and inadequacy of reliable data. As a consequence, limited studies are available on this aspect and fewer still are attempts to address the poverty reduction. Based on the surveys conducted in the municipal towns of the State, over the period from 1990 till 2000, as per the old guidelines of urban poverty alleviation programmes, BPL population constituted around 22 % of the total population of these towns. A fresh survey for identification of the BPL population as per new poverty line of Rs. 347.42 per capita/per person/per month as fixed by the Planning Commission, is now under progress in all the municipal towns.

### **8.7. Programme and Plans**

Over the years government bodies has been putting constant efforts to improve the urban development within the towns. Policies and programmes are being constantly implemented to achieve the desired goals. This is supplemented by Five Year Plans vis-a vis Annual Plans to project

the financial requirement and focus the strategies for development. Some of the important ongoing schemes are highlighted below:

### Ongoing Schemes

**(i) Infrastructure Development (ID):** The schemes aims for providing of basic infrastructure at town and locality level, like construction of roads, footpaths, community halls, parking lots, neighbourhood markets and land acquisition for infrastructure projects. The scheme is being implemented in all District Headquarter towns viz. Shillong, Tura, Jowai, Williamnagar, Baghmara, Nongstoin and Nongpoh.

**(ii) Environmental Improvement of Urban Slum (EIUS):** The EIUS schemes which are a part of 20 Point Programme are being implemented in the slum areas of Shillong, Tura, Jowai, Baghmara, Williamnagar & Nongstoin. The scheme has played a significant and satisfactory role in the improvement of slum environment and upgradation of basic infrastructure in the slum areas of the above towns. Basic amenities like drains, footpaths, sanitation facilities, drinking water supply etc., have been provided under the scheme. In all, improvement works have been taken up in 45 notified and 5 identified slums in the State over the years.

**(iii) Special Urban Works Programme & Chief Minister's Special Urban Development Fund (SUWP & CMSUDF):** The Special Urban Works Programme (SUWP) also known as MLA scheme as well as Chief Minister's Special Urban Development Fund (CMSUDF) is being funded by the State Government and implemented through the Municipal Boards and Urban Affairs Department respectively in the Urban and Semi-Urban Constituency with an objective to generate wage employment through creation of useful public assets. Normally Rs 100.00 lakhs is provided to each MLA every year and the CM each year under SUWP and CMSUDF respectively.

**(iv) National Urban Information System (NUIS):** This is a newly launched Centrally Sponsored Schemes with an objective to create a comprehensive urban information system involving both attribute and spatial data for various levels of urban planning and decision support. The schemes has two major components: - (i) Urban Spatial Information System (USIS) and (ii) National Urban Data Bank and Indicator (NUDB&I) with different sub components like town mapping, data bank, systems, capacity building etc. The funding pattern of the scheme is different for different components but works out overall in the ratio 70:30 between central and state Government.

**(v) Swarna Jayanti Shahari Rozgar Yojana(SJSRY):** This is a Centrally Sponsored Scheme under Urban Poverty Alleviation Programme implemented through the Municipal Boards in Shillong, Tura, Jowai, Williamnagar, Baghmara and Resubelpara. This scheme has three major components viz., Self Employment, Wage Employment and Community Structure. Under Self Employment component, loan and subsidy is extended to urban poor beneficiaries. Under Wage Employment, community assets are created by community-based organization through wage employment to poor beneficiaries. Under Community Structure component, social inputs like health, nutrition etc., are provided to poor beneficiaries.

**(vi) New Shillong Township:** As part of recommendation of the Shillong Master Plan 1991-2011, a new township is proposed to be developed over 2030 hectares of land to accommodate the future population of Shillong. It is also proposed to acquire only 500 hectares of land which will come under direct Government intervention. In this 500 hectares, apart from laying the entire basic infrastructure, the administrative, institutional, general housing, commercial and community facilities will be established. In the remaining areas development through private sector intervention is envisaged. Till date, 370.26 hectares have already been acquired at a total cost of Rs. 33.74 crores. Part of this expenditure has been met out of the State Plan Budget of Urban Affairs Department and part from Additional central Assistance extended by Government of India from time to time. Land has been allotted for establishment of various reputed national institutes like Indian Institute of Management, National Institute of Fashion Technology. Information Technology Park etc. Detailed Project Report for different sectors like road, water supply, sewerage drainage etc. has been finalized and efforts are now being made to mobilize fund for laying the same.

**(vii) Jawaharlal Nehru National Urban Renewal Mission(JNNURM):** This is a major initiative of Government of India started during 2005-2006 to revamp and upgrade infrastructure in major urban centres in the country. Assistance under the programme is linked to implementation of reforms in the urban sector aimed towards better service delivery, transparency, accountability and people's participation. While Shillong has been selected under the programme, the other towns are eligible to avail assistance under two omnibus schemes called *Urban Infrastructure Development for Small and Medium Towns (UIDSMT)* and *Integrate Housing and Slum Development Programme (IHSDM)*. As a part of the programme, City Development Plan and Vision Statement has been prepared for Shillong as well as the other district headquarter and municipal towns. An agreement has also been signed with Government of India to implement the reforms within specified timeframe. Till date (September 2008) projects amounting to Rs. 27,022.04 lakhs have been sanctioned under the programme.

### The Five Year Plans

**Tenth Five Year Plan (2002-07):** During the Tenth Plan, thrust was laid on the orderly growth and sustainability of urban centres and potential growth centres. With this objective in mind, priority was accorded for enhancing the level of physical amenities and infrastructure, setting up of a new township near Shillong, strengthening of the local bodies in the urban centres, upgradation and improvement of slum areas and poverty alleviation programmes. The approved outlay for Urban Development during the Tenth Plan period was Rs. 10,650 lakhs against which expenditure incurred was Rs. 5930.53 lakhs.

**Eleventh Five Year Plan (2008-12):** During the Eleventh Five Year Plan, the strategy has largely remained the same as adopted in the tenth plan with a slight shift towards urban reforms to improve the urban governance, enhance quality of delivery of services and to ensure sustainable development of urban areas, to provide impetus to the economic growth and improve quality of life of citizens. The objective of the Eleventh Plan being;

- (i) Focused attention to integrated development of infrastructure services in urban areas in a mission mode keeping in mind the efficient delivery and sustainability of services.
- (ii) Focused attention to integrated development of basic services to the urban poor keeping in view the efficient delivery and sustainability with emphasis on universal access to urban poor.

The proposed outlay for the Eleventh Plan is Rs 23,000.00 lakhs.

## 8.8. Issues and Recommendations

### Issues

- A low level of urbanization characterizes the state of Meghalaya, as only about 20% of the state's population lives in urban areas. The urban scenario in Meghalaya is dominated by the overwhelming presence of only one town, i.e. Shillong. About 60% of the total urban population is concentrated in Shillong. The only significant town after Shillong is Tura, which has a population of over fifty thousand. The distribution of urban population suggests that apart from the East Khasi Hills, all other districts have a very low level of urbanization, much below the state average. Although there has been increase in the number of towns, second order towns with growth potential are yet to emerge as a favoured urban destination in the State. As per projections made by the Census of India, the State would achieve around 24.7% overall level of urbanization as against 34% national average by 2016.
- Multiplicity of authorities and complex legal framework for urban development vis-à-vis the constitutional status of the State is hampering urban development in the State.
- The capital city is increasingly becoming congested for want of space. The space constraint is most critically felt with respect to transportation, parking, housing and development of commercial areas. Moreover the capital city is located in fragile environment prone to natural disasters like earthquakes and landslides. Planned development is therefore an absolute necessity. Under the provisions of The Meghalaya Town and Country Planning Act, 1973, Urban Affairs Department have taken up the responsibility of preparation of Master Plans of the urban areas of the State.
- Provision of basic urban infrastructure seems to be the main area of concern in the State. Although there are possibilities of investment in Shillong Urban Agglomeration, the issue of institutional arrangement for Shillong Urban Agglomeration has to be addressed. The state capital has seen rapid growth in its fringe area, which do not

come directly under the jurisdiction of Shillong Municipal Board, and provision of civic services are a matter of concern in these areas. At present the other urban centres, although of smaller population size, have their own requirements of investment. As per an assessment made under JNNURM, the total investment required for creation and augmentation of the infrastructure in all the district headquarters towns and the municipal town of Resubelpara is over Rs. 4000.00 crores.

- Most towns in the State have evolved around the central business district. The terrain condition prohibits high density development. There are needs of decentralization of activities. Setting up of Satellite townships for Shillong, Tura and Jowai requires exploration.
- Urban governance structure and management is in a state of flux. Both urban development schemes as well as rural development schemes are in operation in urban areas. Apart from municipal towns, Community and Rural Development Department is operating in the other towns.
- Financial resource mobilization and its augmentation for the ULBs has been an area of concern. Financial dependence on the State has affected the infrastructure provision in urban areas. Although 74th CAA has introduced a system of smooth sharing of resources between State Government and ULBs on the one hand, and between different municipal bodies on the other, by institution of State Finance Commission, yet the State remains outside the purview of 74th CAA. Most investment on development and upgradation of urban infrastructure is made by the State Government through its Departments as per provisions in the State Plan budget. The investment is not commensurate with the proportion of population residing in the urban areas. Only grant-in-aid assistance is extended to the ULBs to meet its resource gap.

### Recommendations

Urban development is not simply the improvement in physical infrastructure but also improvement of the economy as well as the capacity, transparency and accountability of the governing institutions in charge of the urban affairs. Understanding the growth of urban development is essentially to understand the economy of the region, guide its expansion for the overall economic development and forecast future land use, suggest optimum utilization of space and to minimize adverse ecological impacts. Based on the above premises, the following recommendations are made for urban development in the State:

- There should be a shift from the existing physical planning approach to a regional economic development approach with an integrated urban-rural planning strategy.
- In the past urban development has focused only on the development of physical infrastructures including housing, roads, access to water, sanitation electricity and

other basic amenities. However there exist a need of change the focus to strengthen the governing institutions that are responsible for taking decisions concerning infrastructure and the services rendered. There arises a need for strategic planning to assist in developing stronger foundation for effective local government. In order to improve the performance of urban development the decision makers should be made more responsible and accountable for their decisions and actions. In addition, a number of policy and regulatory instruments are needed to transform local governments from 'implementing' to 'enabling' environment.

- There is a need for increased investment for urban development which should be commensurate to the proportion of population residing in these areas. There is also a need for enhancement of municipal revenue by restructuring the tariff structure to ensure cost recovery. Simultaneous improved financial management in the ULBs is also called for.
- Urban poverty has largely remained a neglected sector. A strategy needs to be adopted to bring about urban poor mapping in all the towns followed by provision of basic services to the poor and creation of employment opportunities.
- The state of Meghalaya is characterised by a distinct 'Urban Primacy'. There is a clear need for public intervention to induce growth and development in other urban centres. As the scope for large amount of public investment is limited, suitable interventions in terms of favourable policy incentives for investments in other urban centres may be contemplated. This will not only relieve some pressure on the State capital of Shillong, but also contribute considerably to the over all growth of the economy and better distribution of employment opportunities.
- Land is not a freely marketable resource in Meghalaya on account of the land tenures system and other land transfer laws. This, to some extent hampers a well-balanced urbanization process. There is a need to devise a mechanism for providing some limited relaxation of rules and regulations in respect to land transfer in certain areas for encouraging bonafide development activities. This would definitely favour the growth of urbanization in the other parts of the state.
- Due to the historical significance of Shillong, it is one of the best towns among the hill stations of the country and in the North Eastern region in particular. It is equipped with good quality infrastructure, especially the quality of road network. Necessary effort should be in place to maintain the standard of roads and improve the water supply, sanitation and solid waste collection and disposal, which are presently areas of concern. There is a need for a satellite township to relieve the burden on the state capital as perceived by the government. The process must be expedited to avoid the cost overrun and attract potential investors in real estate. In the backdrop of the recent policy initiatives of the government in the field of industry, IT and tourism



there is a need for the faster development of the proposed new satellite township. Public-Private partnership needs to be explored and expertise and investment from outside has to be promoted for the township development.

- The jurisdiction of the Municipal authority should extend to the other areas within the Shillong Urban Agglomeration. This will not only help to improve the physical infrastructure of these areas but also put a check on unplanned growth in the fringe areas of the town. As the State is looking for private investments in industry, infrastructure, IT and other basic services, the maintenance of high quality infrastructure of the State capital is necessary. A separate urban governance structure as well as a new institutional arrangement for Shillong Urban Agglomeration will have to be evolved along with active partnership of the local traditional institutions.
- Sites for sanitary landfill needs to identified and developed on priority in all towns as commercial exploitation of municipal waste do not appear a viable option at this stage.
- There is a need to ensure that the impacts of any biospheric interventions (including policies and laws related to land use practices, infrastructure upgrading schemes etc.) are carefully considered. The unsustainability in the environment is reflected in increased emission levels, increased atmospheric pollution, pollution of water and soil, disappearance of natural areas and degradation of urban space. The cutting down of waste, conservation of energy, and protection of natural spaces are other challenges to be overcome for a sustainable urban development.
- There is a need for clear policy for urban development and functional jurisdiction in the state vis-à-vis the powers and functions of the Autonomous District Councils.
- The existing ULBs suffer from serious resource crunch due to its limited resource base leading to low levels of capacity. Reforms and capacity building are needed in ULBs to ensure that the city government transform from the current situation of indifferent service providers to a vibrant and responsive creator of high quality infrastructure, especially civic environmental infrastructure. The agenda for such a transformation includes legal and institutional changes, financial reforms, and a framework wherein the consent and participation of the citizens is a routine and not the exception.
- With the rapid increase in the number of vehicles in the state, the problem of managing the traffic will be another big challenge. There is not much space in the urban areas for expanding the road network and traffic congestions in Shillong are already a common feature. As an immediate measure, comprehensive mobility plan where priority is more on movement of pedestrians than vehicles needs to be drawn up for the larger towns. A clear policy on public transport system vis-à-vis the private transport system needs to be adopted.

- As more opportunities are available in the urban areas, people are relocating from rural to urban areas. More focus on development on rural areas will release the pressure of development in the urban areas. The initiatives for rural development are discussed in detail in the chapter on Rural Development of the report.

### 8.9. Annexure

**Table 8.6: Growth of Towns and Population in Meghalaya**

Towns	Population						
	1971	1981	Decadal growth (%)	1991	Decadal Growth (%)	2001	Decadal Growth (%)
1.Shillong Urban Agglomeration	122732	174643	42.30	223366	27.90	267881	19.93
a. Shillong Municipality	87639	109244	24.65	131719	20.57	132876	0.88
b. Shillong Cantonment	4730	6620	39.96	11076	67.31	12385	11.82
c. Mawlai	14260	20405	43.04	30964	51.75	38241	23.50
d. Nongthymmai	16103	21558	33.88	26938	24.96	34209	26.99
e. Pynthorumkhrah		10711		13682	27.74	22108	61.58
f. Madanrting		6165		8987	45.77	16700	85.82
g. Nongmysong						11362	
2.Cherrapunjee		6097		7777	27.55	10086	29.69
3. Nongstoin		3880		14339	269.56	22003	53.44
4. Mairang						11517	
5. Jowai	8929	12323	38.01	20601	67.18	25023	21.46
6. Williamnagar		4290		12004	179.81	18251	52.04
7. Resubelpara						17652	
8. Tura	15489	35257	127.63	46066	30.66	58391	26.76
9. Baghmara		4183		5894	40.90	8643	46.64
10. Nongpoh						13165	
Total	147150	240733	63.60	330047	37.10	452612	37.14

Source: Census of India, 2001

**Table 8.7: District Wise Distribution of Urban Population**

District	Urban Population		
	1991	2001	Decadal Growth (1991-01)
East Garo Hills	12004 (6.36)	35903 (14.33)	199.1
West Garo Hills	46066 (11.43)	58978 (11.38)	28.3
South Garo Hills	5894 (7.65)	8643 (8.56)	46.6

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West Khasi Hills	14339 (6.50)	34598 (11.69)	141.3
Ri-Bhoi	0	13180 (6.84)	
East Khasi Hills	231143 (42.97)	277748 (42.02)	20.2
Jaintia Hills	20601 (9.34)	25057 (8.38)	21.6
Total	330047 (18.60)	454107 (19.58)	37.6
Source: Census of India, 2001			

**Table 8.8: Size Class Distribution of Urban Population 2001**

Size Class	Number of Towns	Population	Percent to total
I	1	267881	59.2
II	1	58391	12.9
III	2	47026	10.4
IV	5	70761	15.6
V	1	8643	1.9
Source: Census of India 2001			

**Table 8.9 Distribution of Households by Source of Drinking Water and Location**

	Urban	No. of Households	Within Premises	Near Premises	Away
State - MEGHALAYA 17	Total	90658	44609	30547	15502
Tura (M)	Total	9719	5230	3127	1362
Resubelpara (MB)	Total	2992	1355	1280	357
Williamnagar (MB)	Total	3446	1387	1765	294
Baghmara (MB)	Total	1609	442	643	524
Nongstoin (TC)	Total	4248	762	2351	1135
Mairang (TC)	Total	2003	269	1375	359
Nongpoh (TC)	Total	2734	459	1574	701
Mawlai (CT)	Total	7759	2208	3955	1596
Shillong Cantt. (CB)	Total	2535	1187	706	642
Shillong (M)	Total	28262	20676	5632	1954
Pynthorumkhrah (CT)	Total	4628	1534	2195	899
Nongmynsong (C)	Total	2996	223	865	1908
Nongthymmai (CT)	Total	7675	5121	1480	1074
Madanrting (CT)	Total	3332	763	1178	1391
Cherrapunjee (CT)	Total	1857	579	947	331
Jowai (M)	Total	4778	2419	1384	975

**Table 8.10: Distribution of Household by Availability of Bathroom and Type of Latrine within the House**

Area Name	Total/ Rural/ Urban	Total number of households	Number of households having bathroom facility within the house	Type of latrine within the house			
				Pit latrine	Water closet	Other latrine	No latrine
	1	2	3	4	5	6	7
State-MEGHALAYA 17	Total	420,246	141,445	128,375	51,774	34,995	205,102
State-MEGHALAYA 17	Rural	329,678	78,216	98,370	12,339	21,490	197,479
State-MEGHALAYA 17	Urban	90,568	63,229	30,005	39,435	13,505	7,623
Tura (M)	Total	9,719	3,565	4,338	1,899	2,462	1,020
Resubelpara (MB)	Total	2,992	756	2,508	184	191	109
Williamnagar (MB)	Total	3,446	789	2,191	683	310	262
Baghmara (MB)	Total	1,609	316	664	242	320	383
Nongstoin (TC)	Total	4,248	2,461	1,778	1,519	229	722
Mairang (TC)	Total	2,003	1,671	1,334	160	82	427
Nongpoh (TC)	Total	2,729	630	1,542	274	372	541
Mawlai (CT)	Total	7,759	6,846	4,109	2,458	1,063	129
Shillong Cantt. (CB)	Total	2,535	1,561	351	787	824	573
Shillong (M)	Total	28,262	23,545	4,047	18,747	4,191	1,277
Pynthorumkhrah (CT)	Total	4,628	3,468	2,014	1,807	794	13
Nongmynsong (C)	Total	2,996	2,048	1,710	857	314	115
Nongthymmai (CT)	Total	7,675	6,811	855	5,145	1,207	468
Madanrtng (CT)	Total	3,332	2,893	788	2,211	247	86
Cherrapunjee (CT)	Total	1,857	1,305	233	480	263	881
Jowai (M)	Total	4,778	4,564	1,543	1,982	636	617

**Table 8.11. Distribution of Household s by Type of Drainage Connectivity**

Area Name	Total/ Rural/ Urban	Total number of households	Type of latrine within the house		
			Closed drainage	Open drainage	No drainage
	1	2	8	9	10
State - MEGHALAYA 17	Total	420,246	21,580	134,569	264,097
State - MEGHALAYA 17	Rural	329,678	7,983	78,740	242,955
State - MEGHALAYA 17	Urban	90,568	13,597	55,829	21,142
Tura (M)	Total	9,719	906	3,281	5,532
Resubelpara (MB)	Total	2,992	60	565	2,367
Williamnagar (MB)	Total	3,446	228	1,010	2,208
Baghmara (MB)	Total	1,609	42	435	1,132

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Nongstoin (TC)	Total	4,248	438	1,144	2,666
Mairang (TC)	Total	2,003	170	562	1,271
Nongpoh (TC)	Total	2,729	100	1,479	1,150
Mawlai (CT)	Total	7,759	892	6,226	641
Shillong Cantt. (CB)	Total	2,535	463	1,929	143
Shillong (M)	Total	28,262	6,688	20,303	1,271
Pynthorumkhrah (CT)	Total	4,628	485	3,485	658
Nongmysong (C)	Total	2,996	161	2,351	484
Nongthymmai (CT)	Total	7,675	1,282	5,976	417
Madanring (CT)	Total	3,332	196	2,958	178
Cherrapunjee (CT)	Total	1,857	109	1,266	482
Jowai (M)	Total	4,778	1,377	2,859	542

**Table 8.12: Outlays and Expenditure in Urban Development Programmes (Rs. in lakhs)**

Sl.No	Major/Minor Heads of Development	Tenth Plan 2002-07	Tenth Plan 2002-2007	Eleventh Plan 2007-2012	Annual Plan 2007-2008		Annual Plan 2008-2009
		Projected Outlay (at 2001-02 prices)	Actual Expenditure	Projected Outlay (at 2006-07 prices)	Agreed Outlay	Anticipated Expenditure	Proposed Outlay
1	2	3	4	5	6	7	8
	03-IDSMT-051-Construction (01)-IDSMT	200.00	48.00	-			
	05-Other Urban Development Schemes-051-Construction (03) I.D.	500.00	747.86	500.00	80.00	80.00	80.00
	(04)-SUWP including CMSUDF-05-Other Urban Development Schemes-800-Other Expenditure	1325.00	1758.50	3250.00	650.00	650.00	650.00
	(06)-I.S & G.I.S. (National Urban Information System)	70.00	11.50	50.00	10.00	10.00	10.00
	80-General-001-direction & Administration	300.00	270.65	400.00	68.00	68.00	75.00
	003-Training of Personnel-(01) Training of personnel in Town & Rural Planning	2.50	-	-	-	-	-
	191-Assistance to Local Bodies, Development Authorities etc.	50.00	61.05	100.00	10.00	10.00	10.00
	04-NSDP-(02) Central Assistance of NSDP	550.00	307.57	-	-	-	-
	04-Sum Areas Improvement-051-Construction-(01) Slum Improvement Schemes in congested Town Areas	150.00	199.96	270.00	45.00	45.00	45.00
	05-Other Urban Development Schemes (05) SJSRY	120.00	23.92	180.00	20.00	20.00	102.00
	(07) I.S.U.I.	410.00	36.00	-	-	-	-
	(06)-NLPCR (state share)	200.00	4.00	50.00	-	-	-

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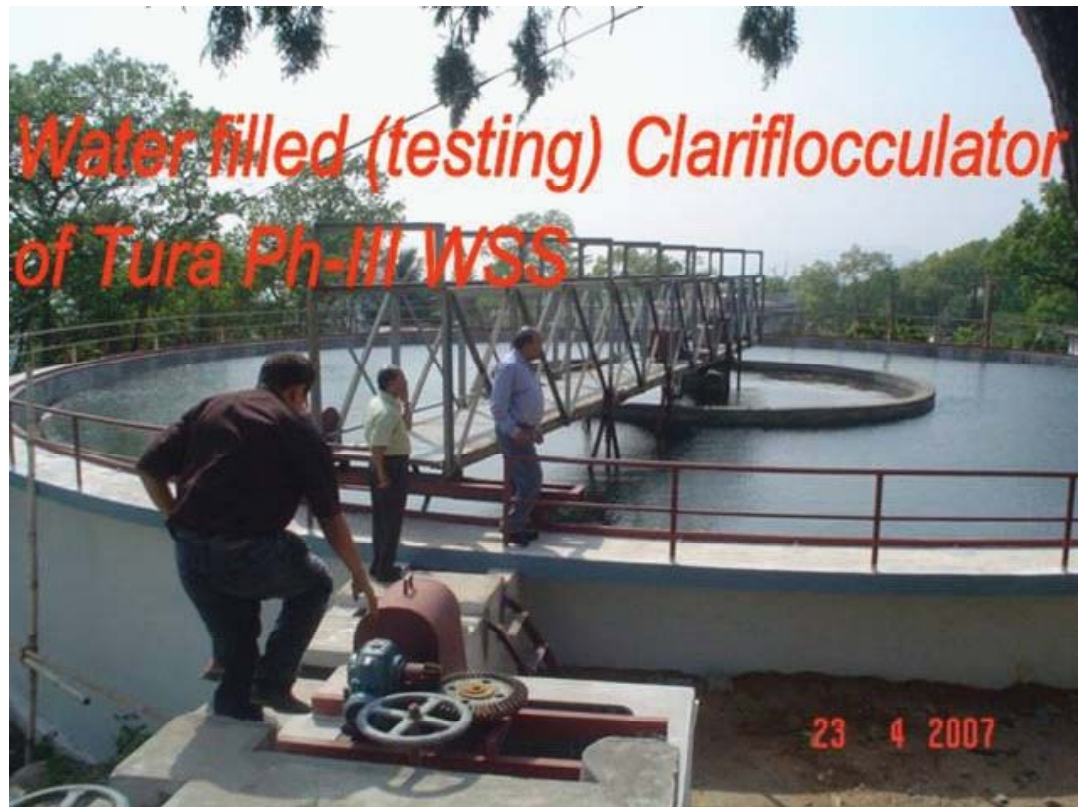
Sl.No	Major/Minor Heads of Development	Tenth Plan 2002-07	Tenth Plan 2002-2007	Eleventh Plan 2007-2012	Annual Plan 2007-2008		Annual Plan 2008-2009
		Projected Outlay (at 2001-02 prices)	Actual Expenditure	Projected Outlay (at 2006-07 prices)	Agreed Outlay	Anticipated Expenditure	Proposed Outlay
1	2	3	4	5	6	7	8
	800-Other expenditure-(03) E.F.C.A.	250.00	-	-	-	-	-
	(a) J.N.N.U.R.M.						
	(b) U.I.D.S.S.M.T	-	100.00	21716.00	1062.00	1062.00	2750.00
	(c) I.H.S.D.P. -						
	Urban Development Project for Shillong (UDPS)	-	-	500.00	1032.00	1032.00	-
	(02) Construction of Residential Buildings (01) Office Buildings	50.00	43.52	150.00	25.00	25.00	28.00
	800-Other expenditure-Satellite Township for Shillong	6472.50	2318.00	2000.00	41.00	41.00	100.00
	(a) A.C.A.			1000.00			
	(b) Loan			2000.00			
	(c) E.A.P						
	TOTAL: -	10650.00	5930.53	32166.00	3043.00	3043.00	3850.00

Source: Annual Plan 2008-09 GOM.



The Dazzling display of water from a programmed water fountain in heart of Shillong city

## CENTRE OF SHILLONG







**INNER VIEW - HEAVY VEAVY VEHICLES PARKING  
KHLIEH IEWDUH, SHILLONG**



**SUPER MARKET, TURA**

**CHAPTER - IX**

**DEVELOPMENT**  
**OF**  
**AGRICULTURE &**  
**ALLIED SECTORS**

CHAPTER – IX

DEVELOPMENT OF AGRICULTURE & ALLIED SECTORS

People of Meghalaya are predominantly dependent on agriculture. More than 70% of the State's total population is engaged in agriculture and allied activities, which also contributes around 22% of the State's Gross Domestic Product. The contribution of the primary sector has declined from 33.15% in 1993-94 to 29.71% in 2000-01. The State has projected a growth rate of 4.7% during the 11th Five year Plan. Out of the total geographical area of 2249000 hectares, total cropped area is only 2.62 lakh hectares. Pattern of land holdings and the myriad land tenure systems, extensive practice of 'Jhum' cultivation ('Shifting' Cultivation), other traditional agricultural practices including aspects of production for consumption rather than creating marketable surpluses for profitable returns, high cost of inputs and production are some of the realistic dimensions of agriculture in Meghalaya. The state's net sown area of the total land area is only 9.8 %, and only 16.85 % of the net sown area is sown more than once with per capita sown area amounting to 0.12 ha. The annual shortfall of foodgrain is estimated to be of the order of 122 thousand tonnes. Excluding imports, the per capita daily foodgrain availability in the State has declined from 321 gms to 264 gms from 1970-71 to 2003-04. It is therefore evident that the State is not self sufficient in the production of food items. Attaining self-sufficiency in the area of food items must therefore be the highest priority for the State. On account of the ready demand for most food items in the State and current shortfalls in the production thereof, agriculture and allied sectors can easily be identified as areas where every rupee invested can provide the maximum returns - both in terms of economic value generated and contribution to the welfare of people in general. There is ample scope for creation of self-employment opportunities in these sectors. The development of agriculture and allied sectors cannot only enhance food security for people in the State but help to improve the economic conditions of the people.

Though majority of the State's population are non-vegetarian, yet the State does not produce enough meat to meet the local demand. Substantial quantities of meat and eggs are imported into the State from other states like Assam, Andhra Pradesh, West Bengal and Maharashtra. Milk production in the State is among the lowest in the country. The per-capita availability of milk in the State is nearly one-third of the national average. It is a common belief that since there is not much preference for milk amongst the people, the State is considered self sufficient in the production of milk with virtually no imports of milk into the State.

The level of industrialization in the State is relatively low; as such opportunities for employment outside the primary sector are currently limited. It is evident that agriculture and allied activities have a much greater bearing on both the State's economy as well as the lives of people in the State. The State is yet to be self sufficient in the production of food grains due to topographical, agro-climatic factors, widespread jhum cultivation, and low technology adoption

etc. The annual shortfall of food grains is estimated to be of the order of 152 thousand tonnes during 2006-07. **While the climatic conditions in the State favour a large array of vegetation, including a large variety of horticulture crops like fruits, vegetables and spices, a major chunk of the cultivated area is dedicated to food grains of which, paddy is the most dominant crop.** Thus, due emphasis is given on increasing food grains production and productivity, improving food security for the people through the use of High Yielding crop varieties, improved package of scientific inputs along with suitable and appropriate technology measures. A series of intervention like the Rastriya Krishi Vikaash Yojana (RKVY also known as NADP), Technology Mission on Horticulture and macro management scheme for agriculture, investments under BReGF and Special plan assistance for Post harvest management and other facilities are likely to give the efforts the required impetus.

#### **Decelerating Growth in the Agriculture sector<sup>1</sup>:**

Despite having vast potential for a growth oriented economy, vast reservoirs of natural resources, conducive and varied agro-climatic conditions, etc. the region and the State has not been able to make much headway. ***“Most of the world’s poor people earn their living from agriculture, so if we know economics of agriculture we would know much of the economics of being poor”*** (Theodore W. Schultz, 1980 quoted in WDR, 2002). Government of India (Planning Commission, 2002) also acknowledges that ‘Agriculture has a major role in alleviating rural poverty, and deceleration in its growth in the NER has affected the income generation of rural population’. According to Planning commission (2002, GOI) during the 1990s region-specific causes for the decelerating growth in the agriculture sector was due to: poor maintenance of rural infrastructure (canals and roads); low public investment in irrigation; decline in investments in rural electrification and in its availability. Rising level of subsidies for power, water, fertilisers and food are eating into public sector investments in agriculture. Inadequate credit support; imbalanced use of NP&K fertilisers, (6.69:2.59:1.0 in 2001-02 as against the desirable norm of 4:2:1) and increasing deficiency of micro nutrients in the soil; stringent controls on, movement, marketing, credit, stock and export of agricultural products and agro-processing industry are some of the factors listed to affect their profitability, which can in the absence of speedy domestic market reforms, turn opportunities into a threat for the future growth of agriculture.

Besides demand constraints (slow growth of the urban economy, restriction on exports, lack of land reforms, failure of poverty alleviation schemes, slow growth in rural wages) there is decline in the force of technology coupled with poor extension service. Further, non availability of credit from the organised sector, limits the credit flows to the unorganised sector and accordingly limits the productivity improvement in this sector.

<sup>1</sup> Dr. Shreerajan (2006): Credit Related Issues in Meghalaya, NEICSSR.

Over the years, reduced cropping intensity, reduced and disproportionate involvement of people in agricultural operations, constraints on bringing more land under cultivation, subsistence level of agricultural operations, lack of avenues for allied activities to generate subsidiary income, etc. has made the agriculture a less and less attractive proposition in spite of a large population involved and dependent on the same for their livelihood. ***This also explains reduced demand for credit for agricultural operations in the state.*** The Banking Organisations and development administration have a tough task on their hand to find more agricultural borrowers for the overall improvement in the agriculture operations of the state.

Low production in sedentary agriculture causes a shift in occupation and migration to nearby cities and towns (Majumdar, 1979). Such scenario has been recognised as one of the factors underlying unemployment and youth restlessness as a potential source of vagrancy. This is becoming apparent as jobs in government become saturated and education is not geared towards livelihood issues. Many think, that in Meghalaya poverty is comparatively less. But, almost 48.9% (Govt. of Meghalaya C&RD Deptt.2008) of its population are below the poverty line. The public sector as a whole provided majority of jobs whereas the private sector provided only 11.33% of total jobs provided by the public and private sector during 2000-2001. As per census of 2001 the number of workers has increased to 9,70,146; of which 85% are in rural areas; 78% of the total labour in the state constitutes the main worker. The main workers constitute 32.6 percent while the marginal workers constitute 9.2 percent. The workers participation rate in the state constitute 32.65% of total population of which cultivators constitute 55% (1991) and 50.24 % in 2001, whereas agricultural labourers remained stagnant for more than a decade at only 12.5% (12.51 & 12.54% in 1991 & 2001 respectively); The share of cultivators and agricultural labourers taken together has declined from 79% in 1971 to 63% in 2001 in the State.

The State has witnessed an overall growth of 125.75% in 1990-91 from the level of 78.45% in 1980-81 whereas the primary and secondary sectors have hardly grown by an average of 25%. **This steep rise in one (tertiary) sector has led to inequitable distribution between urban and rural sectors.** By the scenario of development in the State it is evident that the primary and secondary sectors which are rural based did not develop significantly whereas the tertiary sector which is basically urban had the maximum growth rate. This has been further proved by the distribution of Per Capita Worker Income. The Per Capita Worker Income showed an increase of 42.15% in 1992-93 from the level of Rs. 3096 in 1980-81 to Rs. 4358 in 1990-91, whereas the Per Capita Worker Income at 1980-81 price in rural areas increase to Rs.1647 in 1992-93 from Rs. 1546 in 1980-81. Similarly, the Per Capital Income at 1980-81 price in the urban areas increased to Rs.12280 in 1992-93 from Rs. 9055 in 1980-81. **The reduction of income of the rural worker has further marginalized him vis-à-vis the urban worker creating serious inequalities between the rural and urban workers.** This has been further proved by the ratio of urban and rural workers. In 1980-81, 9.92% of the total workers numbering 587158 were agriculture labourers. The same is marginally increased to 12.51% of the total number of 715567 workers in 1990-91 and to 12.54% during 2001

census. This is despite the fact that 38% of the plan outlay during the last 4-5 Five Year Plans was allocated for agriculture. In spite of the huge planned expenditure in primary sector there has been a progressive marginalisation of the rural workers. **In this direction, it is observed that this anomaly calls for an effective reshaping of the institutional set up to gear up agricultural and rural production output.**

### 9.1 Climate :

There are wide variations in the climate in Meghalaya, ranging from temperate to the tropical type. Spring in Meghalaya lasts from March to April. Summer is for a period of about 5 months, from May to September with torrential rains caused by the South West Monsoon. Autumn months are October and November while the winter is from December to February. The State receives some of the heaviest rainfall in the world. Cherrapunjee and Mawsynram have the distinction of being the wettest places on the earth. Rainfall in the last two decades has ranged from 11,995 mm to 14,189 mm in Cherrapunjee and between 10,689 mm to 13,802 mm in Mawsynram. Heavy rainfall causes flash floods in many parts of the state especially the low altitude areas of the state bordering Assam and Bangladesh and these flash floods cause heavy damage to crops and other property every year. The average rainfall in the state in the year 2007 was recorded at 3795.85 mm.

### 9.2 Agro-climatic zones and sub-zones in the State:

The entire geographical area in the State can be classified into five agro-climatic zones, namely:

**(a) Warm and humid with medium rainfall (1270-2032 mm):** This zone occurs in the hills and northern slopes in the north and western parts of West Garo Hills, the Northern part of East and West Khasi Hills and the North Eastern parts of the Jaintia Hills. The zone features soil of light to medium texture with generally high depth. The important crops in this zone are: rice, wheat, jute and mesta, rapeseed, mustard, cotton and ginger.

**(b) Humid and moderately cold in winter with high rainfall (2800-4000 mm):** This zone occurs in the central plateau of the Garo Hills and a portion of the Central Plateau of the West Khasi Hills. The soil is of light to medium texture and is generally very deep. Maize, ginger, cotton and tea are the principal crops in this zone.

**(c) Humid with moderately warm summer and severe cold winter featuring high rainfall (2800-6000 mm):** This zone comprises of the central plateau of East Khasi Hills, the West Khasi Hills and the Jaintia Hills. The soil is of light to medium texture and is generally very deep. This zone is suitable for vegetables, especially potato, upland rice, tea and ginger.

**(d) Humid and warm with very high rainfall (4000-10000 mm):** This zone occurs in the Southern slope comprising of the eastern part of Jaintia Hills, the southern part of East Khasi Hills a portion of the southern edge of the West Khasi Hills. The soil is of light to medium texture and deep to very deep. Important crops are: oranges, turmeric and soyabean.

**(e) Humid and hot with high rainfall (2800-4000 mm):** This zone comprises of the southern part of the West Garo Hills and a part of the southern portion of the West Khasi Hills. The soil depth ranges from moderate to very deep and has a light to heavy texture. Rice, Jute and Mesta and Oilseeds are the important crops in this zone.

### 9.3 Characteristic features of agriculture in the state

#### 9.3.1 Low net cropped area

The State has an undulating topography and a large forest cover. The area available for cropping in Meghalaya is only 9.87% of the total geographical area. This includes the area under traditional shifting cultivation (discussed later), which is generally characterized with a much lower productivity compared to areas under modern cultivation. Further, given the physiography of the state, there is little scope of bringing any more area under field crops.

The following table shows the basic land use pattern of the state <sup>2</sup>:

**Table 9.1: Land Use Pattern**

Land use	2000-01	2001-02	2002-03	2003-04	2004-05
Reporting Area	2,240,900	2,227,100	2,227,100	2,227,100	2,227,100
Forest	950,575	950,533	947,038	947,219	941,786
Not Available for Cultivation	222,465	225,418	225,321	225,380	227,945
Other Uncultivated Land Excluding Fallow	617,865	606,393	600,824	599,589	607,717
Fallow Land	228,096	234,294	238,392	235,688	230,760
Net Area Sown	221,899	210,462	215,525	219,224	218,892
Area Sown More Than Once	45,386	46,649	46,597	46,650	46,680
Gross Cropped Area	267,285	257,111	262,122	265,874	265,572

<sup>2</sup>Source: Directorate of Economics and Statistics, Meghalaya

A general overview of the data reveals that little expansion of Net Area Sown over the years has taken place. Moreover cropping intensity has also not increased as revealed from the almost stationary Gross Cropped Area. The factors behind this could be explained in terms of the observations of the subsequent sections.

### 9.3.2 Land holding pattern and size of holdings

Meghalaya has a distinct land tenure and land holding system. Land holdings in the state are mostly operational holdings as there is little concept of permanent ownership under the traditional land tenure system. The average size of the holding is very small. A large percentage of the state's farmers have marginal or small holdings of less than one or two hectares. According to the Census 2001, the average size of the holding is 1.30 hectares and about 23% of the holdings are less than one hectare in size.

**Table 9.2: land holding and size of holding:**

<b>Class size</b>	<b>% of holdings area</b>	<b>Average holding size (ha)</b>
Marginal (0.05-1.00 ha)	22.66	0.55
Small (1.00 – 2.00 ha)	29.86	1.45
Semi med. ( 2.00 – 4.00 ha)	32.73	2.58
Medium (4.00 – 10.00 ha)	12.95	5.41
Large ( above 10 ha )	1.80	13.12
<b>Total/Average</b>	<b>100%</b>	<b>1.30</b>

**Other land issues that require to be addressed are: Reclamation of cultivable wasteland (4.42 lakh Ha.); Utilization of available fallow land ( 2.36 lakh Ha.); High rainfall during monsoons results in high run offs, erosion of fertile soils and leaching of nutrients and Framing of Land use policy in the State through SLUB. Besides, land survey, allocation and reforms and regulation on usage are critical and urgent components.**

### 9.3.3 Foodgrain Production:

The State is running a deficit in foodgrain as it is difficult to increase foodgrain production because of the hilly terrain which is not suitable for this type of crop. Therefore, the effort is to bring more areas under Horticulture and plantation crop which has tremendous potential for growth in the prevailing Agro-climatic condition envisaging the policy of shifting the thrust from Foodgrains production to Food security. Amongst the foodgrains, rice is the major crop in the State followed by maize and wheat.

The Foodgrain production at the beginning of the Tenth Plan (2002-2003 ) was 2.26 lakh tonnes and the achievement at the end of the Plan period was 2.31 lakh tones against the



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anticipated production of 2.33 lakh tonnes. The shortfall during the period was due to flash flood, at times there was scanty rainfall in the later stage of crop season, limited use of HYV in upland areas, slow adoption of scientific farming practices by farmers, etc.

Crops	Area ( Lakh Ha )	Production ( Lakh MT )	Yield ( MT/Ha )
Autumn	0.33	0.45	1.37
Winter	0.62	1.16	1.87
Spring	0.10	0.40	4.05
<b>Total Rice</b>	<b>1.05</b>	<b>2.01</b>	<b>1.92</b>
Maize	0.17	0.25	1.49
<b>Total Foodgrain</b>	<b>1.28</b>	<b>2.32</b>	<b>1.81</b>

9th Plan Achievement	10th Plan Achievement	11th Plan Target	Anticipated Achievement in 2007-08	Target for 2008-09
214.96	269.93	379.00	291.00	336.00

Year	Est. Population ( In lakhs )	Foodgrains requirement (Lakhs MT)	Foodgrains production (Lakhs MT)	Foodgrains shortfall. (Lakhs MT)
<b>2002-03</b>	24.12	3.52	2.26	1.26
<b>2003-04</b>	24.65	3.60	2.33	1.27
<b>2004-05</b>	25.18	3.68	2.24	1.44
<b>2005-06</b>	25.71	3.75	2.59	1.16
<b>2006-07</b>	26.24	3.83	2.70	1.13

Year	Estimated Population ( In lakhs )	Foodgrains requirement (Lakhs MT)	Foodgrains production (Lakhs MT)	Foodgrains shortfall (Lakhs MT)
<b>2007-08</b>	26.77	3.91	2.91	1.00
<b>2008-09</b>	27.30	3.99	3.36	0.63
<b>2009-10</b>	27.83	4.06	3.49	0.57
<b>2010-11</b>	28.36	4.14	3.61	0.53
<b>2011-12</b>	28.89	4.22	3.79	0.43

In order to realize the target of foodgrain production, the main strategies adopted by the State is to further develop the existing rice fields with Irrigation facilities for multiple cropping, raise the level of productivity per unit area through increased use of fertilizers, more area coverage

under high yielding varieties adequate and need based plant protection measures and adoption of improved crop production technology. Efforts are being made to popularize the cultivation of high yielding varieties of maize and pulses through demonstration and minikit programmes in the cultivator's field.

## 9.4 Major crops in Meghalaya:

### 9.4.1 Food Grains

Foodgrain constitute the principal food item for the entire population and it is also the most dominant crop group in the state. It is not surprising therefore that nearly 60% of the state's total cultivated area is under foodgrains. The total area under cultivation of foodgrain in the year 2005-06 was reported at 1,29,790 hectares and the production of food grains in the same year reported at 2,38,840 metric tonnes. The area under food grains has increased by 18% since 1970-71 (1,12,856 hectares) and the production of foodgrains has increased by nearly 96% since 1970-71 (1,18,585 metric tonnes). However a comparison between 1970-71 and 2003-04 shows that the per capita daily foodgrain availability (excluding imports) has actually decreased from 321 grams to 264 grams<sup>3</sup>. In contrast, Punjab had per capita daily foodgrain availability (excluding exports) of nearly 2.84 kilograms<sup>4</sup>. West Garo Hills District has the largest area under foodgrain crops and it is also the largest producer of foodgrains in the state. However, despite the enormous area under rice cultivation, the state does not produce enough rice to satisfy the total demand for rice in the state. The principal foodgrain crops grown in the state are as follows:

**(a) Rice:** Rice is by far the most widely grown crop in the entire state. It occupies nearly 50% of the total cultivated area in the state and accounts for nearly 86% of the total production of foodgrains. The area under rice crop in the state in 2005-06 was reported at 1,06,070 hectares producing 2,08,270 metric tonnes of rice. Rice has always been the dominant crop in the state. There has not been a significant increase in the area under paddy. It has only increased by about 15% from 95,576 hectares reported in 1970-71. Interestingly, most part of that increase was during the period 1970-71 and 1975-76 amounting to nearly 8,768 hectares after which, it has remained more or less constant with occasional peaks and troughs. The West Garo Hills District is the largest producer of rice in the state, accounting for nearly 39% of the total production **of rice in the State.**

<sup>3</sup> Based on an estimated population of 2.4 million for 2004.

<sup>4</sup> Source: State Development Report, Punjab and Statistical Abstract India 2003 published by Central Statistical Organization.

Enhancement of foodgrain production in the hill State of Meghalaya is constrained by its topography making available only about 12 percent of its geographical area suitable for cultivation of crops for foodgrain production. However, improvement of production to the extent possible by way of more coverage and improvement of irrigation facilities, use of HYV seeds, application of fertilizers and pest control are being taken up. The production of foodgrains as during 2007--08 is 291.03 thousand tonnes and the anticipated achievement during 2008-09 is 336.00 thousand tonnes. By the end of the Eleventh Plan, the production is expected to touch 379.00 thousand tonnes. The target during 2009-10 is to produce 399.44- thousand tonnes of food grains.

**(b) Maize:** Maize is the second most important foodgrain crop in the State occupying nearly 16,890 hectares in the year 2005-06. The production of maize during the year was 24,420 metric tonnes. There has been no significant increase in the area under maize since 1970-71 when the total area under maize was 14,068 hectares. The production of maize has increased by more than 3.4 times from the 1970-71 level of 7,566 metric tonnes. West Khasi Hills District and West Garo Hills District are the largest producers of maize in the State. In 2003-04 the production was recorded at 6,539 and 6,532 metric tonnes respectively – together accounting for half of the total maize produced in the State in that year.

**(c) Wheat:** Although insignificant in comparison to rice and maize, wheat is gradually becoming unpopular in the State. The area under wheat has shown a spectacular decrease from the 2002-2003 level of 2710 hectares to only 670 hectares reported for the year 2005-06 signifying a 24.7 fold decrease. The production of wheat in the year 2005-06 was 1190 metric tonnes only. Wheat is grown mainly in the East and West Garo Hills districts.

**(d) Other cereals and pulses:** The production of other cereals and pulses in the State is insignificant compared to the other foodgrains. The major pulses grown in the State include cowpea, pea, lentil, arhar, black gram, Bengal gram and rajma. The area under cultivation of other cereals and pulses in the year 2005-06 was 2,670 hectares and 3,490 hectares respectively. The production of other cereals and pulses for the year 2005-06 was 2,270 metric tonnes and 2,670 metric tonnes respectively.

### 9.4.2 Oilseeds

The important oilseeds grown in the State include castor, sesame, rape and mustard, linseed, soyabean and sunflower. The total area under oilseeds was 9,975 hectares in the year 2005-06 and the production of oilseeds during the same year was 6,692 metric tonnes. Rape and mustard are the most dominant oilseeds occupying nearly 73% of the total area under cultivation of oilseeds and accounting for nearly 71% of the production. Most of the production of oilseeds in the State comes from the Garo Hills region. Nearly 96% of the total area under oilseeds lies in the Garo Hills region and the region accounts for nearly 97% of the production of oilseeds in the State. While

sunflower has been introduced recently in the State, the above production figures do not include sunflower production.

### 9.4.3 Fibre Crops

The State produces three main fibre crops: cotton, jute and mesta. These have been the traditional cash crops of the Garo Hills Region, which is the exclusive producer of these crops in the state. Both the area under the cultivation of fibre crops and their production has shown a decreasing trend, which indicates that these crops are gradually losing their popularity. This has been attributed to the un-remunerative prices received by farmers for these crops and as such the farmers are cultivating these crops with minimum effort and inputs.

**(a) Cotton:** Cotton is the dominant fibre crop in the State. The area under cotton crop in the year 2006-07 and its production was reported at 7,208 hectares and 7,738 bales (of 170 Kg each) respectively. The area under cotton has shown a sharp decline since the 1970-71 level of 10,164 hectares.

**(b) Jute:** Just like cotton, jute crop has also been losing favour among farmers in the State. The area under jute crop in the year 1970-71 was reported at 10,210 hectares and has been declining constantly since then. The most dramatic change in the area under jute crop was between the period 1970 to 1976, which marked an almost 50% reduction. The area under jute crop for the year 2006-07 was reported at 3967 hectares and the production of jute during that period was reported at 35,304 bales of 180 Kg each.

**(c) Mesta:** The area under mesta has decreased from 7,000 hectares in 1975-76 to 4,425 hectares in 2006-07. The production of mesta also decreased from 25,200 bales (180 Kg each) in 1975-76 to 20,178 in 2006-07. The decrease in the area under mesta and the production of mesta, though not as sharp as jute and cotton, is nevertheless visible.

### 9.4.4 Other crops

Other crops in the State include sugarcane and tobacco. These crops are however insignificant at this point in time. The area dedicated to sugarcane in the year 2006-07 was nearly 87 hectares and tobacco was grown on 709 hectares. The production of sugarcane and tobacco in the year 2006-07 was 239 metric tonnes and 468 metric tonnes respectively.

### Performance, productivity and comparative analysis

Majority of people in the State have been practicing a very primitive form of agriculture. Agriculture is still at the mercy of the weather in the State. The dependence on monsoons for supply of water to paddy and other wet cultivation is still significant. In most areas, the intervention from the farmers to improve farm productivity is minimal. Although there is a reduction in both the

area under shifting cultivation as well as the people dependent thereon, it is yet to be controlled in full. Agriculture in several other parts of the country has risen from a subsistence level to large-scale commercial agriculture in the wake of the green revolution. Punjab for instance, has been able to use agriculture as the leading edge of growth. Meghalaya, however, has been trailing behind other states in this sector.

The consumption of NPK in agriculture is an interesting stage of development in NER. In per hectare counts of gross cropped area, it is somewhat significant in Manipur with 130.5 kg per hectare. The consumption in Manipur is much higher than the all India level (89.8 kg/ha). In Assam, Tripura and Meghalaya, the consumption per hectare accounts for 46.6, 29.4 and 17 kg; while in the remaining four states, it ranges between 2.2 kg to 3.5 kg, the lowest being in Nagaland as recorded in the fertilizer statistics, 2003-04. The above indicate that except Manipur, the agricultural practice in northeast is primarily away from the use of chemical plant nutrients.

There is nevertheless hope, especially in the area of food grains productivity, which has shown an encouraging growth in the last three decades. Notable improvement has been observed in the productivity of most food grain crops in the state. Since 1970-71, the area under food grains has increased no more than 20% till 2003-04, while the production of food grains has nearly doubled during the same period.

While the yield of rice has exhibited a consistent growth, the most spectacular improvement has been achieved in the yield of maize and wheat. The current yield of rice stands at 1,964 kilograms per hectare exhibiting about 60% growth since the 1970-71 level of 1,144 kilograms per hectare. The yield of maize rose from 538 kilograms in 1970-71 to 1,445 kilograms in 2005-06. Wheat yield was 1,788 kilograms per hectare in 2005-06 as compared to 744 kilograms in 1970-71, exhibiting an increase of approximately 140%. There however exist wide inter-district variations in the productivity of food grains. For example, the Ri-Bhoi district produced 26.71 quintals of rice per hectare (highest) in the period 2006-2007, whereas, Jaintia Hills produced only 15.29 quintals (lowest) in the same period. Similarly, the yield of maize in Ri-Bhoi at 24.98 quintals was nearly 2.5 times higher than the yield of maize in Jaintia Hills (11.77 quintals). Clearly therefore, special efforts are required to increase the productivity of food grains in all the three Garo Hills Districts and the Jaintia Hills District.

The improvement in productivity of food grains can be attributed to the introduction of high yielding varieties of seeds especially in the mid-seventies. A significant break through was achieved with the introduction of High Yielding Varieties of paddy such as Mahsuri, Ranjit, Bahadur and other improved varieties series especially IR 36 which is suited for the Rabi season. Another major feat was achieved in 1990-91 with the introduction of Megha I and Megha II - the cold tolerant rice varieties, developed by the ICAR North East Region at Umroi for the higher altitudes.

At present about 61% of the area under rice or nearly 65,000 hectares, is under High Yielding Varieties of seeds. Similarly, about 80 % of the area under maize is estimated to be under High Yielding Varieties while the coverage of H.Y.V in case of wheat is near 100%.

Schemes /projects for the annual plan 2009-10, aims at (a) multiplication of quality seeds for distribution to the farmers (b) taking up adaptive trials for finding out suitability and adaptability of different crop varieties (released/ pre-released ) for taking up demonstration of such established varieties in farmers fields for further extension and (c) to meet the demand of quality seeds of the farmers in the District (s) where Seed Farms are located.

### 9.5 Use of Agricultural Inputs:

The means of agriculture employed by farmers in Meghalaya are largely primitive with very limited use of modern farm implements and farming techniques. The use of chemical fertilizers, plant protection measures and the use of High Yielding Varieties of seeds though steadily becoming popular is currently limited. However, some of the progressive farmers in the State have adopted modern farming techniques and have achieved significant improvements in productivity. The inputs are generally made available through the government machineries at the district, sub-divisional and Block levels and in some cases through other government agencies. Fertilizers are channelised through the MECOFED, the government agency and other private wholesalers and ultimately by the retailers. The problem here is that sometime the fertilizers do not reach the State in time as they are procured from outside manufacturers owing to the non-payment of advances as required by certain fertilizer manufacturer or due to delay in transportation and since the agricultural crops are seasonal, it affects the production to a large extent. Shortage of fertilizers during the peak planting season is another problem face by the farmers. Even when the delivery of the fertilizers is on time, the delay may occur when the department fails to timely fix the price of the fertilizers.

- **Seeds** – Though the State has no Seed Corporation of its own and has to depend on outside agencies for the supply of certified seeds, yet an attempt is made to supply breeder and foundation seeds to the registered growers for multiplication and the certification of such seeds has been taken up with the assistance of the Assam Seed Certification Agency. The seeds thus produced are bought back by the Department for distribution to other farmers in the State. To meet the demand of seed the State may not need a Seed Corporation in the near future but the matter of setting up a State Seed Certification Agency is being taken up.
- **Manures & Fertilizers** – Consumption of fertilisers in the State during 2006-2007 was only 19 kg per hectare. This low fertiliser consumption is attributed to various factors like practice of subsistence agriculture, small scale commercialisation of agriculture which prove to be a positive trend as organic agriculture practices by default. It was reported that the consumption of fertilizers

in Punjab was 173.38 kilogram per hectare and 143.46 kilogram per hectare in Andhra Pradesh <sup>5</sup>. Meghalaya consumed 1,832 tonnes of Nitrogenous fertilizers in 2003-04 while the consumption of Phosphates and Potassic fertilizers was 1,832 tonnes and 161 tonnes respectively. Practice of organic farming is by tradition and the State encourages crop specific and location specific and the strategies for promotion of use of fertilisers consist of :

- publicity campaign along with field demonstration, distribution of pamphlets, use of print and electronic media.
  - organisation of intensive fertiliser promotional activities in collaboration with the fertiliser manufacturers.
  - ensuring quality control of fertilisers.
  - use of soil amendments to reduce soil toxicity.
  - encouraging soil testing in a large scale to ensure balance use of fertiliser efficiency.
  - maintaining soil health fertility through large scale use of organic manures, green manuring and use of bio-fertilisers.
- **Plant Protection measures** – The State does not have severe problem from pests and diseases and any such problem in epidemic scale is being controlled effectively. The use of integrated pest management is alive among the farmers though in small scale but to certain extent managing the pest problem in the field. Pest control strategies are being made aware to the farmers of the State through organisation of training programmes especially on IPM for various crops, practice of seed treatment either by chemicals or through discarding infected seeds from planting in the field, judicious use of fertilisers and water management, need-based use of environmental friendly pesticides, maintaining sufficient pesticide stocks to counteract any unexpected and sudden incidence of pests and diseases, distribution of plant protection chemicals and equipment to farmers at subsidised rates, production of biological agents and use of resistant varieties of crops. The pesticides and equipment are made available to the farmers through various sale points in the government, co-operative and private sectors.

### 9.6 Technology

**Irrigation Facilities** – Though agriculture in the State is mostly rain-fed, irrigation facilities are being provided to certain extent. The ultimate irrigation potential of the State is approximately 2.18 lakhs hectares. Out of the total potential created, 23351.72 hectares is under surface water and 1913.45 hectares under the ground water. In most of the irrigation projects, the sense of ownership of the facilities by the users is not up to the mark and therefore, maintenance of the facilities created by the government is not sustaining for longer periods. Efforts to organise users' organisation or groups are being taking up through participatory involvement.

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<sup>5</sup>Source: <http://agricoop.nic.in/>

**Mechanization of agriculture** - The extent of mechanization in the state is currently very low. Agriculture in the state is largely manual labour oriented. Furthermore considering the undulating topography of the state and the considerably small average size of holding, it may be very difficult to increase the mechanization of agriculture in the state on the lines of some of the other states in the country. However, selective and eco-friendly mechanisation is being given due emphasis with special reference to rain-fed farming so as to make Agriculture efficient and competitive, to increase productivity by catching the right time of sowing / planting and to make farming activity more remunerative. Reclamation of degraded and fallow lands is being given high priority to improve quality and maximise productive use.

The present mechanization in the State is perhaps one of the least in the country in which the per hectare availability of Mechanical Power is hardly 0.358 HP when compared to the All India average of 1.00 HP and the Assam state average of 0.40 HP. Therefore, to assist the farmers in getting maximum returns from their land, this figure is to be increased considerably with maximum funding. Government of India in its Draft Mechanization Policy proposes that this figure be raised to 2 HP per hectare by the year 2020 AD.

It has been observed that certain specific implements such as a mini transplanter for rice crop, small power tillers and mini rice reapers may be especially suited for the nature of farming practiced in the State.

Various plans and projects are being implemented in the State to achieve this aim and one such project is the Mechanization of Agriculture activities through the following Farmers' Friendly Schemes as follows :

**Machineries** viz. tractors and power tillers are being run and maintained by the State which are hired-out to poor and landless farmers at 60% subsidy of the running/ maintenance cost. However this being a scheme under the Public Sector, its capacity utilisation could not therefore be maximised.

**Loan Cum- Subsidy Scheme** on purchase of power tillers/ power pumps by which a subsidy of Rs. 45,000 per power tiller of 12 HP and Rs. 10,000 for each Power pump of 8-10 HP is being granted to selected farmers, Farming Societies, etc. for maximum benefits to the farming population in terms of number of machines. Under this scheme around 35-40 numbers of power tillers are being distributed annually. In order to increase this number of machines as well as to attract more farmers to come forward, the state is in the process of enhancing this figure by another 500 power tillers during the current year with minimum investment from the farmers for their shares of the cost by reducing the Interest on Loans from Banks to 7% per annum as already agreed by some of the Banks.



**Micronutrients** - The use of micronutrients in Meghalaya is negligible. Test reports have indicated deficiency of zinc and copper in some areas while toxic levels of iron has been detected in some low lying areas in the state. A detailed study on promoting the use of micronutrients is yet to be conducted in the state.

**Bio-fertilizers** - Bio-fertilizers have the potential to transform agriculture. Azolla, or Mosquito Fern as it is commonly known, has tremendous nitrogen fixing capabilities and can multiply rapidly in water. Azolla can therefore greatly enhance nitrogen availability to paddy. Steps have been initiated recently to promote organic farming in the state. With that end in view, the state has established one bio-fertilizer production of Azolla unit at Sangsangre in West Garo Hills.

**Organic Manure/Vermicompost** - Considering the low use of chemical fertilizers in the state, agriculture has a great potential for organic farming. It can also help in avoiding many of the adverse effects of the indiscriminate use of chemical fertilizers suffered by some of the other states like Punjab. There is some use of organic manure in the state, largely in the form of Farm Yard Manure. The Department of Agriculture has also procured and distributed other organic manures such as: Bio Plus, Celrich, Vikas Omm, Vikas Neem, Classic Organic Manure, Rallimeal, Adhar and Mahalaxmi. In addition, Vermicompost units have been established in all seven districts of the state with a view to promote the use of vermicompost. The Department is providing financial assistance of Rupees 10,350 for setting up vermicompost pit. In addition, a financial assistance of Rupees 35,000 is being provided to each beneficiary under the Technology Mission for Development of Horticulture.

**Integrated Pest Management** - The Agriculture Department is promoting the use of Integrated Pest Management techniques for certain crops like paddy and potato by organizing farmers' field schools. Demonstration programs have also been conducted on the use of Pheromone traps, *Scirpophaga incertulas* lures and *Trichogramma* to guard against stem borers etc.

### **Agricultural infrastructure in the State**

**Regulated markets** - The State has two regulated markets. One is in Zone I comprising of East/West Khasi Hills and Ri-bhoi districts and the other one is in Zone II comprising of East, West and South Garo hills. The Jaintia Hills District comprised in Zone III, does not yet have a regulated market. In addition, the State also has 108 weekly markets – 35 in Zone I, 57 in Zone II and 16 in Zone III.

**Processing Centres** - The state does not have any primary processing centre for processing of agricultural produce. There are however two secondary processing centres: one each in Zone I and Zone II.

**Storage facilities** - The State has storage capacities of 250 MT each at Gakugiri, Kharkutta and Mawiong. The State also has cold storage facilities of 1000 MT capacity each at Mawiong and Garobadha.

**Soil testing laboratories** - The State's Agriculture Department is equipped with a total of three soil testing laboratories as on 2007-2008 with a capacity of analyzing 20,000 soil samples out of which 1000 soil samples are targeted for analysis through the only Mobile Testing laboratory. The static and mobile laboratories analysed 8,400 samples and 328 samples respectively in 2007-2008.

**Agricultural Products Marketing** - The Meghalaya Assembly passed the Agricultural Produce Market Act in 1980. Accordingly, The Meghalaya Agricultural Produce Market (General) Rules 1982 and the by-laws of the Meghalaya State Agricultural Marketing Board 1983 were implemented in the state. Two market committees have so far been constituted in the State.

## 9.7 Constraints in agriculture development

**Water Resources & Rain-fed Agriculture** - Agriculture in the State is mainly dependent on the monsoons in the *kharif* and cultivation in the *rabi* is carried out with soil moisture retention. Due to the natural terrain, creation of irrigation potential is limited though irrigation projects have been taken up particularly in low lying belts of the State. With the State experiencing heavy rainfall annually water availability is adequate for a few months but water retention capacity is less. Water harvesting structures and water pumps may help to make water available during the dry months.

**Forest Degradation** - In Meghalaya, ownership of land lies with individuals, community and clans and the State have limited control over the private lands. This leads to unwanted destruction and poor management of forest lands over the years but with the regulated ban of felling of timber by the Supreme court, there has been appreciable regeneration of the forests with people switching over to other agriculture and non-agriculture activities.

**Land Degradation & Shifting Cultivation** - Acute soil erosion and ecosystem degradation has taken place in the State, primarily due to deforestation because of 'slash and burn' method of cultivation (*jhumming*) as also timber felling coupled with high intensity rainfall and soil conditions. The low productivity of *Jhum* cultivation due to shortening of the *jhum* cycle with its impact on declining fertility has resulted in continued encroachment on the forest resources, stagnation in the rural economy and progressive land degradation. The environmental consequences in an area renowned for its rich bio-diversity are also severe. Most families recognize that *Jhum* cultivation

is no longer a sustainable livelihood system but because of lack of knowledge and conviction to adopt productive alternative development options the process of substituting the age-old practice takes considerable time.

**The following approaches for *Jhum* cultivation have been suggested:**

- Adoption of an inter- disciplinary, multi-sectoral approach
- Assisting farmers in the gradual conversion of their presently unsustainable farming systems into a more sustainable system though (i) increasing the productivity of short fallow cycle *Jhum* plots through modifying the crop mix towards more productive and profitable crops, and introducing crops and agronomic practices which contribute to soil conservation; and (ii) promotion permanent plantation crops in fallow *Jhum* field
- Expansion of settled cultivated land through constructing perennial irrigation schemes in order to increase food production ;
- Building on the natural advantages of the area through greater emphasis on forestry and agro forestry as sources of livelihood as well as environmental protection;
- Adopting strategies suited to the remoteness of region through emphasis on low input technology and on high value/low volume, non perishable crops offering windows of opportunity for marketing outside the region (e.g. tea, timber, forest products, cashew, arecanut, essential oil) or products for the local market (e.g. livestock products and fisheries).

**Sustainability of Crop Production** - The instability in production may be attributed to various factors such as unpredictable natural calamity like flash floods, high rainfall levels, inconsistent use of modern technology, etc. Effective crop rotation particularly with leguminous crops and crop diversification with proper application of soil nutrients can help towards sustainability in crop production. High yielding and improved varieties suitable to the specific altitudinal zones along with optimum nutrients increase crop production.

**Livelihood Access** - The State has abundant natural resources and the people are excessively dependent on these that leads to environmental imbalances. The excessive and unscientific extraction of coal have reduced the cultivable land to a great extent and destroying the water bodies which become unfit for human consumption. The haphazard digging of stones and sand from hill slopes cause extensive soil erosion that bring about silting problems. There is a decline in provision of livelihoods from agricultural activities but in some way this has come about through non-agricultural activities during off-seasons. The causes of food insecurity may be the constraints

in food production besides the structural problems relating to poverty and that the majority of the poor populations are concentrated in rural areas. These problems can perhaps be overcome by fostering social development, gender equity, income generation, improved nutritional status, environmental sustainability, good governance and by enhancing their bargaining power in the marketplace which will improve the livelihood of the rural masses in a sustainable manner utilizing their resource base. The traditional community based institutions can play active role by looking at participatory, sustainable and viable mode of rural development with governmental support at the grassroot level.

- To improve the livelihood of the people in a sustainable manner, the overall objectives are based on
- promotion of more sensitive approach to the design and implementation of development interventions
- enhancing the capabilities of local people to manage new technologies at the village level
- increasing incomes through the development of more sustainable farming system and the establishment of off-farm enterprises
- making people more aware of the need to preserve and regenerate natural resources;
- establishing effective and appropriate delivery systems for input and for the maintenance of assets and resources
- enhancing savings capacity and establish the habit of thrift
- increasing access to basic services and infrastructure facilities.

The approach may be more focussed to make the farmers more responsive to the various developmental programmes that suit their needs and priorities, to be more involved in decision making and planning, to be more responsible in the management of the development programmes for greater sense of ownership and to be more conscious of traditional values whose strength can be utilised efficiently for sustainable food production.

## 9.8 Agricultural Credit

The Agricultural Loan extended by the State financial Institution i. e. Meghalaya Cooperative Apex Bank Ltd. (MCAB) has been in operation in the State to assist farmers with agricultural financial loan under (1) Short Term Loan (STL) (2) Medium Term Loan (MTL) (3) Long Term Loan (LTL). Short Term Loan (STL) are extended to the farmers through the Service Cooperative Societies and the crops covered are Ahu paddy, Irri-paddy, Summer potato, Ginger, Tomato, Cauliflower, Mustard seeds, Cotton, Soyabean etc. Medium Term Loan (MTL) are provided for Agriculture/ Allied sectors and activities to individual/ group entrepreneur(s) / Farmer(s) and is meant for raising Broomstick, Pineapple, Banana etc. However, a major credit under MTL goes to the Allied

sector (Veterinary & Animal Husbandry). Long Term Loan (LTL) under this scheme the MCAB provides agricultural credit for Horticulture plantation, Arecanut Processing, Purchase of Tractors, Power tillers, Pump sets etc.

MCAB has been exploring the possibilities and efforts of increasing the flow of Agricultural Credit support to farmers – members of Service Cooperative Societies, Individuals or group entrepreneur of the rural areas but various constraints are hindering the normal flow of credit. The flow of credit in agriculture are constrained due to following reasons:-

- The land tenure system acts as an impasse to the progress of agricultural sector in terms of mortgaging for procuring financial assistance in the form of crop loans.
- About 80% of the farmers are small and marginal farmers who have an average size of operational holding not less than one hectare which is not perhaps viable for taking investment for cultivation in the form of crop loans.
- Most of the farmers are not accessible to the institutional credit due to the absence of land ownership, land deed, cultivation right, lease right, land records, etc.
- The credit programmes of most of the financial institutions are held up due to shortcomings, inadequate, improper identification of beneficiaries, delay in formation of groups and the failure of the insurance agencies to cover the investment risk, this thereby restrict the institutional flow of credit in the agricultural sector.

### 9.9 Agricultural Marketing

The State has an international boundary of more than 423 kilometres along the Southern slopes towards Bangladesh and prior to Independence, the border area people of the then composite State of Assam used to have free trade with the people of erstwhile East Bengal (now Bangladesh). However after the partition of the country, the normal trade which flourished earlier was badly affected due to the closure of the border **hats and bazaars**. The border areas of the State produce large quantity of citrus fruits mainly oranges, banana, pineapple, tezpatta, arecanut, betel leaf, jackfruit and other subtropical fruits. Similarly, the higher altitude region produce significant quantity of table potato, ginger, turmeric, off-season vegetables and some temperate fruits. These produces are in great demand in the neighbouring countries.

Therefore, the reopening of these border trades through recognized trade routes for the export of these materials by relaxation of the export procedures will go a long way to ease the problem of disposing the perishable produces and thereby helped to develop the economic condition of the people of the State.

The entire North-Eastern Region including Meghalaya is having enough potential and scope for agri-horticultural development but the provision of facilities for trade of raw as well a processed produce is a pre-requisite for this development in the entire region. Side by side a well-planned programme on processing, sorting and marketing of all these commodities either in the raw form or as finished produce is a must for the all-round economic development. In fact, almost all the hilly States of the region are producing similar type of agri-horticultural produces and the surplus production of these commodities are disposed off to consumers in the metro cities. However, the disposal of these surplus produce especially the perishable items is not always possible because of the distance, transport cost, transit damage and stiff internal market competition. Moreover, the perishable nature of these produces demands quicker and safe transportation to avoid delay and damage. In this context, the accessibility and proximity with Bangladesh and other bordering countries of Bhutan and Myanmar appear to be an advantage to most of the North Eastern States and particularly the State of Meghalaya. With the “Look East Policy” of the Government, the avenues for marketing of farm produce will be enhanced.

It is a known fact that Agricultural Marketing is an adjunct to agricultural production and the production function is complete when marketing is so arranged that the producer is assured of a fair return for the investment made by him. Unless the farmers get a remunerative price for their produce, they will not go for increased production. Development of the efficient disposal system of the farmers produce is therefore most vital and a must for increasing agricultural productivity, farmers’ income and ultimately the economic condition of the State as a whole.

The State Government is fully aware of the fact that the establishment of efficient agricultural marketing system where the growers may obtain remunerative prices for their produce is essential and vital for accelerated development and commercialization of Agriculture. An increased production for increased marketable produce calls for a rapid improvement in the existing agricultural marketing system in the State and for better regulation of buying and selling of certain agricultural commodities, the Meghalaya Agricultural produce Market Act 1980 was enacted with the establishment of the regulated markets. Though their functioning is presently very limited to certain areas of the State and confined to selected agricultural commodities, yet this will enhance the expectation in the eradication of the function of intermediaries and various malpractices such as under-weighting of produce, unauthorized and unjust deduction from prices offered to producers, unfair price setting and other malpractices. Consequently, the farming community will be greatly benefited in obtaining remunerative prices for their produce and the trading community will also get a fair deal in trade.

Concerning other issues relating to the marketing of Agricultural Produce of the State, the following points may be mentioned:

- At present, most of the markets dealing with Agricultural Produces are managed and controlled by different agencies like the Autonomous District Councils, Autonomous Committees, Private personnels like the Syiems, the Dolois, the Nokmas, etc. without giving much importance on the developmental activities. Perhaps, all the markets should be brought under the control of a single agency like the State Marketing Board to provide better facilities to the market users.
- At present, the sellers and the traders have to pay different types of fees to different agencies causing numerous inconveniences. A single point for collection of fees may be introduced through a single agency as indicated above.
- The District Council Market Act may be amended to allow the State Agricultural marketing Board to manage and control all the markets in the State.
- The new concept of agricultural marketing through Contract farming may be allowed without depriving the legitimate revenue of the concerned authority.
- The producers may be allowed to go for direct marketing of agricultural produce to the consumers or the processing units.
- Participation of the private sectors in agricultural marketing within the framework of market regulation may be considered.

**Issues in research, extension and training:** Adaptive trials; Altitude specific crop-wise experiments; setting up more KVKs for farmers training & field demonstrations in each district; Training of Educated Rural youth for self-employment through farm-based activities; Support in Extension Reforms through ATMA presently only in three districts to be expanded with adequate Capacity building.

### **Horticulture**

Meghalaya is blessed with tropical, semi-tropical and temperate climates. This variation in climate, along with the diverse relief and soil conditions in Meghalaya create the right environment for the cultivation of a wide variety of horticultural crops in the state. Traditionally, a vast majority of the cultivated area has been dedicated to food grain crops, especially paddy. However, recently, there has been an increased focus on promoting of horticulture crops in the State.

#### **9.9.1 Significance of horticulture in the state**

The hilly topography and land conditions of the State leave little scope to bring any more area under field crops. Moreover, based on the land utilization statistics for the state for 2000-01, 20.63% of the total reporting area of the state, or nearly 462,278 hectares, is categorized as cultivable wasteland. Another 7.68% of the reporting area or 172,120 hectares are reportedly

“fallow land other than current fallow”. The entire such area (i.e. 634,398 hectares) can be eventually brought under horticulture crops. Clearly therefore, there is enormous potential for horticulture in the state. Horticulture crops generally command better economic value and have a greater export potential. It provides a viable alternative to shifting cultivation and can help bring cultivable wastelands under profitable utilization. Furthermore, horticulture restores vegetative cover to soil, thereby preventing soil erosion.

### 9.9.2 Major horticulture crops in the state

The Geo-climatic conditions in Meghalaya are most suited for many different types of horticultural crops including fruits, vegetables, spices, aromatic and ornamental plants, medicinal plants and plantation crops. Some of the important horticultural crops in the state include:

#### Fruits

The important fruits currently being grown in the state include banana, oranges, pineapple, papaya, jackfruit, litchi, plum, peach, and pear, lemon, apricot, tamarind, mango local, pomegranate, mosambi, Valencia, chestnut, passion fruit, sohiong, sohphie, sohshang, sohkwit, sohmad, sohbrap, chinara and cambil. Of these, perhaps the four most important are Pineapple, Citrus (Mandarin Orange), Papaya and Banana. The major fruit groups in Meghalaya are as under:

**(a) Citrus fruits:** The most dominant citrus fruit group in the state is the Mandarin orange, which finds patronage both within and outside the state. These are considered to be very high quality and find good acceptance among customers. The sub-mountainous tract along the Indo-Bangladesh border is the home of the citrus fruits. There has been a marginal increase in the area under citrus fruits during 1999-2000 to 2005-06 from 7,568 hectares to 8,871 hectares with occasional peaks and troughs in between. The production of citrus fruits also increased by nearly 7.2% during the same period from 34,173 metric tonnes to 36,893 metric tonnes.

**(b) Pineapple:** Pineapple is one of the most important horticulture fruit crops in the state. However, there has been no significant increase in the area under pineapple in the state. The area under pineapple cultivation during 2005-06 was reported at 10,135 hectares while in 1999-2000, pineapple crop covered 9,382 hectares. The production of pineapple during 2005-06 was reported at 93,625 metric tonnes – nearly 11% higher than the 1999-2000 level of 82,461 metric tonnes. Ri-Bhoi district is currently the largest producer of pineapples in the state. It produced 39,066 metric tonnes in 2003-04 accounting for a quarter of the total production of pineapple in the state during that year.

**(c) Banana:** Banana is another important fruit crop in the state and has been grown in the state for a very long time. It has considerable economic value and several varieties of banana like Jahaji, Chenichampa, and Malbhog besides other indigenous varieties of banana are grown in the state. The area under Banana has grown consistently in the last three decades. It increased from 2,130 hectares in 1970-71 to 6,426 hectares in 2005-06 indicating a 300% net increase. The production



of banana however, has not grown in proportion with the increase in the area. The production of banana in 2005-06 was reported at 71,695 metric tonnes, only about 28% higher than the 1970-71 level of 52,147 metric tonnes. There has been a significant decrease in the yield of banana in the last three decades. While each hectare under banana crop yielded 24,482 kilograms in 1970-71, the yield of banana plummeted to 11,157 kilograms per hectare in 2005-06.

**(d) Papaya:** The share of papaya in the fruits grown in the state is meager both in terms of the area under its crop as well as its share in the fruit production. The production of papaya was 3,941 metric tonnes from 507 hectares in 1999-2000. The area under papaya grew to 584 hectares producing 4667 metric tonnes.

**(e) Temperate fruits:** Plum, peaches, pears and apricots are some of the temperate fruits grown in the state. These are found mainly in the East and West Khasi Hills and the Jaintia hills. Their production is however currently insignificant.

**(f) Other fruits:** Besides the major crops mentioned above, some other crops are also grown in the state. These include Strawberry, Guava, Mango, Litchi, Lime/Lemon and Sweet Orange. There is a limited coverage of these crops at present but are estimated to have a great potential.

### Vegetables

Vegetables grown in Meghalaya are of a very high quality and are considered to be among the best in Northeast. The agro-climatic conditions in Meghalaya favour the cultivation of vegetables throughout the year. The off-season vegetables produced in the state are in great demand in the neighbouring states. The area, production and productivity in the vegetable sector have been showing an increasing trend. Vegetables like Cabbage, Cauliflower, Radish and Squash are regularly marketed outside the state. In fact, revenue returns from vegetables in Meghalaya tend to be higher than that from cereals. The other important vegetables of the State are beans, carrots, peas and tomatoes.

The Agriculture Department through its Directorate of Horticulture is taking steps to accelerate the growth of the vegetable sector by encouraging farmers to grow vegetables in poly-houses and providing them subsidy on the cost of such houses. Vegetable production in poly-houses is expected to double the productivity. Steps are being taken to extend vegetable cultivation in and around administrative headquarters to meet the increasing demand for vegetables in these centres. Quality seeds /seedlings, plant protection chemicals and garden tools are also being distributed at 50% subsidy to farmers.

### Tuber Crops

The principal tuber crops grown in the state are potato, sweet potato and tapioca. The East Khasi Hills District is the largest producer of tuber crops in the state accounting for more than half of the area under tuber crops. West Khasi Hills is the second major producer of tuber crops. The total area under tuber crops in the state has decreased marginally from 29,892 hectares in 1995-96 to

26,862 hectares in 2003-04. Out of three tuber crops grown in the state, Potato is by far the most dominant crop and is also the most important commercial crop of the Shillong Plateau. It accounts for almost two-thirds of the area under tuber crops. Cultivation of potatoes in the region has a long history and dates back to British times. The area under potato has decreased between the periods 1995-96 to 2005-2006. From 20,863 hectares in 1995-96 it reduced to 17,986 hectares in 2005-2006. The production of potatoes also decreased drastically from 208,630 metric tonnes in 1995-1996 to 167,030 metric tonnes in 2005-2006. A sharp decrease in the yield of potato was also recorded during the same period from 10,000 kilograms per hectare to 9287 kilograms. This possible reasons are many and most importantly because of the degenerated potato seed used by the farmers and the dwindling nutrient in the soil where potato has been grown traditionally.

The period 1995-96 to 2005-06 has however, has not been very favourable for potato. During this period, there has been a decrease in both the area under potato cultivation and the production of potatoes. The area under potato cultivation dropped to 17,986 hectares and the production of potatoes decreased to 167,030 metric tonnes. The decrease in production of potatoes therefore, has been proportionately higher compared to the reduction in the area under potato cultivation. This can be attributed to the decline in potato yield to 9287 kilograms per hectare.

### **Mushrooms**

Meghalaya has a great potential for production of mushrooms. Cultivation of mushrooms in the state is increasingly becoming popular because of the high yield and remunerative prices. Meghalaya produces nearly five metric tonnes of fresh mushrooms. While mushroom farmers in Meghalaya produce several varieties of mushrooms, two varieties have the highest market potential, namely the white button mushroom and the Dhingri/Oyster mushroom.

A Regional Centre for Training and Production of Mushrooms in the North Eastern Region, sponsored by the North Eastern Council has been set up at the Agricultural Complex in Upper Shillong with the objective of promoting production of mushrooms. Some of the key objectives of the centre are to produce and supply quality spawn, provide training facilities to interested entrepreneurs, preparing sterilized compost and providing dehydrating and marketing facilities. The centre is currently promoting the Dhingri/oyster mushroom in preference to the button mushroom due to the amenability of the former to dehydration. Besides, the Dhingri mushroom has a higher preference in the international market. The Mushroom Centre produces quality spawn (seed) for supply to farmers of the State at subsidized rates. It also meets the demand for spawn of the other North-Eastern States.

### **Spices**

Meghalaya is home to a wide variety of spices, of which the most important ones are: turmeric, ginger, chilly, black pepper and bay leaf. In addition, large cardamom has also been introduced recently. Bay leaf is mainly a forest produce and is concentrated on the southern slopes on the

border with Bangladesh. The other spices that are cultivated in the State are :

- (a) **Ginger:** Ginger is the most important spice grown in the state. While it is grown in almost all parts of the State, East Garo hills is the largest producer of Ginger. The area under Ginger in the year 2005-06 was reported at 9,625 hectares. The production of ginger during that year was reported at 53,609 metric tonnes.
- (b) **Turmeric:** Meghalaya Turmeric, particularly the Lakadong variety produced in the Jaintia hills, is considered to be the world's best turmeric with curcumin content as high as 7.5%. Meghalaya produced 10,508 metric tonnes of turmeric from 1,817 hectares in 2005-06. Turmeric is grown all over the state, but Jaintia Hills has the highest area under turmeric and contributed more than half of the turmeric produced in the state.
- (c) **Chillies:** Chillies is the third most important spice in Meghalaya. The production of chillies in the year 2005-06 was recorded at 1,303 metric tonnes while the area under chillies was 1,844 hectares during that period.
- (d) **Black Pepper:** Black pepper is mostly grown in the border areas of the State. High yielding variety like Panniyur-I has been successfully introduced and multiplied.

### Plantation Crops

The major plantation crops cultivated in the state are tea, areca nut, cashew nut and rubber. The department of soil conservation introduced tea, coffee and cashew nut to attract the Jhumias for permanent cultivation. Coffee in the state has failed to take off because of the complexities involved in the post harvest management activities and for want of the requisite infrastructure. Cashew nut plantations have received relatively better acceptance. The Horticulture Department has recently introduced coconut but the area under coconut and its production is currently too small. Some of the major plantation crops that fall within the purview of the horticulture department are discussed hereunder:

- (a) **Arecanut:** Betelnut has always been very popular in the state and a large majority of the population in the state chews the nut. Arecanut has therefore been grown in the state since times immemorial as an important commercial crop. It is grown extensively all over the state. The area under Arecanut plantation in the year 2005-06 was reported at 11,507 hectares and the production of Arecanut in the state in the same year was reported at 15,530 metric tonnes. Arecanut has been heavily afflicted with a disease called "Bud Rot" which is known to have affected the productivity of areca nut in the past. The current trends in the yield of areca nut however reveal that the incidence of "Bud Rot" is decreasing. Considering the popularity of areca nut within the state and its demand outside the state as an ingredient for pan masala etc., the prospects for areca nut in the state appear to be bright.
- (b) **Tea:** The agro climatic conditions in Meghalaya are considered suitable for tea plantations. Accordingly, in 1974, on the recommendations from the tea board, tea experimental stations were established in the districts of Ri-Bhoi, West Khasi Hills and the West Garo Hills. Encouraged by the

success of these experimental stations, the department decided to encourage tea plantations all over the state. With that objective, the departmental tea nurseries in some parts of the state were setup to supply good planting material to tea growers. A package incentive scheme for tea cultivation with a cash subsidy of Rupees 15,000 per hectare has also been started. The state dedicated 1,320 hectares to tea plantations in 2005-06 and produced 5,610 metric tonnes of tea in that year.

**(c) Cashew Nut:** Cultivation of cashew nut is being taken up extensively in the Garo Hills. The area under cashew plantations in 2005-06 was 6,785 hectares. The production of cashew in 2005-06 was 11,207 metric tonnes. The cashew plantations in the state are the result of Jhum control efforts carried out by the directorate of soil conservation. Most cashew plantations therefore occur on abandoned Jhum plots. The directorate of Horticulture is exploring more avenues for boosting up cashew nut cultivation under different ongoing schemes with a view to boost cashew nut production. A processing unit is also being envisaged at a later stage once the volumes warrant such a unit.

### Flowers

Climatic conditions in Meghalaya are highly suited for low cost cultivation of a vast variety of flowers including off-season flowers such as orchids, bulbous plants, birds of paradise, chrysanthemum gerbera, gladiolus, marigold, carnations etc. However, commercial floriculture in the state is at its nascent state and therefore not much market potential for flowers in Meghalaya currently exists. The State's Horticulture Department is taking steps to promote floriculture in the state. Towards this end, they have set up Centres of Excellence for Rose in the Ri Bhoi District and for Anthurium in the East Garo Hills District. The Department has also engaged an outside consultant to seek advice on the floriculture and to help identify the potential markets.

With the coming up of new markets for flowers, commercial floriculture is being encouraged under the Technology Mission of Horticulture. Under the mission, farmers were given flower seeds and poly houses. To site an example, an inhabitant of a Mawreng village who constructed a green house with the help of the Horticulture Department is now generating an income of Rupees 800 daily from the sale of flowers. A number of floriculture nurseries are currently flourishing in and around Shillong.

### Medicinal Plants

Meghalaya has a large variety of medicinal plants and has had a long history of traditional system of medicine. More than 700 species of medicinal plants have been identified and listed in Meghalaya. The State Government however, is actively promoting a few important plants such as: *Cinchona ledgeriana*, *Rauvolfia serpentina*, *Salanum khasianum*, *Swertia chirata*, *Taxus wallichiana*. A detailed discussion on medicinal plants appears in Chapter 2 – Development and Management of Natural Resources.

## Indigenous Plants

Meghalaya also has several indigenous fruit plants, herbs and shrubs, which are found exclusively in the state. The Department of Agriculture has started exploiting some of these plants commercially in pickles, dyes, aromatics etc. Some of these plants are: *Myrica nagi*, *Prunus nepalensis*, *Eleagnus Khasianum*, *Flemingia vestita*, *Docynia indica Khasiana* etc.

### 9.9.3 Infrastructure for processing and marketing

There are two fruit processing units in the state. One is at Shillong with an installed processing capacity of 60 metric tonnes and the other is at Dainadubi in East Garo Hills with an installed capacity of 40 metric tonnes. These processing plants produce squashes, canned fruits, juices, jams, jellies, marmalades and pickles. The Directorate of Horticulture has also set up 24 horticulture farms all over the State. These farms carry out a variety of activities.

However, the state currently lacks a robust distribution and marketing infrastructure for horticultural produce. There is also a dearth of proper storage and processing facilities and organized markets for the disposal of horticultural produce. The demand for horticulture products in the state currently far exceeds the production; as such most horticulture produces are consumed immediately. However, the horticulture products are relatively more perishable and as the department's efforts to promote horticulture bear fruit, the State may require a well-established processing and marketing infrastructure to manage the horticultural produce. Any efforts to promote horticulture in the State in the absence of a proper processing and marketing infrastructure may actually prove to be counterproductive. The success of horticulture in other states like Himachal Pradesh is attributable largely to an efficient infrastructure for horticultural processing and marketing.

### 9.9.4 Constraints in horticulture development

Horticulture is a complex discipline and requires specialized knowledge. It also demands a more active post harvest management. Further, owing to the perishable nature of most horticultural products, a very robust support infrastructure is also required for storage, processing and marketing of horticulture produce. Most farmers in the country practice subsistence farming and food security is still the most important concern. If the area under food grains was any indication, it may be easily concluded that Meghalaya is no exception. It may indeed be counter productive therefore, to indiscriminately encourage horticulture in the absence of the necessary support infrastructure. Some of the most important impediments to the development of horticulture in the state are as follows:

**(a) Inadequate infrastructure for post harvest management:** The state does not yet have a robust infrastructure for post harvest management making it difficult for farmers to process and market their produce. This is especially true for plantation crops like tea, coffee and rubber. This has caused lot of disillusionment among farmers in the past.

**(b) Irrigation facilities:** Horticulture demands assured irrigation facilities. The coverage of irrigation infrastructure in the state is currently limited. This poses a serious problem for promoting horticulture in the state.

**(c) Land use and land tenure system:** Land in certain areas is subjected to paddy and other forms of conventional agriculture even though it is considered unfit for such form of agriculture. However, Meghalaya does not have a well-defined, scientific land use policy and land use in the state is mostly arbitrary and is often detrimental to soil and the ecosystem. On account of the land tenure system in Meghalaya, The State Government exercises little control over land in the state and is therefore not in a position to enforce a land use policy.

**(d) Inadequate Extension Services:** There is a dearth of extension services in the State especially at the grass root level. This makes it difficult to encourage horticulture and to provide the necessary consultation support services required by the farmers.

**(e) Poor transport infrastructure:** The transport infrastructure in the State is inadequate, making it difficult to quickly transport horticulture produce from different parts of the state to the markets within and outside the state.

**(f) Cost of produce:** Horticulture in the State has not yet achieved the level of intensification and optimization achieved by some of the other states. This results in a higher cost of production of most crops. It is however hoped that as the horticulture intensifies, the cost of production would gradually reduce and this constraint will cease.

### 9.10 Fisheries

Aquaculture and fisheries are emerging as the fastest growing sectors in global food production. It is estimated that fisheries provide nearly 16% of the worlds total protein requirements on an average. According to a report by the Food and Agriculture Organization, “fisheries and aquaculture remain very important as a source of food, employment and revenue in many countries and communities”. The report ranks India as the second largest producer of inland fisheries with 650,000 tonnes of production or nearly 8.1% of the total inland fish production in the world<sup>6</sup>. The areas under various sources indicate that there is vast scope for fish production in the region. Fishery resources in Northeastern Region can be seen from the table 9.3.

The production of fish in NER accounts 3.92 percent to the total volume that is produced at all India level. The share compared for three years i.e. 2002-03 to 2004-05 shows that there is marginal rise in the contribution of NER to the production at all India level. Despite there is a great potential in the NER in the fishery sector, due to various reasons currently there is low fish production in the NER. At present the NER imports around 90,000 tonnes of fish from outside the region. The available records show that **fish seed production** in NER stands at 5349.83 million fry during 2004-05 (table 9.4). Nearly half of the total, fish seed is produced in Assam. Production in Tripura and Manipur accounts for 402 and 118 million fry.

<sup>6</sup>Source: The State of World Fisheries and Aquaculture – 2000 (FAO)

**Table 9.3: Fishery resources in Northeastern Region**

State	Rivers/ streams (km)	Beels/ lakes (ha)	Tanks/ ponds (ha)	Paddy/ fields (ha)	Other suitable water (ha)
1	2	3	4	5	6
Arunachal Pradesh	2000	2500+110 [Cold water]	1000	2800	700
Assam	4820	100000	20000	20000	1517
Manipur	2000	40000	5000	40000	10000
Meghalaya	5600	394	1944	5000	3000
Mizoram	1748	32	1800	1560	-
Nagaland	1600	215	2000	10000	-
Sikkim	900	-	-	-	-
Tripura	1200	240	11038	-	-
NER	19868	143381+110	42782	79360	15217

[Source: NEC –Ten Year Perspective Plan]

#### 9.4. Fish seed production (million fry)

Year	A. Pradesh	Assam	Manipur	Megha laya	Mizo ram	Nagal and	Sikkim	Tripura	NE Total
2003-04	25	2228.41	117	0.96	13.2	40	2.5	272.26	4698.33
2004-05	26.1	2741.47	118	0.9	16	44	2.5	401.86	5349.83

Source: Ministry of Agriculture, DAHD

#### 9.10.1 Background of fisheries in the state

History of fisheries in the state - Fishery has been practiced in the state for a long time largely through the traditional methods. People have been using bamboo traps to catch fish from rivers and streams. They have even been using poisons of plant origin in shallow rivers to catch fish. However the concept of modern, scientific fisheries has only become popular in the last two decades. Originally, fishery did not have a Department of its own and was a part of the Agriculture Department.

People's preference for fish vis-à-vis other food items - While the people in the state are primarily meat eaters with pork and beef being the preferred food, there is an increasing demand for fish. This can be attributed to the lower cost of fish compared to pork and other meat. While port sells at around Rupees 100 per kilogram, fish sells for around 50-60 per kilogram. Moreover, fish is considered to be more nutritious and easier on digestion.

### 9.10.2 Potential for growth of fisheries in the state

#### Factors favouring development of fisheries

The State has a huge potential for growth of fisheries. There is very large demand for fish, which is growing by the day. The State is however yet to attain self-sufficiency in fish production and it has to depend on imports from other states viz., West Bengal, Assam, Maharashtra and Andhra Pradesh for meeting its demand for fish for human consumption as well as for use in animal feed.

Water Resource	Number	Water Area
Rivers	90	3194 Kms.
Reservoirs	4	8430 Hect.
Lakes	15	56.8 Hect.
Bheels	49	358 Hect.
Swamps/Low Lying areas	7	8 Hect.
Ponds	NA	2500 Hect.
Departmental Ponds	225	8,948 Hect.
Source: Meghalaya Fisheries Department		

Table 9.5: Water resources for Fisheries

The conditions in the state are highly suited for production of fish on account of abundant water resources and a moderate climate, which is most suited for production of many types of fish.

#### (a) Inland water resources

The State is endowed with abundant water resources including rivers, streams, lakes and reservoirs. However, most of these water resources are under the control of the District Councils and other local authorities. The state has 3,734 hectare as Ponds and tanks, 3,300km length of Rivers, 8,400 ha of Reservoirs and 390 ha of Swamps.

#### (b) Estimated Maximum Production at full exploitation

Despite the vast potential of inland fish production in the State, the fish production in the last few years has stagnated. Fish production in the last few years has hovered around 5000 metric tonnes. This is largely due to the unscientific fish farming methods in the state. Considering the massive potential of fisheries, the state can easily gain self-sufficiency in fish production. While, it is difficult to accurately estimate the total potential at full exploitation, it is estimated that if all the water resources in the State, especially the rivers were to be judiciously exploited, the production could increase by nearly 5 folds annually and reach nearly 25,000 metric tonnes. If that situation is reached, the State will not only be self-sufficient but would also have surplus production of fish for export to other states and for consumption of fish for other uses locally such as in animal feed for poultry and piggery.

### 9.10.3 Fish production and demand in the state

#### (a) Major types of fish produced in the state

The state produces several types of fish. The major types of fish produced in the state include Catla, Rohu, Mrigal, Calbasu, Exotic Carps, Major Carps, Common Carps and the Silver Carps.

#### (b) Production for fish and demand

The state produced 5,147 metric tonnes of fish during the year 2003-2004, a bulk of which came from captured fish. It is estimated that nearly 80% of the fish production during that year was



from captured fisheries and the remaining 20% from the cultured fisheries. The current estimated demand for fish in the state is more than 11,000 metric tonnes and the state imported 5952 metric tonnes of fish from other states, accounting for more than half of the total consumption of fish in the state. There is also demand for consumption of fish for fish feed as well as for use in other sectors like animal husbandry and poultry, which is also met by importing dried fish from other states.

#### **9.10.4 Demand and supply for fish seed in the state**

The state has 14 fish seed farms producing and distributing nearly 1 million fish seed. The demand for fish seed in the state, however, is nearly 2.5 million thereby resulting into a shortfall of 1.5 million fish seed, which has to be imported from other states. The fisheries department has not assigned any priority to attaining self-sufficiency in the area of fish seed production so far. However, the Department had setup two Chinese hatcheries – one each at the regional fish seed farm, Jamge and Digrichiring fish farm at Tura with the objective of increasing local fish seed production. However, both the hatcheries are currently non-operational for want of requisite know-how and thus have not served their purpose.

Currently, the difference in the cost of fish seed produced locally and the fish seed imported from other states is not very significant having regard to the current demand for fish seed. However, if the department were to initiate steps to increase the production of fish in the state, it may be desirable to attain self-sufficiency in the area of fish seed production, both for achieving economic viability as well as strengthening the supply chain for fish seed. The Department has estimated that in order to become self sufficient in fish seed production, there is a need to setup one more carp hatchery at Ri-Bhoi district with a production capacity of 4 million annually.

#### **9.10.5 Infrastructure for Storage, Distribution and Marketing of fish in the state**

Currently the state has no facilities for the storage and transport of fish. This is currently not an issue as there is a huge gap between the production and demand for fish in the state and all fish produced locally is immediately consumed. However, the need for a robust storage and transport infrastructure may arise as the fish production in the state grows and as the state emerges as a major producer and exporter of fish in the North Eastern region.

#### **9.10.6 Progress of programs and schemes**

##### **(a)Development of Freshwater Aquaculture (Fish Farmers' Development Agencies)**

The scheme was implemented during 1994-95 in order to bring all the fallow culturable fishery resources under fish production to train and popularise new method of fish culture and strengthening the rural economy. But the scheme could not be implemented from 1999-2000 due

to the non-release of central share from the Government of India, as the scheme is a centrally sponsored scheme.

**(b) Centrally Sponsored Scheme on Fisheries Training & Extension**

This centrally sponsored scheme was implemented since 1994-95 in order to educate the private fish farmers on the modern fish culture methods and also to impart training to the interested fish farmers by providing field training within and outside the state. Till date around 2000 trainees have imparted the training.

**(c) Integrated fish farming**

In order to enhance the production of fish in the state and to generate employment among the rural poor, the fishery department has implemented an Integrated Fish Farming Scheme, which has proved very successful. The scheme envisages combining piggery or poultry with fish farming wherein the night soil generated by the pig farm or the poultry farm becomes the fishes' food and this is proving to be a profitable venture as the fish production comes to the farmers at minimal cost. It is estimated that those farmers who have implemented the scheme earn an average revenue of Rupees 70,000 to Rupees 1,00,000 per annum from a medium sized pond of 0.25 hectares.

**(d) "The 147 Ponds scheme"**

This scheme that originally envisaged the creation of 1000 ponds was subsequently revised and currently envisages the creation of 147 ponds of one acre each in the seven districts of Meghalaya within the period of two years. The scheme also envisages a subsidy component of 75% the remaining 25% to be contributed by the farmers.

It is estimated that if all 147 ponds become operational, then with the estimated average fish production of 800 kilos per acre, the combined fish production from the scheme would be approximately 117.6 MT per annum.

The total projected outlay of the scheme is Rupees 21.168 million. This is based on the model scheme of a one-hectare water area approved by NABARD.

During the Eleventh Plan, it is proposed to cover 70.00 hectare water areas with an anticipated fish production of 140 MT (approximately). Awareness programme is also proposed to organize to check and combat unwanted destruction of fishes in collaboration with the NGO's/ Village Headmen/Sardars etc. to declare fish sanctuary in some selected rivers/ streams.

**9.10.7 Constraints in fishery development**

**(a) The land ownership pattern in the state**

The land tenure system in the state has been stated as the major hurdle in the growth of fisheries. The inland water resources especially the rivers have a great potential. The Umiyam Lake as an example has vast potential for organized fishing.

The Umiam Reservoir (Bara Pani) in the Ri-Bhoi district is at an elevation of 1,020 meters and measures 500 hectares in total water spread area. Although it is considered as a cool water area, because of the depth there is a balancing affect and fish thriving in warmer waters can be cultured here. The reservoir is currently under the Meghalaya State Electricity Board (MeSEB) and the Khasi Hills Autonomous District Council has exclusive fishing rights over the lake. The Department is of the opinion that the reservoir is not being optimally utilized and the production of fish in the reservoir is very low in comparison to the all India level. Accordingly, the Fisheries Department had earlier sought an arrangement with the KHADC for a joint fishery project with 60-40 profit sharing arrangement. The agreement however could not be worked out. The State's Fisheries Department is of the view that coming into affect of such an arrangement, would have given rise to certain restrictions over fishing which may not have been welcome by the local community. Incidentally, there are three categories of people dependent on the fish production in Umiam. These are: the local fishermen who primarily catch the fish; the local transporters who transport the fish into the nearby markets followed by the local fish sellers who finally dispose the fish.

However, in the year 1999-2000, the Department introduced 1,50,000 fingerlings of a high yielding variety in the reservoir. It was observed that after a period of 1 year of stocking, the fish production increased drastically. Moreover, the average weight of the fish harvested was nearly 1.5 kilos, which was much larger than the native fish. It could therefore be very beneficial if some type of arrangement could be worked out between the Fisheries Department and the ADCs, with due regard to the local communities, to carry out fishing in an organized manner. This activity could well be carried out on a completely self-sustainable basis. It may however be mentioned that the Umiam Lake is only one small example. The state has much more unexploited potential in the form of rivers and streams, especially on the areas bordering Bangladesh.

### **(b) Economic Conditions of farmers**

The second most important reason for poor growth of fisheries in the state is the economic condition of the people. Most farmers in the state live in abject poverty. While a subsidy of 25% is available for setting up the fish farm, it is difficult for the farmers to gather the remaining 75%. The estimated cost of setting up a one-hectare fishpond is around Rupees 3,00,000. The annual recurring cost of labour and inputs is about Rupees 60,000. The payback period is estimated to be between two to three years.

### **(c) Availability of finances**

The availability of finance is another major problem in the development of fisheries. The banks are reluctant to advance loans for fisheries, as they have earlier suffered losses on account of failed fish farms. The banks claim that their recovery rate for loans advanced for fisheries is low. The Department is however of the view that the major reason for failure of fishery enterprises is the lack of training. Fish culture is a complex discipline requiring adequate training and careful management. The department is of the opinion that in case of fish farmers trained and supported by the Directorate, the success rate is much higher and is estimated to be nearly 80%.

**(d) Vagaries of weather**

The weather conditions also pose a big impediment to the success of fisheries in the state. The state experiences heavy rains during the monsoons, which cause flash floods in several areas. Often the fishponds are flooded with runaway rainwater and fish seed is washed away. This causes huge losses to the fish farmers and as a result the fish farmers are disillusioned from fish farming.

**(e) Lack of adequate training**

Many fish farmers in the state take up fish farming without adequate training. This leads to too many novice farmers burning their hands in the process. There are no training institutes in the state for imparting training in the area of fisheries. It may be mentioned that owing to the complexities involved in fisheries, taking up fish farming without adequate training can only increase the chances of failure.

**(f) Availability of fish feed**

Availability of fish feed is another problem and the cost of nearly Rupees 10 per kilo of fish feed is beyond the reach of most farmers. There is a local manufacturer, which manufactures fish feed only on order. Most ingredients required for fish feed production e.g. Soyabeans, rice bran, oil cake, maize, grams, fishmeal, vitamins and minerals are not readily available in the state.

**(g) Lack of research facilities**

The Department does not currently have a fully equipped research laboratory. This hampers research and development activities in the area of fisheries in the state.

**(h) Lack of requisite infrastructure for storage, distribution and marketing**

The state lacks a robust infrastructure for storage and distribution of fish. It also does not have any organized markets for fish. These may not be of much concern at this stage. The current demand for fish far exceeds the production and the need to store the fish for future consumption therefore, does not arise. However, as the State progresses to become a major producer of fish in the region, the storage, distribution and marketing infrastructure may become necessary.

### **9.11 Animal Husbandry and Dairy Development**

Majority of people in the State of Meghalaya are non-vegetarian and there are hardly any taboos associated with the production and consumption of meat. The State however, has not made much progress in animal husbandry sector as huge gaps currently exist in the demand and supply. The extent of piggery, poultry or dairy as a large-scale commercial activity is currently limited and the State currently runs a shortfall in most food items of animal origin. There is a tremendous scope for generation of stable employment within the animal husbandry sector. The development of animal husbandry, therefore, can have a great bearing on the economy of the State and can also go a long way in enhancing the food security for the people in the State.

The Department of Animal Husbandry Meghalaya has to devote on development of infrastructure and create condition to increase production of animal origin foods like milk, meat and eggs as well as to generate self employment to the people. As per Statistical data (2007-08),

the per capita availability/head/day of Milk in the State is 76gms against the per capita requirement estimated at 100gms (All India requirement 220gms/head/day). The per capita availability of meat is 26.56gms during 2007-08 against the requirement estimated at 37.08gms/head/day. The per capita availability of egg is 36 nos./head/day against the requirement of 49 nos./head/day during 2007-08. This indicates that the State is yet to attain self-sufficiency which, therefore, begs for more investment including the Private Sectors investment in the field of Livestock and Poultry Production.

The approach to the 11<sup>th</sup> Plan for achieving the objectives and targets is indicated below:-

1. Enhancing and sustaining productivity of Livestock and Poultry.
2. Upgrading and improving local livestock and poultry and to make available improved variety of livestock and poultry to the farmers.
3. Providing protection to the livestock and poultry population against contagious and non-contagious diseases through treatment and preventive measures.
4. Building up adequate technical and training facilities.
5. To generate additional employment opportunities to the Educated Un-employed Youth and farmers to increase production.
6. Focusing on cluster approach and involvement of SHGs and cooperatives or federations.

The stock domesticated in NER include cattle, goat, pig, buffalo, sheep, horses / ponies, yak and poultry / birds accounting 11488, 4366, 3816, 840, 227, 28 and 16 thousand respectively in the year 2002-03 as per table below:

**Table 9.6 Livestock and poultry 2002 & 2003 (In 000)**

Sl. No.	Particulars	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Sikkim	Tripura	NE Total	All India
1	Buffalo	11	678	77	18	6	34	2	14	840	97922
2	Cattle	458	8440	418	767	36	451	159	759	11488	185181
3	Pig	330	1543	415	419	218	644	38	209	3816	13519
4	Goat	231	2987	33	327	17	175	124	472	4366	124358
5	Sheep	19	170	6	18	1	4	6	3	227	61469
6	Horses & ponies	7	12	2	2	2	1	2	NA	28	751
7	Yaks	9	0	0	0	0	0	7	0	16	65
	Total poultry	1743	21664	2941	2821	1125	2789	332	3057	36472	489012

Source: Basic Statistics of NER, 2006

### 9.11.1 Infrastructure for Animal health

The current animal health and veterinary infrastructure in Meghalaya is inadequate. The State currently has a network of 4 veterinary hospitals, 74 dispensaries, 59 veterinary aid centres, 15 mobile dispensaries and 3 vigilance units. Apart from treatment of animals, these institutions also take care of livestock development. Most veterinary aid centres in the State are ill equipped and poorly staffed. The plight of the veterinary aid centres in the State can be gauged from the fact that many of these centres are headed by subordinate staff and not veterinary doctors as laid down by the Indian Veterinary Council Act. Many such centres therefore lack the requisite skill base to diagnose and remedy the animal diseases. The most immediate concern of the Directorate of Animal Husbandry and Veterinary therefore is the upgradation of the veterinary aid centers. The supply of animal vaccines in the State is neither sufficient nor regular. At present, the vaccination rate is only 15 –25% of the existing livestock. In the year 2006-07, 945 thousand preventive vaccinations were performed on poultry and 211 thousand on cattle while 7 thousand vaccinations were carried out on pigs. Animal husbandry in the State has not yet intensified, thus in general the State has a relatively low occurrence of animal diseases. However, there have been instances in the past when almost 50% of the livestock in certain farms has been wiped out due to diseases. Preventive vaccination done in respect of bovine in the year 2006-07 was 26.88% of the total in milk and milch animals in the state.

### 9.11.2 Cattle development – Dairy

Indian dairy industry has seen tremendous growth in the last few decades. India has emerged as the largest milk producer in the world after overtaking U.S. in 1998. Milk production in India increased from 17 million tonnes in 1950-51 to 97.07 million tonnes in 2005-06. The last few decades have also witnessed the transformation of dairy in the country from a backyard activity to a major commercial activity.

Year	Milk Production ('000 tonnes)	Meat Production ('000 tonnes)	Egg Production (Million Nos.)
1	2	3	4
1963-64	40.2	12.4	51.4
1964-65	43.6	12.8	54.9
1965-66	46.3	13.6	57.8
1966-67	47.3	15.3	60.0
1967-68	40.9	16.9	61.6
1968-69	46.7	18.7	63.5
1969-70	47.4	19.4	63.7
1970-71	48.4	20.3	66.5
1971-72	50.4	22.0	66.8
1972-73	51.6	23.4	70.0
1973-74	52.9	23.5	73.0
1974-75	54.0	24.7	75.0
1975-76	55.4	26.5	77.0
1976-77	57.4	27.7	79.2
1977-78	59.1	28.8	81.4
1978-79	60.7	29.6	82.6
1979-2000	61.6	31.6	84.7
2000-2001	64.0	33.0	87.0
2001-2002	65.8	34.0	90.2
2002-03	67.7	35.5	91.6
2003-04	68.25	35.6	93.6
2004-05	71.3	36.4	94.6
2005-06	73.43	36.55	96.25
2006-07	74.62	38.41	97.8
Anticipated for 2007-08	77.30	41	100

### **Cattle Development:**

Meghalaya on the other hand has been largely unaffected by the dairy revolution in other parts of the country. The State continues to be among the lowest producers of milk in the country. The per capita milk availability in the state is about 76 grams as per 2006-2007 estimates. If this is compared to some of the States with the best per capita availability of milk, substantial gaps are evident. Punjab and Haryana for example, had an estimated per capital milk availability of 926 grams and 666 grams respectively in the same year. Clearly, there is a significant potential for improvement in the dairy sector in the State <sup>7</sup>.

#### **9.11.3 Cattle Livestock**

The estimated number of in-milk and milch animals in the State has increased by 23% from 298,900 in 1990-91 to 368,100 in 2006-07. The preference for crossbred cattle in the State is gradually increasing. The ratio of crossbred cattle to total cattle in the State had increased from 5.8% in 1990-91 to 8.4% in 2006-07. However, the percentage of crossbred cattle is still relatively low. There is a substantial gap in the average milk yield per animal of crossbred variety in comparison with indigenous milch cows. The crossbred breeds in the state yield an average of 7.30 Kilograms of milk per animal per day. In contrast the indigenous breed yields merely 0.33 Kilograms of milk per animal per day in the State in 2006-07.

The crossbred cows are mainly concentrated in East Khasi Hills and Ri Bhoi districts. As a result, these two districts alone account for more than half of the total milk production in the State. Around 85% of the total bovine in the state are grazed fed and only 2-5% are stall-fed. The crossbred cows are fed 3-4 kilograms of concentrate feed per day.

Improvement of non-descript indigenous Cattle by Cross Breeding Programme with exotic breed by means of artificial insemination using frozen semen technology will continue. The numbers of Cross Bred Cattle population of the state constitute only 3.00% of the total Cattle population. It is proposed to increase the number of cross bred population to be achieved by increasing the coverage of Artificial Insemination by 20% per year.

The Existing Cattle Farms in the State will be strengthened to be able to supply good quality inputs (breeding animal of high quality) to the farmers & to contribute enhancement of milk production in the State.

Further, with the objective to attain self sufficiency in meat, milk & eggs a new policy to invite Private Sectors investment in the fields of Livestock & Poultry is proposed to be adopted by setting up of Livestock Development Board in the State. To ensure supply of good quality breeding

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<sup>7</sup>Source: Website of the Ministry of Agriculture – Department of Animal Husbandry and Dairying

stock of high quality in East Garo Hills, it is proposed to set up a new cattle farm at Samgong in East Garo Hills during 2009 - 2010. An amount of Rs. 90.00 lakhs is proposed for 2009 – 2010.

#### **9.11.4 Milk production and trends in growth**

The production of milk in Meghalaya is among the lowest in the country. Moreover, no significant increase has been seen in milk production in the last two decades. The production of milk increased marginally from 67.7 thousand tonnes in the year 2002-03 to 74.62 thousand tonnes in 2006-07. On the other hand, milk production in Punjab for the same period has increased by more than 60%. As per Sample Survey for estimation conducted in 2006-07, 94.17% of the total milk is sold as fluid milk, 2.46% is converted into milk products and 3.37% is consumed as fluid milk in households.

#### **9.11.5 Dairy Development Programs in the State and their progress**

The Department of Animal Husbandry and Veterinary has initiated several programs in the past for cattle development to increase the production of milk in the State by adopting improved breeding practices. Four cattle breeding farms have been established in the State under this initiative with exotic breeds like Jersey and Holstein-Friesian. During 2006-2007, the total plan allocation for the cattle development programmes was 67.03 lakhs as per the Revised Outlay. The programs are discussed briefly hereunder:

##### **(a) Intensive Cattle Development Project**

Under the Intensive Cattle Development Project (ICDP) at Shillong and Tura, the Department carried out 21,760 artificial inseminations and produced 17,310 calves of improved varieties during the year 2006-07.

##### **(b) Distribution of Bull/Calves/Cows Grant-in-Aid**

The objective of this scheme is to encourage farmers to take up dairy farming to generate self-employment and increase the production of milk in the State. During 2006-2007, 54 units with 4 crossbred cows per unit were distributed to the beneficiaries at 50% subsidy.

Dairy farming subsidy schemes are also being provided for enhancement of milk production. At the end of year 2007 the department was operating three dairy plants in the State; one each in the districts of East Khasi Hills, Jaintia Hills and West Garo Hills. The dairy plant in East Khasi Hills had a processing capacity of 10,000 litres while the other two have a capacity of 8,000 litres each. The department is also operating three milk chilling centres in the State; one each in West Khasi Hills, Jaintia Hills and the East Garo Hills. These centres have a chilling capacity of 2,000 litres each.

#### **9.12 Problems in the Dairy Development Sector**

As mentioned earlier, there is very little preference for milk in the State; so much so that even the tea that people consume locally is generally without milk. This is in stark contrast with some other



States especially Punjab and Haryana where milk forms an indispensable component of the daily diets of people. This affinity for milk in these States has made milk a highly valued commodity, which in turn has powered the growth of the dairy sector in these States. Besides the preference issue, the following reasons inter alia, may be attributed to the poor growth of dairy in the State:

**a) Poor animal health infrastructure:** As stated earlier, the State has a poor animal health and veterinary infrastructure. The supply of vaccines is also very poor and inconsistent; therefore the State has a low vaccination rate.

**b) Old Livestock:** The parent stock acquired by the department for multiplication of high quality breeds in the State has not been replaced since 1992. As a result the quality of breed is gradually diminishing.

**c) Inadequate availability of Feed:** Availability of feed is another problem in the State. The feed available is also not of good quality and is relatively very expensive. Most of the ingredients of feed are exported from other parts of country that raises the cost of feed. The principal ingredient in animal feed is maize, which accounts for a major part of the cost of the feed.

### 9.13 Cattle development for meat

Beef, besides pork is savoured with great delight by a large percentage of people in the State. As per Sample Survey for estimation about 236,000 cattle were slaughtered in 2006-07 for meat production. There is a very high demand for beef in the State. The per capita availability of beef is 21.80 grams per day, which is much lower than the per-capital availability of pork. However, production of beef within the State has declined marginally from 12,855 tonnes in 2005-06 to 11,730 tonnes in 2006-07, while at the same time the consumption of beef has increased by nearly 4%. In order to make good the shortfall, the State imported 9,670 thousand tonnes of beef in 2006-07 making about 6% increase in beef imports from the 2005-06 level of 8,570 tonnes.

It may be mentioned here that unlike most other parts of the country, the native population in Meghalaya does not attach any taboo to the consumption of beef. However, at the same time, the native population has not had much tradition of raising cattle for milk or for meat. Majority of cows in the State are raised by communities who have migrated into the State from neighbouring States as well as from Nepal. These communities raise cows mainly for milk and are generally averse to production or consumption of beef. Interestingly however, considering the high costs of feed, it is economically unproductive to rear the male calves, except a small percentage for farm work and multiplication of stock. Most male calves are therefore completely ignored and wasted off by allowing them to starve. Considering the huge demand for beef in the State and the volume of imports, the Department of Animal Husbandry is keen to start beef farm to increase the production of beef in the State. The Department envisages that the stock for these farms would be acquired from cattle farmer and would be raised for beef purpose.

### **9.14 Piggery**

Pork is very popular in the State and enjoys more or less the status of staple food alongside rice. Pigs are highly prolific and very efficient biological feed converters. Their meat is also generally considered healthier than red meat. Rearing pigs can therefore be a highly lucrative activity. In order to be fit for human consumption, pigs must be given proper hygienic food and due medical attention to prevent any diseases.

Pig rearing is common in the plain areas of Garo Hills and in the Hills of Khasi and Jaintia Hills. It is estimated that nearly 60% of the households in the State rear pigs. However, these are generally kept in small bamboo enclosures in unhygienic conditions. These animals are fed mostly household waste. Their meat is therefore often unsafe for human consumption. Moreover, the species of livestock are inferior, non-descript local breeds. Piggery in the State however, has to come a long way from its current status as a backyard activity to a major commercial activity.

### **9.15 Livestock and meat production**

The population of pigs was recorded at 418,980 in 2003. Out of these 390,689 were indigenous and 28,291 were crossbred pigs. Thus, 93.25% of the total pigs reared are of local breeds and 6.75% are crossbred pig. As per the Integrated Sample Survey report for the year 2006-07, an estimated 238.35 thousand pigs were slaughtered. The total pork production during 2006-07 was 9,996 tonnes of which 8,543 tonnes was produced within the State. Thus 85.46% of the demand for pork was met by production within the State.

### **9.16 Infrastructure for piggery development**

Under the piggery development, there are 10 (ten) District pig farms and 1(one) Regional Pig Breeding Farm established in the State. These farms maintained exotic breeds of pig, namely, Hampshire and Saddle-back breeds having superior germ-plasm for breeding purpose and to produce better piglets for supply to the farmers. At the end of year 2007 the total number of stock raised in these farms was 912. Number of piglets produced was 2433, where the total pigs sold during the year was 2440 Nos. The pigs produced by these farms are in great demand within Meghalaya as well as in the neighbouring States. The Directorate however is unable to fulfill the total demand for piglets through these farms as the demand far exceeds the supply.

#### **9.16.1 Research and development efforts**

The Department of animal husbandry and veterinary has taken up schemes to introduce improved breeds of pigs. Regional Pig Breeding Farm is operating at Kyrdemkulai. This farm is one of the best pig farms maintained by the Directorate of Animal Husbandry. The farm is maintaining Hampshire

and Saddleback breeds of pigs for scientific breeding purpose. The farm is supplying piglets to the farms within and outside the State for raising and multiplication.

### **9.16.2 Schemes for promotion of Piggery**

The Directorate of Animal Husbandry and Veterinary distributed 62 piggery units with 6 nos. of pigs per unit at 50% subsidy during 2006-2007. The objective of this scheme is to enable people to take up piggery as a subsidiary occupation with high quality pig breed. In addition, 25 units were distributed during 2006-2007 to Educated Unemployed youth at 50% subsidy with 10 gilts and two boars per unit of improved breed. The Directorate also provided 50% subsidy for piggery production under the scheme for Special Livestock Breeding Programme (SLBP). During the year 2006-07, 30 units were implemented with three gilts and one boar of improved breed per unit.

Piggery is common amongst the people of Meghalaya. It is almost a way of life for every household in rural areas. The Regional Pig Breeding Farm, Kyrdemkulai and 9 District Piggery Farms will be suitably strengthened to meet the demand for Breeding Stock. 1(one) New Base Piggery Breeding Farm at West Garo Hills to cater the need of breeding stock of pigs will be established by 2009 – 2010. In order to encourage and involve people in Piggery Production, the existing schemes for distribution of Piggery units, Piggery Production under SLBP and Piggery farming for Educated Un-employed Youth and Rural Cluster Approach on Piggery Development in selected villages will continue with much larger outlay to cover more beneficiaries. To ensure continuity and make the above schemes sustainable, there will be linkage with subsidy scheme for providing piggery feeds to farmers under Feed and Fodder Development.

The targeted beneficiaries to be covered under these scheme are :-

	Target to be achieved in 11 <sup>th</sup> Plan	Anticipated Achievement 2008 – 2009	Proposed Target for 2009 – 2010
i) Distribution of Piggery Unit	413	120	151
ii) Piggery Production under SLBP	210	35	55
iii) Piggery farming for Educated Un-employed Youth	136	40	50

An amount of Rs. 180.00 lakhs is proposed under Piggery Development Programme during 2009 – 2010.

### 9.17 Goat and Sheep rearing

As per the 2002 census the total number of goats in the State was reported at 327,232. About 25% of the total households are rearing goats for milk and meat purposes. The population of sheep was reported at 18,203 out of which 631 were crossbred and 17,572 were indigenous sheep.

In the year 2006-07, 1030 tonnes of goat and sheep meat was consumed in the State out of which, 1001 tonnes was produced within the State. The consumption of mutton has increased by nearly 0.78% from 1022 tonnes in 2005-06 to 1030 tonnes in 2006-07. As per Sample Survey for estimation 2006-07 around 113,910 sheep and goat were slaughtered for meat production.

The Department has initiated a scheme to improve the quality of the local goats by introducing superior germ plasm. The goat farm at Nongshillong reared 10 bucks and 55 does, with the production of 45 kids. The sheep and goat farm at Saitsama has 7 ram and 14 ewes with the production of 7 lambs.

The Department also runs a scheme for the distribution of Goatery Distribution Unit for promoting production of improved bucks. During 2006-2007, 32 units were distributed to beneficiaries at 50% subsidy.

### 9.18 Poultry

The total population of fowls in the State as per 2003 census is 27.62 lakhs out of which 26.25 lakhs were of a desi variety and 1.37 lakhs were of improved variety. The total population of ducks was reported at 0.59 lakhs, of which 0.56 lakhs were desi ducks and 0.03 lakhs were of improved varieties. The population of fowls and ducks is concentrated in West Garo Hills, but the improved breed is more common in the East Khasi Hills and Ri Bhoi districts. It indicates that the reach of the government poultry farms is limited and needs to expand so that the improved breeds are available in all districts of the State. The number of layers including fowls and ducks has increased by 48.78% from 5.72 lakhs in 1990-91 to 8.51 lakhs in 2006-07. The total egg production in the State has increased by 47% from 1990-91 to 2006-07. However the overall estimated yield has remained in the range of 112 to 116 eggs per annum from 1990-91 to 2006-07. As per Sample Survey for estimation conducted in 2006-07, 52.24% of the total eggs produced are sold directly into the market and only 14.55% are set for hatching. This indicates immediate demand of the consumption for the eggs. The per capita availability of eggs is 36 per year. Almost 35% of the demand of egg is met by importing from other states of country.

The demand of chicken has remained at the same level in the last three years. The demand of eggs in the State is however very huge. As per Sample Survey for estimation 2006-07 around 36.78 lakhs poultry was slaughtered in the State for meat production and the per capita availability of chicken is 4.05 grams per day.

### 9.18.1 Research and development efforts in poultry

The Department of Animal Husbandry and Veterinary has introduced a low input breed bird known as the Kuroiler at the Central Hatchery-cum-Poultry Farm, Umsning. The Kuroiler is a low input and medium yielding bird that can be used for eggs as well as for meat. These birds can thrive on easily available food material including kitchen waste and leftovers, vegetables and insects. These breeds are becoming very popular among local farmers since they do not require the high cost feed required by the other breeds. These birds can lay between 130-150 eggs per year while the high yielding varieties can lay up to 180-200 eggs. However owing to the lower cost of inputs, the net returns from these birds are reasonably high. Moreover, these birds are much more resistant to common poultry diseases. Most farmers in the State are disillusioned from the high cost and irregular supply of poultry feed required for the other breeds of chickens. This initiative is therefore a significant one and can provide impetus to the development of poultry in the State. The department is also extending training facilities to the farmers for rearing these birds. Four districts of the State i.e. Ri-Bhoi, East Khasi Hills, West Khasi Hills and Jaintia Hills are being served through the Umsning Poultry Breeding Farm.

Eggs production in the State is far below its requirements. In order to ensure targeted production of eggs, attempts have been made by the Department to re-orient its Poultry Breeding Farms, Broiler Farms and Duck Farms to meet the demand for chicks, eggs and broiler meat. The proposed re-orientation is focused on production of Layers Chicks, Broiler Chicks and Eggs production.

Further, in order to encourage and involve people in Poultry production, the existing schemes for distribution of Poultry Unit, Piggery production under SLBP and Poultry/Broiler Production schemes for educated un-employed youth will continue with larger outlay to cover more beneficiaries during 2008-09. The targeted beneficiaries to be covered under this scheme are :-

	Target to be achieved in 11 <sup>th</sup> Plan	Anticipated Achievement 2008 - 2009	Proposed Target for 2009 – 2010
i) Distribution of Poultry Unit	833	250	366
ii) Poultry Production under SLBP	200	38	58
iii) Poultry/Broiler Production of Educated Un-employed Youth	240	40	55

Past experienced shows that due to high cost of feed, many beneficiaries were unable to continue the schemes without support from Government. To overcome this constraint and make

it sustainable it is proposed to ensure linkage with the subsidy schemes for supply of Poultry feeds to farmers under Feed and Fodder Development.

Rural Cluster Approach on Poultry Development in selected villages to increase meat & eggs production is proposed to continue during 2008 - 2009. An amount of Rs. 197.00 lakhs is proposed for the year 2009-2010 under Poultry Development Programme.

### **9.19 Support infrastructure**

#### **9.19.1 Facilities for provision of animal nutrition**

Four fodder demonstration farms including a seed production farm have been established in the State to meet the requirement of fodder and fodder seeds. These farms cover an area of 262.04 hectares for fodder and 28.68 hectares for seed production. During the year 2006-07, 12,182 tonnes of fodder was produced. The livestock and poultry feed are distributed to the farmers through registered livestock and poultry co-operative societies.

#### **9.19.2 Government farms and other Infrastructure**

The Department is maintaining several farms and other veterinary dispensaries and aid centres, spread in all the seven districts of the State to promote and support animal husbandry. Four cattle breeding farms, one buffalo farm, ten poultry farms and ten piggery farms supply improved breeding stock to the people to take up livestock, poultry and piggery farming to augment their income and boost the production of milk, meat and eggs in the State.

#### **9.19.3 Vocational training and other programs**

Two vocational training centres have been established in the State; one at Kyrdemkulai, Ri-Bhoi district and the other at Tura in West Garo Hills. The objective is to impart training to the farmers for proper management, feeding and health care of livestock and poultry. During the year 2006-07, 1321 farmers have undertaken training in piggery, poultry, dairy and goat rearing.

### **9.20 Strategy**

In order to increase production, the existing livestock and poultry farms have to be strengthened and also to set up more number of farms in the districts and subdivisions. Besides, replacement of old stock with superior germplasm is necessary for improvement of genetic make up and to supply quality inputs to the farmers.

Policy shift for encouraging more private investment or entrepreneurs to undertake breeding, production and establishment of base farms are required .

To increase the number of veterinary dispensaries in rural areas for providing health service to all livestock and poultry and for other extension works. Greater involvement of community and grassroot organizations in management, health care and production system would be necessary. Community livestock and poultry farming should be encouraged for enhancement of production of milk, meat and eggs. Shifting approach of farming involving Self Help Group/Co-operative Societies/private entrepreneur including marketing of livestock products.

Training of educated unemployed youth as private veterinary workers on livestock management, animal healthcare and extension work for collection of field data on veterinary and animal husbandry activities.

Establishment of veterinary clinical laboratory in each district headquarter for immediate diagnosis of diseases. To increase the coverage of vaccination of animal against bacterial and viral diseases.

### **9.21 Summary and Conclusions**

The animal husbandry sector has a tremendous potential for growth in the State. Most food items of animal origin, e.g. eggs and meat are in great demand. The State imports substantial quantities of eggs and meat from other States to plug the shortfall. There is ample scope to expand the sector to meet the full demand from within the State. This can also be a great employment generator for the rural poor.

The Department has provided subsidies to farmers in the State to encourage them to take up occupations in animal husbandry. However, the rate of growth of animal husbandry in the State has not been encouraging. The State will therefore have to focus on extensive capacity building among the farmers so that they can make the best of these subsidies. A robust market infrastructure will also have to be created to ensure quick disposal of the produce at remunerative prices. It will also be desirable for the State to become self sufficient in the production of animal feed. This will help in ensuring a smooth supply of animal feed to farmers. It may also help in reducing the cost of the animal feed, thereby making this sector commercially more viable.

The animal health infrastructure in the State is at present weak. As the animal husbandry sector grows, the State will require a well-oiled animal health infrastructure to support this growth and check any outbreaks of animal diseases. The State should also focus on setting up of modern slaughterhouses to ensure hygiene in meat production.

The State must also gradually shift the focus from subsidizing inputs to better management of outputs. The State must endeavour to create propitious market conditions to make the sector

highly lucrative. This will automatically encourage farmers to take up animal husbandry. Even if exports to other States are not considered initially, there is enough local demand to support a large growth of animal husbandry in the State.

#### **9.22. Co-operatives in Meghalaya:**

Cooperative Movement is a people's Movement. Cooperative Organizations are democratic, autonomous and voluntary organizations with principle of equity being paramount, where people join hands together for socio-economic growth and upliftment by initiating various economic activities by honest means. The contribution of Cooperative Sector in the economy of the country as well as in the State of Meghalaya though marginal is important from the perspective of rural areas and the powerless. The role of Co-operation Department in this respect is largely promotional, catalytic and regulatory. Cooperative Societies are required to be registered with the Registrar of Cooperative Societies as per the Meghalaya Cooperative Societies Acts & Rules 1950 in Meghalaya. Efforts to transform different types of Cooperative Societies as an effective instrument of growth centre as well as the nucleus of rural development and employment generation has yielded some good results. So far, Rs. 3,47,749 as dividend has been paid to State Government by the profit earning societies which is likely to increase.

The Co-operation Department is providing financial assistance in the shape of Share Capital Contribution and Managerial Subsidy to the Cooperative Societies to enable them to continue their economic activities for income and employment generation. Financial assistance under the Centrally Sponsored Schemes (Govt. of India) and Central Sector Schemes (NCDC) are being chanelized to the cooperatives. Under Macro Management Schemes of Government of India a total amount of Rs. 30.00 lakhs was sanctioned only during 2002-2003 and 2003-2004 till date. Under Minor Forest Produce Operation Scheme of Government of India, a total amount of Rs. 289.00 lakhs was sanctioned to Meghalaya State Co-operative Marketing & Consumers' Federation Ltd. (MECOFED) under the scheme till 2006-2007. Under the Central Sector Scheme (NCDC) 2 (two) types of financial assistance was availed by the State Government i.e. (i) Normal Schemes and (ii) Integrated Cooperative Development Project (ICDP). Under the normal scheme a total amount of Rs. 109.028 lakhs was sanctioned to 21 (twenty one) numbers of beneficiary cooperative societies till 2005-2006.

Under the NCDC (ICDP Scheme) a total amount of Rs. 1222.58 lakhs was sanctioned against 7 (seven) numbers of Integrated Cooperative Development Projects for 7 (seven) Districts for implementation. Out of which 5 (five) numbers of Integrated Cooperative Development Projects had already been implemented by Project Implementation Agency (MCAB Ltd.) and the other 2 (two) are still under implementation by the Project Implementation Agency. The Integrated Cooperative Development Projects are normally of 4 – 5 years duration.



The state has signed MOU with NABARD for the revitalization of Rural credit structure and reforms in the sector.

**Table 9.8 Growth of cooperatives in Meghalaya:**

Year	No. of Societies	Membership in lakh	Share capital in lakh	Working capital in lakh
2003-04	1024	1.50	4610.30	49407.97
2004-05	1093	1.52	4954.82	5660.27
2005-06	1153	1.66	4943.93	5660.67
2006-07	1192	1.73	4947.83	56674.37
2007-08	1240	1.77	5063.15	59221.23

**Some of the success Stories:** Mendipathar MPCs; Upper new Nongstoin Tailoring, weaving and handloom Coop society; Women’s Group handicraft MPCs, Mookyndeng; SBI officer’s cooperative credit society; Shillong marketing cooperative society; Kasharipara SCS Ltd., Transport cooperative society are some of the successful society in the state.

**9.23. RASHTRIYA KRISHI VIKAS YOJANA (RKVY) :**

The objectives of RKVY are ;**i)** to incentivize the States to increase their investment in Agriculture and allied sectors, **ii)** to provide flexibility and autonomy to the States in planning and executing programmes for Agriculture, **iii)** to ensure the preparation of Agriculture plans for the Districts and the States, **iv)** to achieve the goal of reducing the yield gaps in important crops, **v)** to maximize returns to the farmers, **vi)** to address the agriculture and allied sectors in an integrated manner.

The distribution of funds under RKVY are in two streams viz stream 1 and stream 2. Under stream 1 at least 75% of the allocated amount will be distributed to the States and approved by the State Level Sanctioning Committee headed by the Chief secretary. Under stream 2, existing schemes that require strengthening can be covered under this stream for such schemes that have a resource gap. Not more than 25% allocated funds can be used for this stream and the sanctioned procedure will be as in the case of other plan schemes. The Meghalaya Small Farmers Agri Business Consortium (SFAC) has been notified as the State Nodal Agency to release RKVY funds. The state is finalizing its district and state agricultural plan. During 2007-08 , Government of India released an amount of **Rs 637.00 lakhs** ACA i.e. **Rs 567.00 lakhs** under Stream I and **Rs70.00 lakhs** as one time grant for preparation of DAPs for the 7 (seven ) Districts of the State @ Rs10.00 lakhs for each District. Out of this **Rs 341.88 lakhs** was utilized for implementation of projects under Stream I and **Rs 56.00 lakhs** for preparation of DAPs.

In consistent with the recommendations of the Planning Commission , in this year the focus will substantially be on the Animal Husbandry & Veterinary and Fisheries Sectors. The SLSC in its meeting on 19th September 2008 approved the proposals from the concerned Departments

under Stream I&II as: Animal Husbandry-Rs.10.53 crore; Fisheries-Rs. 2.50 crore; Capacity Building -Rs. 0.50 crore. During 2008-09 , Government of India have released an amount of Rs. 1.99 crores for projects under Stream I and Stream II.

**9.24. Main suggestions on Agriculture and Allied Sectors in the sectoral summit of NEC has been:**

- Objective is to make region marginally surplus in food production by introducing integrated modern agricultural methods and develop agriculture horizontally and vertically.
- Create efficient service centers for farming.
- Land reforms.
- Promote horticulture on massive scale, increase area under horticulture.
- Create efficient market infrastructure through a regional master plan.
- Use self-help groups as tools of change in the sector.
- By 2020 the production of meat, milk and egg should be raised to 2.26 lakh MT, 2 MT and 3,500 million, respectively.

**• Fisheries**

1. Raise production of fish to 12.14 lakh MT to ensure a per capita availability of 21kg/person/year by 2020.
2. Increase the area of water under fisheries to 11.53 ha by 2020.
3. Use the maximum area of reservoir and unregistered beels and swamps for fisheries.
4. Promote the culture of mahseer for in situ conservation and increased production.
5. Exploit the riverine stretch (of about 2,000 km) for fisheries.
6. Establish eco-hatcheries at district level.
7. Establish fish producers' co-operative societies and farmers' clubs to increase production and expand marketing.
8. Double the area under forest fishery by 2020.

**• Sericulture**

1. Bring 2.35 lakh hectares of wasteland suitable for sericulture under it.
2. Set up clusters of 200 ha. with 300 m farmers in each district by 2020.
3. Establish a sericulture development mission with special central grant.
4. Raise production level of sericulture to 5,063 MT.
5. Increase the generation of family income to Rs. 580 crore per annum under Eri and about Rs.1,100 crore under Muga by 2020.

**• Mission Mode**

1. Immediately launch the Northeastern Regional Bamboo Mission and Northeastern Regional International Trade Mission. The Bamboo Mission will create one lakh jobs, lead to double digit rise in economic growth and enhance community and family income.
2. Expand the global export network for bamboo products especially to South East Asian markets.

3. Develop border trade infrastructure and roads to connect the 17 functional land customs stations in the region.
4. Open a functional air cargo complex in LGB airport with domestic transshipment arrangements in Kolkata and Delhi.
5. Set up three product-specific SEZs in the NER.
6. Ensure that NERITraM and the concerned states jointly take up a programme for creating minimum infrastructure facilities in all the states to support a sound base for small enterprises to produce exportable goods.
7. Introduce a new transport subsidy package for items exported from the NER which provides air, rail and inland transport subsidies from any part of the NE up to the port of transshipment.
8. Provide incentives to local entrepreneurs for setting up agro-horticultural processing units with export potential.
9. Waive excise and import duties on capital goods imports, especially agricultural tools and machinery, and food and bamboo processing machinery.
10. Develop two more agri-export zones in the NER into comprehensive free enclaves.
11. Create a Northeastern regional export development fund under NERETraM for border trade and related infrastructure.

### 9.25 Building upon the strength

Various tables in the annexure taken from the **NER Vision 2020 document** indicate the following:

- Meghalaya has a production advantage in maize, small millet, sesamum, coffee, natural rubber, bananas, potatoes, chillies, ginger and turmeric. However, ginger has shown the greatest revealed production advantage for Meghalaya as indicated by an RSI value of 5.27.
- Meghalaya has revealed a comparative advantage in rice, maize, small millet, wheat, coffee, natural rubber, bananas, potatoes, chillies, ginger and turmeric. However, pineapple has shown greatest revealed comparative advantage for Meghalaya as indicated by NSI value of 22.15.
- The demand preferences of all the states in the NER are similar: rice, cereals (except Meghalaya and Mizoram), meat, fish, eggs and vegetables (except for Arunachal, Manipur and Meghalaya). This data can be used to infer possible trade especially among the states with exports of items where demand intensity is low relative to national average and imports in the other items.
- The demand side of the sector is given by the Demand Intensity Measure (DIM). In general, for any state demand is more diversified than production with the excess demand constituting import and the excess supply export. Inspection of the DIM reveals the extent to which demand preferences in the NER states diverges from the national average.
- The same information is obtained more directly by calculation of the Dependency Index for states which is defined as the ratio of consumption share to production share. The DI indices shown above indicate that the NER is highly dependent on imports for almost all the commodities for which we could get data. The only exception is spices. However, there are variations across states which indicate that there is a reasonable scope for trade among the states of the NER. For

example, while the NER has high dependency on maize this is not true for states like Arunachal, Assam, Manipur and Meghalaya which could profitably export maize to the other states. Similarly, Assam, Manipur and Meghalaya could be net exporters of fruits to the other states.

**9.26: The State Planning Board in October 2008 and January 2009** stressed upon focused intensification of programmes for strengthening the agriculture sector and improving the overall sown area and productivity coupled with programmes for fullest exploitation of the horticultural potential of the State, particularly High-Value Horticulture. Besides, it also recommended intensified macro and micro water-shed management programmes to ensure the sustainability of tapped as well as untapped water-sheds. These measures will include afforestation of barren waste lands on the southern slopes of the State which are reported to be continuously losing over 22000 metric tonnes of surface soil, per square kilometer, per year. Further, the area of herbal and medicinal products be looked into along with organic certification of six major crops. The major problem in agriculture/ horticulture is marketing for which the Japanese Bank of International Cooperation for assistance may be approached. It was suggested Suggestion to invite companies for food and fruit processing facilities in the State for value addition and local people benefit through employment. Israel is actively involved in introducing new crops such as a high yielding and in-demand citrus fruit, Jaffa and others. For marketing of flowers tie up from high end market such as Bangalore, Kolkata with public listed companies and arrangement with airline companies to carry some of the high return agricultural products of the State like broccoli and green capsicum to Delhi where the retail price of these vegetables is very good may be attempted. Distribution of planting materials to farmers should be continued. For training officers and staff in horticulture/agriculture, the European Economic Commission (EEC) and others may be approached. Better packaging and post harvest methods linked to exports should be resorted to avoid a high proportion of post-harvest losses, by training people. A study should be made to improve the soil quality because continuous rain has depleted the soil of both its top surface and its nutrients which take years to regenerate. Steps be initiated to increases the productivity per hectare in the State which is low. Though Meghalaya is blessed with bountiful rainfall yet rain water has not been harvested. The experts suggested the need to tap rain water through effective methods of harvesting. When constructing water harvesting structures to provide irrigation canals, geology should be applied. The department has to concentrate on better utilization and better productivity as also to increase the crop intensity which is also quite low. It was suggested that one of the cities/towns of Meghalaya could be developed into a floral garden-city/town. The experts enquired into the feasibility of opening a Horticulture and Forestry University at Williamnagar, East Garo Hills with a view of strengthening capacity building institutions in Agriculture. It was mentioned that Farmers are forced to continue with jhum cultivation as alternative practices are minimal where the use of appropriate and meaningful technology for mountain agriculture could bring in the desired change.

**9.27: Summary and conclusion:** Production of large basket of food crops, sericulture and livestock including fisheries meeting the requirement of food and nutrition, cloth and shelter etc. is a traditional ways of the farming system of northeast. The overriding psyche of the farmers is to ensure food security. The harsh geographic locations. Low productivity, lack of inputs and affordable price, poor linkages and inaccessibility together have forced the farmers in the past to practice a highly **diversified and integrated production system**. The nature offering enormous opportunities to grow diverse crop, trees and livestock over a wide range of agro-climatic conditions made agricultural diversification a need and a reality in the farming system. The recent environmental degradation and lopsided land ownership has put strains on the agriculture. Reinforcing Agri-horti-silvi based micro eco-system in farming through raising diverse range of agricultural crops, sericulture, animal husbandry fishery etc in an integrated pattern has to be the core ethics; ensuring environmental sustainability. The ecological value attached to the practice is an onus given the growing concern on global warming. Introduction of Land Saving technology and commercial mode of production into the diversified and integrated farming system with enhanced productivity and value additions at all levels. There is a need to eliminate number of hindering factors like lack of proper extension guidance for improved technology, adequate physical facilities such as irrigation, proper mechanization and timely supply of quality seeds, access to information etc. Provision of assured irrigation facilities which is a weak link needs addressing on a war footing. A mere 10% of the gross cropped area having irrigation as against 31 per cent at all-India level should give a wake up call for sincere and directed efforts. **Arrangement of information in the Six broad areas will help farmers, entrepreneurs and educated youth in a big way.** Information requirement is conceived in six broad areas namely:**1) Awareness Database-** those that facilitate proper understanding of the implications of the WTO on Indian Agriculture, **2)Decision support system-** agro-climatic information bank that facilitates farmers to make a proper SWOT analysis to take appropriate decision such as that mentioned in Chapter II, APIB in Meghalaya, **3)Systems that facilitate Indian farmers to forge appropriate alliances for collective benefit, 4)Information on new opportunities,5)Monitoring systems** for corrective measures and **6) intensifying use of ICT such as,** village resource centre (VRC) in some selected villages in collaboration with NEISAC; preparing APIB and GIS based land use and NRM plans are necessary. Strengthening efforts of germ-plasm and bioresources development would be required for a comprehensive strategy towards natural resources management.

**Table 9.9 : Growth Rates of Agriculture in the Northeast, 1993-94 to 2002-03 : At constant base 1993-94**

**Courtesy : Quoted from NER Vision 2020 Vol. III**

State	(percent)		
	1993-94 to 1997-98	1998-99 to 2002-03	1993-94 to 2002-03
Arunachal Pradesh	-3.3	0.8	-1.3
Assam	1.6	2.5	1.0
Manipur	2.9	3.0	3.4
Meghalaya	6.9	5.7	6.1
Nagaland	6.6	20	12.9
Sikkim	3.7	6.0	4.6
Tripura	3.4	3.2	3.9
Mizoram	4.3	7.6	4.4
NER	3.3	6.1	3.8
India	2.6	-3.4	0.6

**Table 9.10 : Livestock Population and Output, 2003-04**  
**Courtesy : Quoted from NER Vision 2020 Vol. III**

States	Total Live Stock (000 Number)	Poultry (000 Number)	Total Milk (000 Number)	Eggs (Crore Number)	Cattle (000 Number)	Buffaloes (000 Number)	Sheep (000 Number)	Goats (000 Number)	Poultry (000 Number)	Meat (5+6+7+8+9) (000 Number)
	1	2	3	4	5	6	7	8	9	10
Arunachal Pradesh	1257	1743	46	0.9	458	11	19	231	1743	2462
Assam	13829	21664	727	51.4	8440	678	170	2987	21664	33939
Manipur	971	2941	71	7.9	418	77	6	33	2941	3475
Meghalaya	1551	2821	69	9.4	767	18	18	327	2821	3951
Mizoram	280	1125	15	3.1	36	6	1	17	1125	1185
Nagaland	1349	2789	63	6.8	451	34	4	175	2789	3453
Sikkim	337	322	48	1.3	159	2	6	124	322	613
Tripura	1458	3057	84	10.1	759	14	3	472	3057	4305
North-East	21032	36462	1123	90.9	11488	840	227	4366	36462	53383
India	485002	489012	88082	4040.3	185181	97922	61469	124358	489012	957942

**Table 9.11 : Ratio of Livestock to population, 2003-04**

States	Total Live Stock (Number)	Poultry (Number)	Total Milk (Number)	Eggs (Number)	Cattle (Number)	Buffaloes (Number)	Sheep (Number)	Goats (Number)	Poultry (Number)	Meat (5+6+7+8+9) (Number)
	1	2	3	4	5	6	7	8	9	10
Arunachal Pradesh	1.145	1.587	0.042	8.197	0.417	0.010	0.017	0.210	1.587	2.242
Assam	0.519	0.813	0.027	19.283	0.317	0.025	0.006	0.112	0.813	1.273
Manipur	0.423	1.282	0.031	34.439	0.182	0.034	0.003	0.014	1.282	1.515
Meghalaya	0.669	1.217	0.030	40.538	0.331	0.008	0.008	0.141	1.217	1.704
Mizoram	0.315	1.266	0.017	34.887	0.041	0.007	0.001	0.019	1.266	1.334
Nagaland	0.678	1.401	0.032	34.170	0.227	0.017	0.002	0.088	1.401	1.735
Sikkim	0.623	0.595	0.089	24.036	0.294	0.004	0.011	0.229	0.595	1.133
Tripura	0.456	0.956	0.026	31.570	0.237	0.004	0.001	0.148	0.956	1.346
North-East	0.539	0.935	0.029	23.317	0.295	0.022	0.006	0.112	0.935	1.369
India	0.471	0.475	0.086	39.274	0.180	0.095	0.060	0.121	0.475	0.931

**Table 9.12 : Fish Production, 2003-04**  
**Courtesy : Quoted from NER Vision 2020 Vol. III**

States	Total Production	Per Capita Output
	(Million Tonnes)	(Kg per head)
Arunachal Pradesh	2,650	2.41
Assam	180.945	6.79
Meghalaya	6,179	2.68
Mizoram	3,380	3.8
Tripura	17,980	5.62
NER	231,847	5.95
India	6,399,390	6.22

**Table 9.13 : RSI: Highest Comparative Advantage for products of the North Eastern States  
Courtesy : Quoted from NER Vision 2020 Vol. III**

States	Products
Arunachal Pradesh	Small millet, maize, Ginger
Assam	Tea, rapeseed and mustard, sugarcane
Manipur	Chillies, rice, ginger
Meghalaya	Ginger, potatoes and sesamum
Mizoram	Ginger, maize and sesamum
Nagaland	Coffee, small millet and maize
Sikkim	Maize, ginger, potatoes
Tripura	Natural rubber, coconut, bananas

**Table 9.14 : NSI: Highest Comparative Advantage of products of the North Eastern States**

States	Products
Arunachal Pradesh	Ginger, banana, small millet
Assam	Tea, banana, turmeric
Manipur	Pineapple, ginger, chillies
Meghalaya	Pineapple, ginger, potatoes
Mizoram	Ginger, pineapple, sesamum
Nagaland	Pineapple, small millet, turmeric
Sikkim	Ginger, potatoes, maize
Tripura	Natural rubber, pineapple, bananas



**TABLE 9.15 : Dependency Index (DI) for All Products, 2003-04  
Courtesy : Quoted from NER Vision 2020 Vol. III**

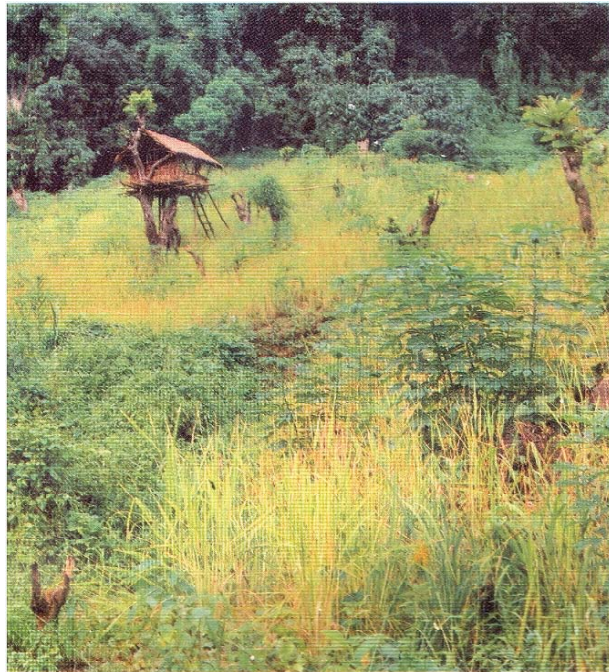
Crop	Arunachal Pradesh	Assam	Manipur	Meghalaya	Mizoram	Tripura	Nagaland
Rice	67.55	129.58	90.73	100.37	83.66	136.36	165
Wheat	126.61	793.91	-	1,715.11	-	832.10	670
Maize	86.34	54.18	-	18.61	9.27	-	343
Total cereals	69.62	186.94	122.69	134.52	107.19	191.80	228
Total pulses	79.80	455.70	438.04	260.38	152.60	770.66	476
Total oilseeds	23.71	398.02	2187.18	529.34	222.93	2,081.85	415
Fruits	49.00	69.52	46.25	44.65	126.20	152.75	95
Sugarcane	441.11	484.92	595.72	-	3,126.27	1,022.00	618
Spices	1.21	183.48	16.82	2.02	1.15	76.77	27
Total foodgrains	45.98	144.64	70.67	146.28	106.34	167.31	182
Milk	28.35	135.98	-	82.74	180.11	197.41	168
Meat	5.68	16.96	-	11.15	16.80	28.09	23
Egg	262.14	188.92	-	79.07	108.31	201.98	283
Fish	123.38	74.38	-	166.71	137.68	157.24	127

**Table 9.16 : Dependency Index for Milk, Meat, Eggs and Fish, 2003-04  
Courtesy : Quoted from NER Vision 2020 Vol. III**

	AP	Assam	Meghalaya	Mizoram	Tripura	NER
Milk	28.35	135.98	82.74	180.11	197.41	168.72
Meat	5.68	8.48	5.58	16.80	28.09	23.59
Weights Assigned	0.10	0.05	0.05	0.10	0.10	0.10
Eggs	131.07	118.08	108.72	108.31	201.98	141.83
Weights Assigned	0.20	0.25	0.55	0.40	0.40	0.20
Fish	172.74	104.13	133.37	137.68	157.24	177.80
Weights Assigned	0.70	0.70	0.40	0.50	0.50	0.70



**PADDY HARVESTING**



**'JHUM' CROP FIELD**



**GINGER MARKET, GARO HILLS**



**GARO WOMAN WITH HER MAIZE CROPS**



**COMMUNITY FISHING**



**Woman Drying Fish**



**ONE DAY OLD CHICK**



**MEGHALAYA CONTAINED BIRD FLU SPREAD EFFECTIVELY**



**INDO DANISH PROJECT AT UPPER SHILLONG**



**CO-OPERATIVE**



**PRIVATE FARMER**



**PIGGERY DEVELOPMENT**



**POULTRY DEVELOPMENT**



**DAIRY DEVELOPMENT**



**MAIZE**



**RICE CULTIVATION**



**FLORICULTURE**



# **CHAPTER - X**

## **TRADE & INDUSTRIAL DEVELOPMENT**



**CHAPTER-X****TRADE AND INDUSTRIAL DEVELOPMENT****10.1 Introduction**

The State of Meghalaya is predominantly an agricultural state and the level of industrialization is low. There is decreasing trend in availability of land for agricultural purposes, while the incidence of landless labour and the resultant poverty has risen substantially (48.9 percent).

The State has sufficient hydel power potential and large reserves of coal, but the industrial sector has registered a low rate of development in comparison with the national level. Meghalaya has not witnessed the desired level of investment and industrial growth mainly because of lack of basic infrastructure. For a state with a small population, internal demand hardly favours the development of large-scale manufacturing. Moreover many manufacturing units driven by the market potential of the North Eastern region is yet to take off. Other factors indicate gaps in linkages and value addition, besides other economic infrastructure and distances from ports etc. The vast natural endowment and human resource capital have remained by and large untapped and a non-performing asset. Inadequate infrastructural facilities, poor road communication, hilly terrain and unemployment have been the major constraints of economic growth in general and industrial development in particular.

The overall position on the infrastructural development of State has been elaborately dealt in the concerned chapter which clearly indicates the distances required to be covered for the desired level that could ensure rapid socio-economic growth. At present there are 6 (six) Industrial Estates, 1 (one) Growth Centre, 1 (one) Industrial Area and 1 (one) Export Promotion Industrial Park. In the light of this the present chapter looks into some of the characteristics of the present industrial scenario of the State.

**10.2. Resources of Meghalaya**

Meghalaya is considered to have a rich base of natural resources as detailed in the chapter on natural resources. These include minerals such as coal, limestone, silimanite, Kaolin and granite among others. Meghalaya also has a large forest cover, rich biodiversity and numerous water bodies. However, the low level of industrialization and the relatively poor infrastructure base in the state acts as an impediment to the exploitation of these natural resources in the interest of the state's economy.

**Table 10.1 Estimated Reserves of Minerals in Meghalaya**

Mineral	Reserves (In million Tonnes)
Coal	563.5
Limestone	4147.0
Kaolin	4.5
Clay	81.0
Sillimanite	0.05
Glass Sand	2.54
Quartz	0.08
Feldspar	0.06
Iron	4.0
Fire Clay	12.0

Source: Directorate of Economic & Statistic, Government of Meghalaya

**Table 10.2 MAJOR AGRO & HORTICULTURAL RESOURCES (figure in MT)**

Agro-Horticultural Products	(in tones)
Maize	24051
Soya Bean	959
Short staple Cotton	7829
Ginger	46731
Banana	65639
Pineapple	83333
Chillies	1150
Turmeric	8640
Areca nut	14167
Citrus	33006
Cashew nut	6730
Tea leaf	3059
Rapeseed/ Mustard	4670

Sources : Directorate of Economic & Statistic, Government of Meghalaya

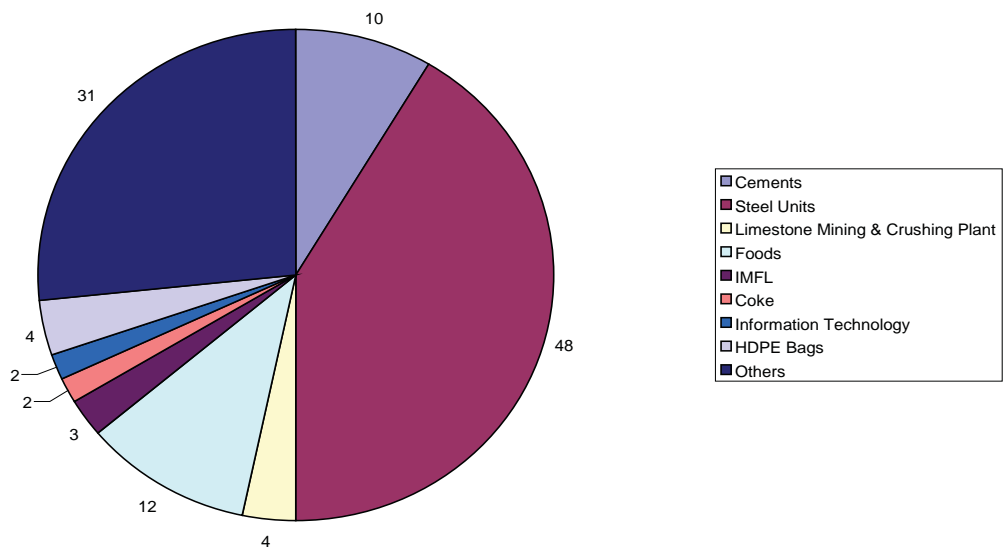
### 10.3.1 Status of Industrial development in the state

Despite having enormous potential in power generation, surplus Agro-Horticulture produces large reserve of coal, limestone and other mineral resources, Meghalaya has made little progress in the field of industrialization. The reason being, the state of Meghalaya is a landlocked territory with hilly terrain connected only by serpentine roads to various villages, making transportation costlier when compared with other states. Moreover, absence of railhead in the state, besides distance from the port is another factor hindering movement of goods and materials in and out of the state. This acts as an impediment for the development of large manufacturing units with large marketing hinterland. Present status of large & medium enterprises along with small sector enterprises are as follows:

**Table. 10.3 Status of Large & Medium Industries in Meghalaya**

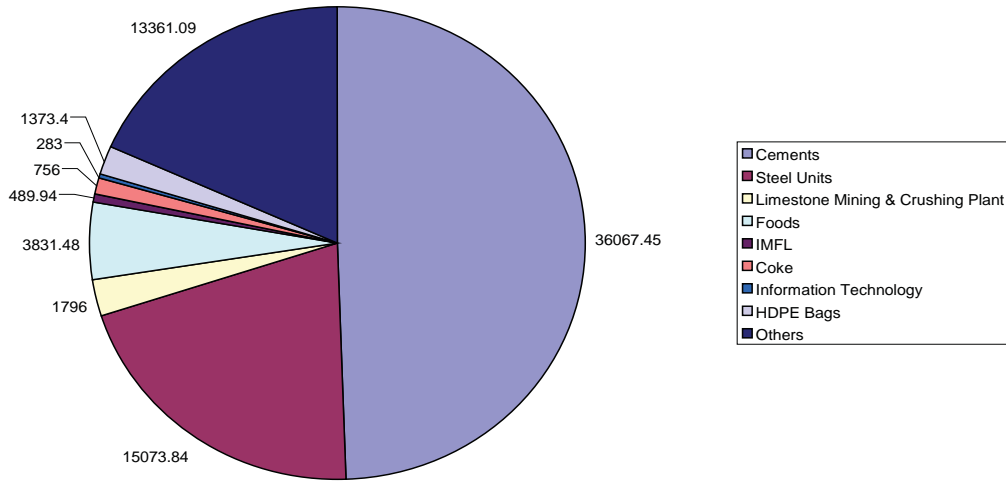
Sl. No.	Type of Industries	Nos.	Investment made (Rs in lakhs)	Employment Generated
1	Cements	10	36067.45	1311
2	Steel Units	48	15073.84	1925
3	Limestone Mining & Crushing Plant	4	1796	336
4	Foods	12	3831.48	373
5	IMFL	3	489.94	99
6	Coke	2	756	70
7	Information Technology	2	283	85
8	HDPE Bags	4	1373.4	135
9	Others	31	13361.09	1083
	<b>Total :</b>	<b>116</b>	<b>73032.2</b>	<b>5417</b>

**Nos. of Large & Medium Units**

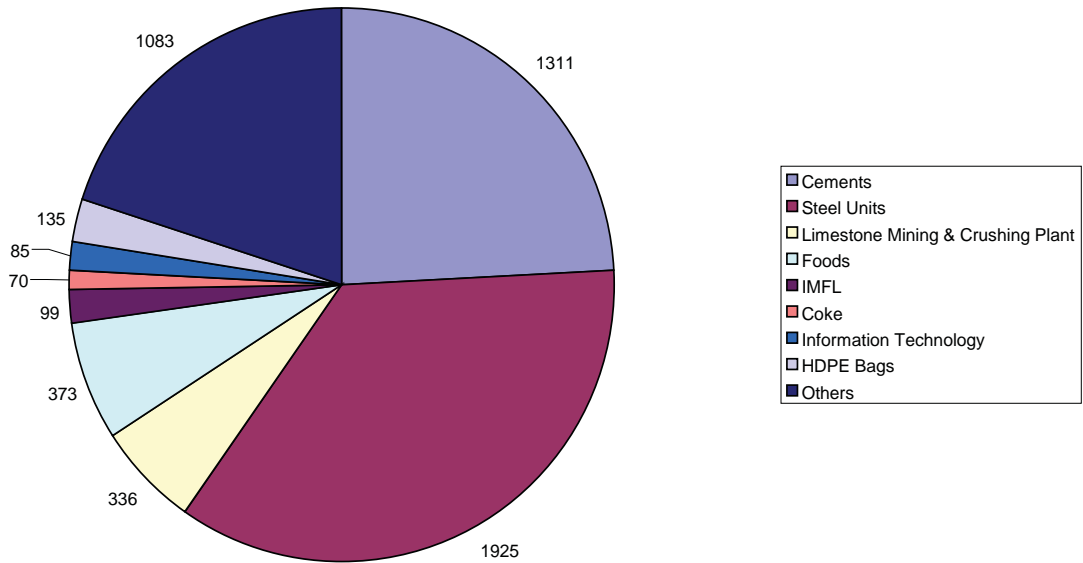


# MEGHALAYA STATE DEVELOPMENT REPORT

Investment made (Rs in lakhs)



Employment Generated



**Table 10.4 Status of Small Scale Industries**

Sl.No	Name of District	Manufacturing, Assembling & Processing	Repairing & Maintenance	Servicing	Employment Generated
1	2	3	4	5	6
1	East Khasi Hills	1127	41	94	6536
2	East Garo Hills	343	-	9	1808
3	West Khasi Hills	214	27	86	1307
4	West Garo Hills	100	11	75	959
5	Jaintia Hills	219	14	63	2902
6	Ri Bhoi	147	8	24	1614
7	South Garo Hills	53	12	23	294
	<b>TOTAL</b>	<b>2203</b>	<b>113</b>	<b>374</b>	<b>15420</b>
Provisional report of the Directorate of industries as per the census 2008					

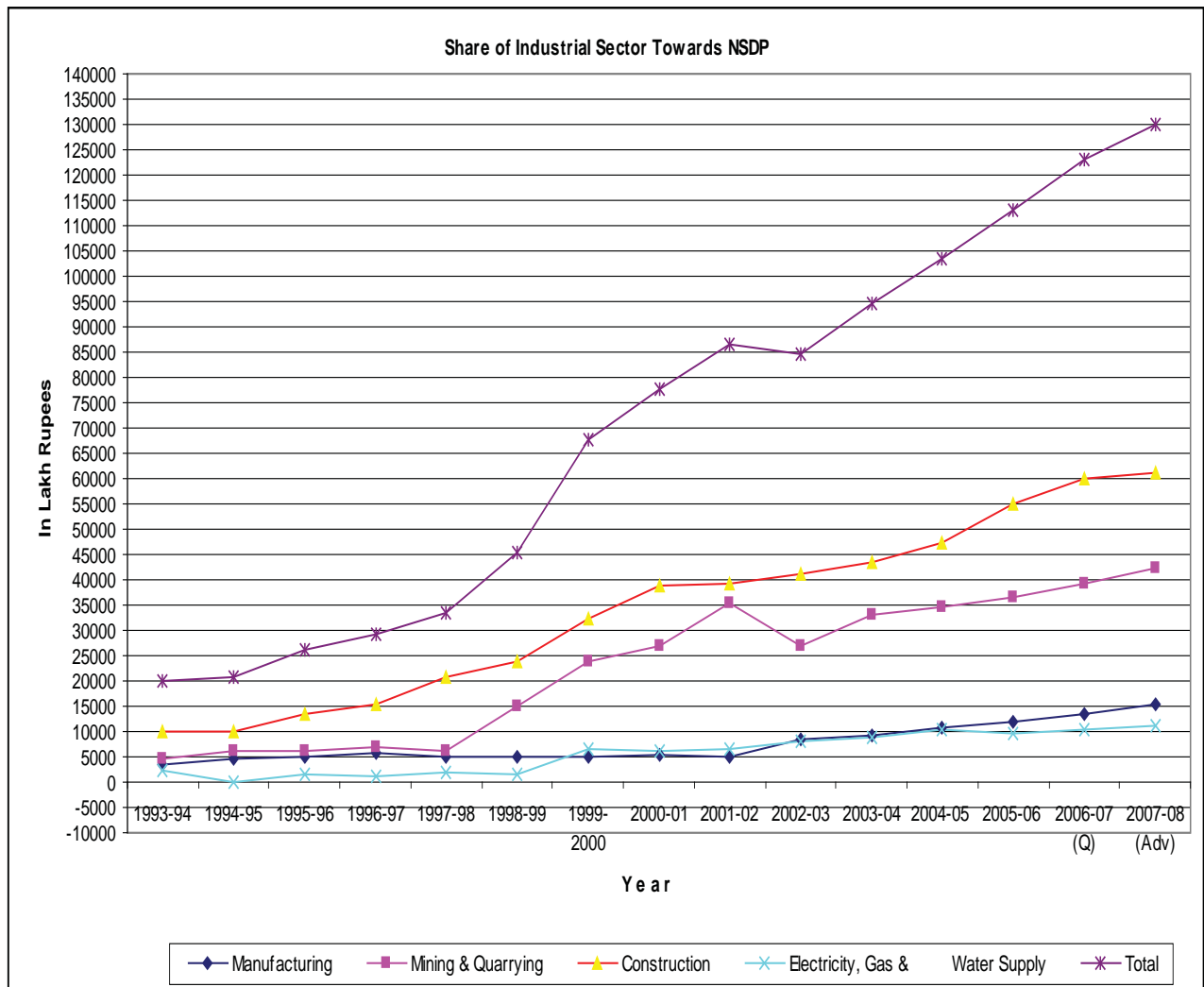
### 10.3.2 Rural/Urban Distribution of Enterprises in Industrial Sector

Majority of the population is involved in the unorganised sector of the industry. In addition to agriculture and allied sectors, small-scale unregistered units play an important role in providing employment opportunities. All the 116 large & medium manufacturing enterprises are located in rural sector. And out of the 2653 small scale manufacturing enterprises operating in the state, 1902 are located in rural areas and 751 in urban areas. Similarly for construction related enterprises, 971 are located in rural areas and 635 in urban areas. The share of manufacturing sector in the industrial enterprises is relatively greater for both rural and urban sector when compared with the construction units. Manufacturing sector accounts to nearly 80% of the total industrial enterprise sector in the state. For both manufacturing and construction related industrial enterprises, 'Establishments' have a greater percentage share both in rural and urban areas of the state. Nearly 80% of the manufacturing units and 66.8% of the construction units come under the category of 'Establishments'. The greater share of 'Establishments' compared to the 'Own Account Enterprises' implies increasing trend of hired employment both in rural and urban sector.

### 10.3.3. Share of Industry in Net State Domestic Product (NSDP)

The Industrial Sector in the state comprises of units engaged in manufacturing, Mining and Quarrying, Construction and Electricity, Gas and Water Supply. As per the New Series of the estimates of State Domestic Product, the Industrial sector contributes about 21% to 26% of the Net State Domestic Product (NSDP) between the period from 1999-2000 to 2007-08(Adv.). The contribution of construction was in the range of 10.08% to 13.08% during the same period. The manufacturing activities which contributed only 1.56% in 1999-2000 had increased its share to 3.53% of NSDP during the year 2007-08(Adv.). The figures relating to Mining & Quarrying vary from 7.38% at the lowest to 9.58% at the highest in terms of percentage contribution towards NSDP of the state. Electricity, Gas & Water Supply, on the other hand contribute only about 1.7% on the average for the period of 9 years. The industrial sector as a whole has achieved marginal increase in its share towards the NSDP of the state and this can be attributed to the performance of Construction and Mining & Quarrying activities which are the main contributors towards the NSDP from amongst the activities comprised in the Industrial Sector. The contribution of the industrial sector shows an increasing trend from 21.09% in 1999-2000, it went up to 23.83% in 2003-04 and rose further to 26.39% during 2007-08(Adv.).

Going by the Link Series for the years 1993-94 to 1998-99, the same trend was observed in terms of Percentage contribution of the Industrial Sector. Its share was 15.28% in 1993-94. It was almost at the same level up to 1997-98 and went marginally up to 17.61% in 1998-99. The percentage share in 2007-08 (Adv) at 26.39% was higher than that of 1993-94. The contribution of the Manufacturing Sector shows a declining trend from 1994-95 (3.19%) till 2001-02 (1.28%). It somehow recovered and the percentage contribution stood at 3.53% in 2007-08 (Adv.). The other two sectors viz. Mining & Quarrying and Construction have increased their contributions from 3.38% and 7.55% respectively in 1993-94 to 8.44% and 13.08% in 2007-08 (Adv.) towards the NSDP at Current Prices, though there are fluctuations in their contributions from one year to another. Similar is the case with Electricity, Gas and Water Supply.



Source: Directorate of Economics & Statistics, GOM

### 10.3.4 Growth of industrial sector

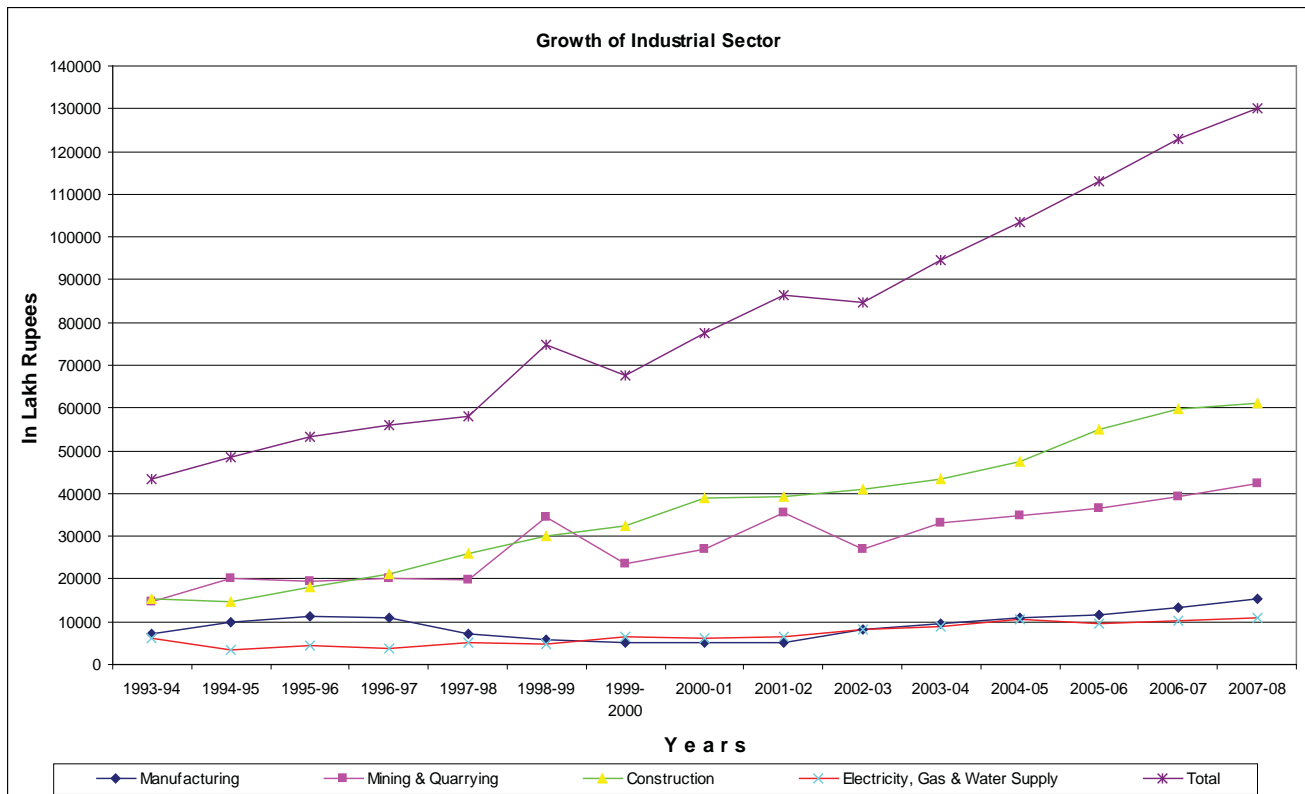
The industrial sector has shown a declining trend in terms of percentage growth over previous years for the period 1999-2000 to 2007-08(Adv.) according to the estimates of Net State Domestic Product(NSDP) at constant(1999-2000) prices in the New Series. The highest growth was recorded in the year 2000-01 at 14.54%. It was lowest in 2002-03 when it registered a negative growth of -2.26%. The growth rate remained more or less steady at about 9% during a three year period of 2004-05, 2005-06 and 2006-07(Q) but it declined to 5.70% during 2007-08(Adv.). The growth of the manufacturing sector presents a rather inconsistent picture during the above period (1999-2000 to 2007-08) in terms of percentage growth. After registering a negative growth of -1.74% during 2001-02, it went up to as much as 62.93% in 2002-03. The growth rate came down to 12.46% in

2003-04. It again registered a low percentage growth of 7.27% in 2005-06. It somehow recovered and the growth rate stood at 15.09% in 2007-08<sup>3</sup>(Adv.) which is far better than what it was at the beginning of the period. The same picture was also observed in respect of Construction which registered a lowest growth rate of 1.00% in 2001-02 and a highest of 20.35 in 2000-01. The growth rate stood at 2.17% in 2007-08(Adv.). Mining & Quarrying also registered an inconsistent growth. It was highest in 2001-02 with 31.01%. It registered a negative growth of -24.00% in 2002-03. The growth rate stood at 7.49% in 2007-08(Adv.).

Taking into consideration the Old Series in the estimates of Net State Domestic Product (NSDP) by linking the 1993-94 Series with the new base period (1999-2000), the same trend was observed for the period from 1993-94 to 1998-99. The quantum of growth as reflected by the percentage growths over previous years could not be maintained. It was 11.99% in 1994-95. It came down to only 3.75% in 1997-98. There were instances when the growth was negative, such as 1999-2000 over 1998-99 when it was -9.44% and also 2002-03 with -2.26%. It should be noted that the percentage growth in 2007-08 (Adv.) was 5.70% which is far lower than that of 1994-95. The individual sectors within the Industrial Sector present very inconsistent growths. Manufacturing with a growth of 39.99% in 1994-95 over 1993-94, registered negative growth for four consecutive years from 1996-97 to 1999-2000 and the growth in 2007-08 (Adv.) at 15.09% was below that of 1994-95. Mining and Quarrying registered a highest growth in 1998-99 over 1997-98 with 72.33%, but the growth was only 7.49% in 2007-08 (Adv.) which is below that of 1994-95 with 38.76%. The other two Sectors viz. Construction and Electricity etc. are at a better position in 2007-08(Adv.) when compared to 1994-95 in terms of percentage growth. They, however, could not maintain the higher growths they achieved during some years during the period (1993-94 to 2007-08(Adv.)).

However, the overall performance of the Industrial Sector, considering the whole period from 1993-94 to 2007-08(Adv.) is increasing as evident from the graph below.





Source: Directorate of Economics & Statistics, GOM

#### 10.4. Sector-wise Distribution of Manufacturing Industry

The manufacturing Industries can be grouped, according to size, into two classes: Large and medium industries, which are registered under Factories Act, 1948 and Small Scale units often referred to as unregistered units but generally registered with Directorate of Industries.

##### A. Large and Medium

The factories in manufacturing sector can be classified broadly into two categories - Registered and unregistered manufacturing units.

Registered manufacturing industries can be identified as the organized manufacturing enterprise. It includes those industrial units registered under Sections 2m (i) and 2m (ii) of Factories Act, 1948. Registered manufacturing includes those industrial units with 10 or more workers engaged and using power and 20 or more workers working without power.

Under the large & medium industries, the manufacturing units are mostly engaged in Cement, Ferro-alloy, Cokes, Food items, HDPE bags etc. The registered small scale manufacturing units are mostly engaged in economic activities like food products, wood, furniture, printing press, non-metallic industries, repair & services etc.

The average number of worker per registered manufacturing unit has steadily declined during the period of discussion. Secondly average value added per worker has increased from Rs.55 thousand in 1995 to Rs.65 thousand in 1999<sup>3</sup>. A tentative hypothesis may be formed that the capital intensity of the registered manufacturing units has increased during this period.

Analysis of district wise distribution of registered manufacturing units and workers highlights that the degree of industrialization is low and spatially skewed in its distribution. Baring East Khasi Hills, Small Scale Industries are evenly poised. In SSI sector the East Khasi Hills alone is having almost half of the total number of industries with one third of employment of the total in the state figure.

Districts	No. of Units	No. of workers
Jaintia Hills	2 (6.5)	85 (5.6)
East Khasi Hills	16 (51.6)	643 (42.7)
West Khasi Hills	Nil	Nil
Ri-Bhoi	11 (35.4)	488 (32.4)
East Garo Hills	2 (6.5)	291 (19.3)
West Garo Hills	Nil	Nil
South Garo Hills	Nil	Nil
Total	31	1507
Figures in ( ) are the percentage share		
Source: Directorate of Economics and Statistics; Govt. of Meghalaya		

**Table 10.5: District-wise distribution of Registered Manufacturing Units and Workers in 2000**

## B. Small Scale Industries

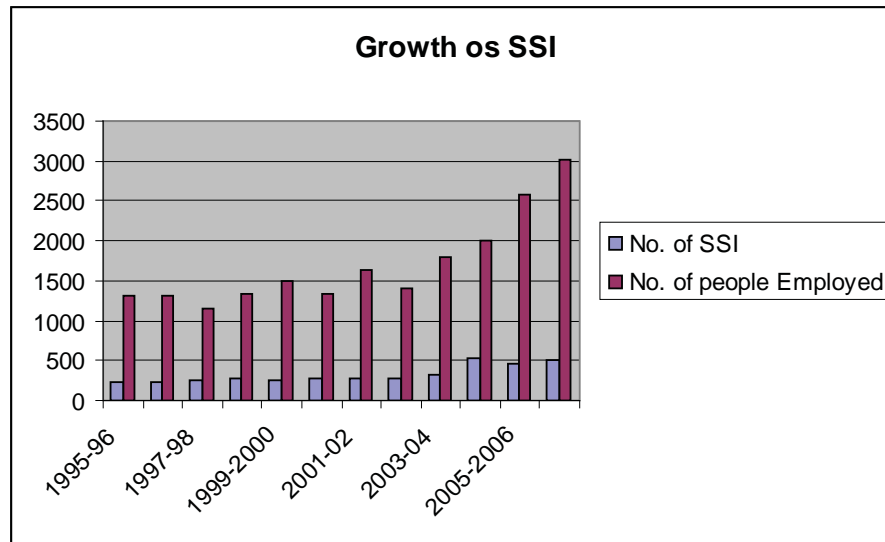
### Role of Small Scale Industry (SSI) in the State Economy

In order to improve the economic condition of the people, the development of small-scale industries in unregistered manufacturing sector has to be taken up and encouraged earnestly. The unregistered manufacturing sector covers all those industrial units engaged in manufacturing, processing, repairs and maintenance services that are not covered under the Factories Act. Thus, units or enterprises, employing less than 20 workers and not using power are covered under unregistered manufacturing sector. Moreover, own-account enterprises engaged in manufacturing are also included in the unregistered manufacturing sector. However, activities of manufacturing, processing etc. that are included in agriculture and allied activities are excluded from the purview of the unregistered manufacturing sector.

Government sector is already a major provider of employment in the organised sector. The present scope of employment in government services has reached a saturation point and educated youth may find it difficult to find employment in the government sector in the near future. In order to alleviate this problem, development of small-scale industries is essential. *Setting up of small-scale industries especially in the rural area, with locally available resources would not only lessen the burden of unemployment but may also check the influx of people living in rural areas to the urban areas of the state.*

### Growth of Small Scale Industry (SSI)

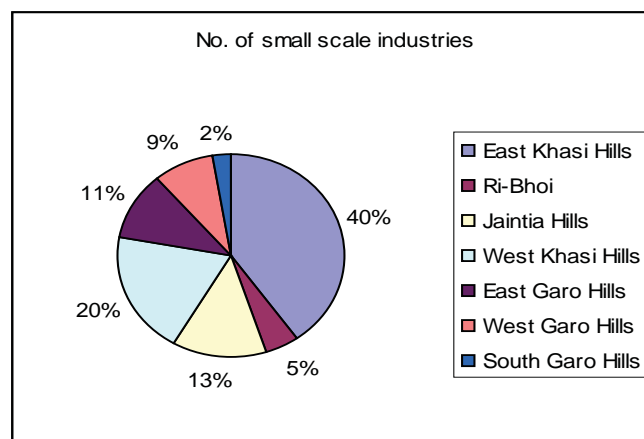
In spite of hurdles like inadequate capital investment, shortage of technical skills etc, the progress of small-scale industries appears to be encouraging. As per the data available for the last 05 years, the performance of the small-scale industries has been quite satisfactory.



In absolute terms the employment in the S.S.I. units has increased considerably, registering an annual compound growth rate though not very satisfactory. There were 2653 SSI units in the state in 2007-08. The steady growth of small-scale industries over the years reveals the scope of development of this sector. Moreover, in the view of increasing population in the state, the creation of employment opportunities in the small-scale sector is essential.

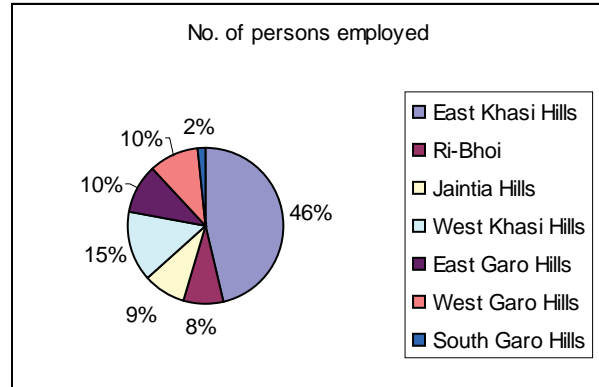
However, unlike the registered manufacturing industries, the average number of workers per unit in SSI did not show any change over the time. Average net value of output generated per worker recorded a steady decline.

**District wise Distribution of SSIs and their contribution to economy**



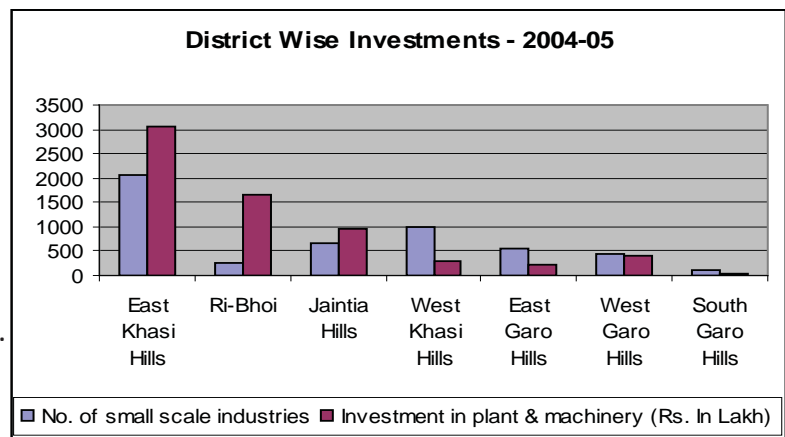
The significance of unregistered manufacturing units is evident from the fact that it contributed to nearly 64% of the total value of manufacturing in the state. The district wise contribution of unregistered manufacturing units<sup>5</sup> shows that East Khasi Hills contributes about 40% to the state total, followed by West Garo Hills (20%), Jaintia Hills (13%) and Ri Bhoi (11%). However, the contribution of West Khasi Hills, East Garo Hills and South Garo Hills is meager. Inter-regional disparities in the distribution of SSIs are also evident.

There has been an increase in the number of SSI units and the number of people employed in these SSIs, for all the districts for the period 2001-2002 to 2007-2008. However, there is a huge inter-district variation in these values. In 2007-08 The East Khasi Hills district had 1266 SSI units while there were merely 88 in the South Garo Hills. The East Khasi Hills & the Ri-Bhoi district collectively account for nearly 60% of the total SSI units in the state. On the other hand merely 294 people were employed in the manufacturing SSIs in the South Garo Hills, which was the lowest in the state.



### Investment Pattern in SSI

The investment made in plant and machineries for SSIs shows that Rs. 16034.95 Lakhs has been invested in East Khasi Hills. The Ri-Bhoi and Jaintia Hills districts accounted for about 12.21% and 2.4% of the total investments in plants and machineries respectively. The average investment per SSI in the state was 7.39 lakhs. In the Ri Bhoi, the average investment per SSI was more than five times of the state figure. However for all other districts, except the East Khasi Hills, it is not an encouraging figure.



<sup>5</sup> Directorate of Industry, Meghalaya.

**Resource Industry Linkage in the State**

**Registered factories**

The number of registered units has increased from 45 in 1974 to 72 in 1999 and then jumped to 266 in 2000-2001. The employment increased by 9.7% during 1974-99 and then declined by 55% during 1999-2001. The marked decline can be attributed to the Supreme Court’s order in respect to the tree cutting and subsequent closure of the industries based on wood and wood products. However, due to absence of category-wise distribution of registered units, the trend in respect of industry-resource linkage cannot be examined.

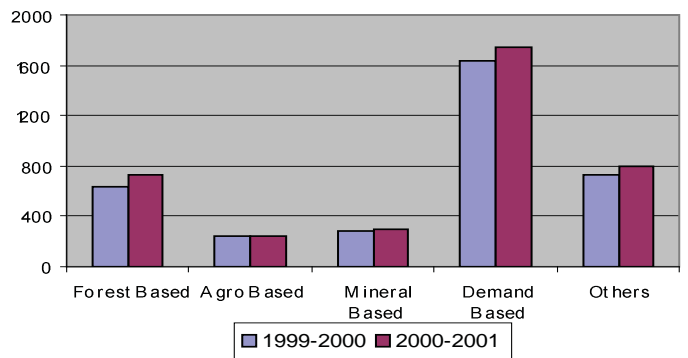
Prior to the Supreme Court ruling there have been four broad categories of registered factories by type:

- Forest Based such as Plywood manufacturing, Saw mills and Furniture and Fixture;
- Agro-Horticulture based such as Canning and Preservation and Rice & Flour Milling;
- Demand Based such as Printing Press and Motor Vehicle Repairs and
- Others such as Cement, motor assembling, pumping, cotton gunning, mineral processing etc.

Prior to year 2000 Forest based industries constituted about 30-35 percent of the registered units of the state. However after the closure of these units, mineral based units (in the other category) became prominent among all other categories.

**10.5 Small Scale Industries**

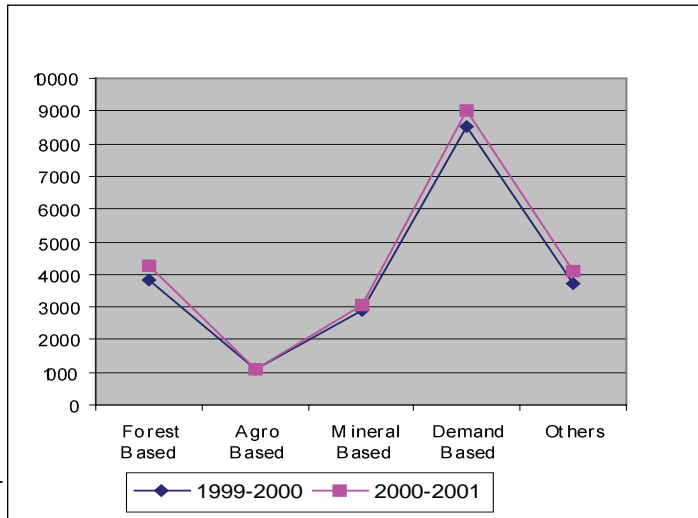
Industries under this category have shown a phenomenal increase during 1976-1977 to 2000-01. The 1990s witnessed a prodigious growth rate. During this period the increase in the number of units was more than 20%. The employment in SSI increased from a meagre 109 in 1976-77 to 15420 in 2007-08.



**Growth in the number of SSI units under different categories**

A category wise comparison between 2001-2002 and 2007-08 brings out the following observations:

- Total number of SSIs increased from 266 to 2653, exhibiting a massive growth.
- Though the mineral based industries increased by 7 units, their relative share also declined marginally from 8% to 7.7%.
- Demand based industries remained dominant occupying 46.3% in 1999-2000 and 45.9% in 2000-01.



Growth in the number of people employed in different categories of SSI

- Industries clubbed under other category have a relatively high share, more than 20%. Since they are unspecified exhaustive resource-industry, linkages cannot be determined. The prominent industries in terms of number of units in this SSI segment are tailoring, wooden furniture, bakery, cane and bamboo works, motor repairing-servicing-painting, bakery, weaving, knitting, cement based units, steel based units etc.
- Though relative share of mineral based industries remained low (in terms of units) nearly 14% of the labour force was employed in this sector.
- In terms of employment, demand based industries provide the maximum number of employment opportunities followed by forest based, mineral based and agro based SSIs.
- Among the SSIs, tailoring and wooden furniture production units rank first and second in terms of employment generation followed by bakery, lime making and motor repairing units. Other prominent employment generators are saw mills, steal based units, weaving, cane & bamboo works and cement based units.

Table 10.6 Trend of SSI registration in the state

Year	Number of Units	Total investment (in lakhs)
2001-2002	266	19629.33
2002-2003	268	
2003-2004	323	
2004-2005	468	
2005-2006	459	
2006-2007	465	
2007-2008	404	
<b>Total</b>	<b>2653</b>	

## 10.6. Promotional Policies of Government of India for Non-Farm Sector

**10.6.1** Since independence, policies in India emphasized accelerated industrial growth and other important goals such as achieving self-reliance, reduction in disparities across regions in the country and preventing concentration of economic power in private hands. These goals implied that other objectives such as creation of employment opportunities, assisting the development of small-scale and village and household industries, and protecting the consumer from the private sector monopolies were also to be addressed.

**10.6.2 Rural industrialization** and growth were seen to have major potential for production of goods and services and for the generation of employment of skilled, semi-skilled and unskilled labour. The Industrial Policy Resolution of 1948 assigned this important role to the cottage and small scale industries. In the Second Plan, the Mahalonobis strategy called for the rapid development of small scale and cottage industries to meet the demand for consumer goods. Industrial Policy Resolution, 1956, also assigned a key role to the cottage, village and small scale industries for their distinct advantage in generating large scale employment and effective mobilization of resources, capital and skills.

**10.6.3 Khadi and Village Industries** Commission were set up in 1955 by an Act of Parliament. In 1978 the Districts Industries Centres were set up to provide services and support required by the small and village entrepreneurs under a single roof. These services were to extend the provision of raw material, supply of machinery and equipment, arrangement of credit facilities and helping to set up marketing linkages.

The nomenclature used to address the smallest segments of industries in India has been varied, namely, village and small industries, khadi and village industries, tiny enterprises, micro-enterprises etc. At the base are the rural manufacturing household enterprises – usually subsumed in the KVI segment. The other units are distinguishable in terms of their size of investment. It is to be noted that the factories Act employs the use of power and the size of employment as defining criteria. But India is again perhaps unique in defining its small scale industries (SSI) using investment ceilings which have changed with time. The Micro, Small and Medium Enterprises Act, 2006 has classified the enterprises in the manufacturing and service sectors into three categories. The micro enterprises in manufacturing are those having investment in plant and machinery of less than Rs.25 lakhs and in services less than Rs.10 lakhs. Small scale industries are those with investments between Rs.25 lakhs and Rs.500 lakhs in manufacturing and Rs.10 lakhs to 2 crores in services. The positive feature of this Act is that it recognizes a micro enterprise sector, but by clubbing it with the small as well as the medium enterprises the chances of the benefits flowing into the micro sector

may be greatly reduced. The difference between cottage and village industries and SSI is in terms of their absolute size and technological characteristics. However, a major difference between the two is their links with the rest of the economy. The SSI industries are generally connected with the large scale industries in terms of technical and input-output linkages.

**10.6.4** The main advantages in favour of the unorganized manufacturing enterprises were considered to be their labour intensive character, decentralized location and the ability to provide varied products/services on a dispersed basis.

### **10.7. Availability of Institutional Credit**

**10.7.1** One of the key policy instruments to provide access to credit to the small industries was the RBI directions on “priority sector” lending. The commercial banks were asked to advance 40 percent of their net bank credit to the priority sector. This included the small and tiny enterprises for which, however, no separate targets were specified. In the case of co-operative banks the priority sector lending was to be 60 percent. A large institutional structure was also created to facilitate the flow of credit to this sector. There has clearly been a decline in the credit flow from public sector banks and commercial banks to the SSI sector and to the tiny enterprises, particularly since the mid 1990s.

### **10.7.2. Micro Credit and SHGs**

The potential of SHGs to develop as local financial intermediaries to reach the poor has gained recognition in India due to their community based participatory approach and sustainability. Recovery rates in micro-credit programmes have been significantly higher than those achieved by commercial banks in spite of loans going to poor, unorganized individuals without security or collateral. At the all India level, the number of SHGs has increased from about 110 thousand in 1999-00 to over 2.2 million by the end of March, 2006 and the volume of micro credit has increased from Rs.1.9 billion to over Rs.114 billion during the same period. By March 2006, about 1.6 million SHGs were formed under the SHG-Bank Linkage Programme. SHGs however, have shown uneven regional growth. Till March, 2001, over 70 percent of SHGs were concentrated in the Southern states.

The Government of India has four major public micro – credit programmes: Swayamsidha, Swashakti, Rashtriya Mahila Kosh and SGSY. The National Bank for Agriculture and Rural Development (NABARD) launched a scheme, linking the SHGs with banks, to augment the resources of micro finance institutions. All the major categories of the banks, viz. commercial banks, cooperative banks and regional rural banks are participating in delivery of micro finance services. Three distinct linkage models are being followed. Under Model I, bank provide micro finance to non-governmental organization for on-lending to the SHGs and ultimately to the micro



entrepreneurs. Under Model II, banks provide direct financing directly to SHGs for on-lending to the micro entrepreneurs. Under Model III, banks finance directly to SHGs, for on-lending to micro entrepreneurs, with the intervention of NGOs as social mobilisers and facilitators.

### SHG MOVEMENT IN MEGHALAYA<sup>Ω</sup>

The seed for the self-help groups was sown since 1980, and it has grown. Presently there are more than 9000 SHGs in the state under various programmes and projects of the government and NGOs. Of these, 4644 SHGs have been linked to credit to banks as on March 2007. Out of the total 9395 SHGs formed in the State till 2007-2008, (47.45 percent) were formed in West Garo Hills followed by East Khasi Hills with (12.65 percent), East Garo Hills with (13.51 percent) and the four other districts i.e. West Khasi Hills with (7.78 percent), Jaintia Hills with (7.42 percent), Ri Bhoi with (7.04 percent) and South Garo Hills with (4.16 percent) together constitute 26.4 percent of the SHGs formed in the State (Table10.7).

**Table10.7 District wise distribution of SHGs in Meghalaya**

	District	No (N)	Percent (% to total)
1	East Khasi Hills	1188	12.65
2	West Khasi Hills	731	7.78
3	Jaintia Hills	697	7.42
4	Ri Bhoi	661	7.04
5	West Garo Hills	4458	47.45
6	East Garo Hills	1269	13.51
7	South Garo Hills	391	4.16
	<b>Total</b>	<b>9395</b>	<b>100.00</b>

A detailed survey<sup>8</sup> findings are under publication by the state Coordinator Dr. Shreerajan, Smt. A.P Jyrwa and the team for the SHG which may be referred to for interested persons. **The survey revealed that the enterprise profile of the SHG members under survey** showed that **animal husbandry based activities** dominated the scene at (24.70 percent) at the overall level in all the seven districts followed by **Trade and petty business activities** which included grocery shops, tea shops, vegetable and food vendors stood at (19.73 percent), and thirdly by **horticulture based activities** at (16.26 percent) and fourthly by **agriculture based activities** constituted (14.68 percent) of the income generating activities at the individual and group level. The **skill oriented activities** such as weaving, crafts, pottery tailoring embroidery was (10.81 percent) while the **service based activities** like transport, repairs shops, schools, labour works, barbers, restaurants constituted (9.31 percent)

<sup>Ω</sup> Survey Report on SHG in Meghalaya: Shreerajan & Smt. A.P. Jyrwa (2008)

Summary of Tiny, SSI and ME enterprises in the state as on Dec. 2008 indicate 3925, 961 and 4 accounts respectively amounting Rs 145 crore, Rs 68 crore and Rs 9 crore disbursement of loans in all.

## 10.8. Marketing

**1.9 a** major constraint faced by the unorganized enterprises is marketing of their products. The lack of marketing facilities was identified as a major problem by a large proportion of unorganized enterprises, particularly so in rural areas. Marketing constraints arise from a number of inter-related factors like lack of information about markets for products, capacity to exploit the existing markets or to reach new markets, the scale of operation or volume of production, and cost of undertaking these operations. In the liberalized era, competition from larger units is a major constraint and this was noted particularly by the larger establishments in the urban areas. The Government has a number of schemes to support marketing linkages for the small enterprises.

## 10.9. Cluster Development and Growth Poles

**10.9.0** The experience of cluster approach has been found to be encouraging and successful in many countries. The clusters are defined as a sectoral and geographical concentration of enterprises, institutions, service providers and related regulatory bodies, engaged in the production of homogeneous or inter-related products and faced with common opportunities and threats.

**10.9.1** At a conceptual level, there are three kinds of clusters that one can visualize—relatively modern, small firm dominated industrial clusters that offer tend to be located in urban areas; artisan and rural industry based clusters; and clusters that are based on the agro-economy. The last two, particularly the last, tend to be natural resource-based. Most policy interventions have focused on the first of the three, rather than the last two.

**10.9.2** There have been many attempts to identify industrial and service clusters following different approaches. UNIDO has compiled a list of 388 clusters of modern small industries. The Development Commissioner, Small Scale Industries, has figure of 2042 clusters of small-scale industries. The Entrepreneurship Development Institute (EDI), Ahmedabad, estimates 3511 clusters, 1422 urban and 1820 rural. Besides these SME (small and medium enterprise) clusters, there are 3332 artisan clusters and 372 handloom clusters. The Department of Industrial Policy and Promotion has a list of 100 clusters identified for development. Several other ministries/departments including Small Scale Industries, Agro & Rural Industries, Rural Development, Panchayati Raj, Commerce, Food

Processing Industries, Textiles, Information Technology, as well as Science and Technology have their own cluster development programmes. Cluster development is also supported by a number of other agencies including the Small Industries Development Bank of India (SIDBI), Commissioner of Handlooms, Coir Board, Department of Science and Technology, State Bank of India, as well as numerous state governments.

At present the state of Meghalaya is having cluster on Eri-weaving at Ri Bhoi and Cane & Bamboo at Jaintia Hills.

#### **10.10. Self-Employment Programme**

Strategies, which promote self-employment and income growth of the self-employed, are important component of a pro-poor development strategy in India. Four major schemes launched by the Central Government to facilitate self-employed enterprise development through easing credit flow and other assistance are the Prime Minister's Rojgar Yojana (PMRY) started in 1993, Rural Employment Generation Programme (REGP) of the KVIC started in 1995, Swarnajayanti Gram Swarozgar Yojana (SGSY) of the Ministries of Rural Development started in 1999 and the Swarnajayanti Shahari Swarozgar Yojana (SSSY) of the Ministries of Urban Employment and Poverty Alleviation since 1997, the later two being integrated to the previously existing self-employment schemes. PMRY and REGP has been subsumed under Prime Minister Employment Generation Programme (PMEGP) from 15<sup>th</sup> of August, 2008. These programme are mainly in the nature of poverty alleviation schemes, with the highest average investment of Rs.1 lakh-Rs.10 lakhs per enterprise being available in the PMRY. Some of them follow a group enterprise or the Self-Help Group formation approach to enterprise development. These programme have made a significant contribution in not only enhancing income levels of the poor but have been helpful in stemming the rural and urban migration of the poor also. During the 10<sup>th</sup> Plan approximately 1.2 million projects were set up under PMRY and REGP programmes resulting in an additional employment of approximately 41 lakhs person years at present.

**10.11. Department of Industries and Status of Schemes:** The State Directorate of Industries caters to bring about a change in the industrial development of the state through following approach: 1. to create an "Industrial Atmosphere"; 2.To develop First Generation Entrepreneurs; 3.To use Man & Material resources for the economic advantage of the State; 4. To create more job avenues and 5. for Balanced Industrial growth of the State.

Organisational Structure of the Industries Department is at the three levels. The secretariat level is for policy and programmes. Implementation of policies and programmes are through the Directorate of Industries which is headed by the Director of Industries and at the district level district is looked after by the District Industries Centre under the leadership of the General Manager.

The first Industrial Policy of the State of Meghalaya was framed in 1988 and subsequently the second policy framework were under taken in 1997 in which the State Government offered 30% Capital Investment Subsidy 4 % interest subsidy on term loan and power subsidy etc. The core aim of the State Industrial Policy is to ensure minimum of 60 % employment to local youths. Any unit not abiding by this 60% employment norm is not given any incentives from the State .This policy has been supplemented by the Govt. of India North Eastern Industrial Policy in 1997 which in fact has kick - started the rapid Industrial activities in the State. The following figures will show the progress of Industrialization before 1997 and after 1997.

**Before 1997,**

- (A) SMALL SCALE SECTOR :: the Department has registered 2672 Nos of small scale units with an investment of Rs 1991.43 lakhs creating an employment opportunities to about 16933 persons.
- (B). Large and Medium : the State had only 1. M/S Mawmluh Cherra Cements Ltd inherited from the State of Assam. 2. Virgo Cements Ltd, Damas, East Garo Hills District and 3. M/S Jaintia Cements Ltd, Sutnga, Jaintia Hills District.

**However after 1997 :**

- (A) SMALL SCALE SECTOR :: After 1997 the Department has registered 3812 Nos of small scale units with an investment of Rs 7735.13 lakhs creating an employment opportunities to about 19815 persons.
- (B). Large and Medium : However in the Large and Medium Sector , I may inform the House that presently 116 nos of Industrial Units has been registered with an investment of Rs 73032.20 lakhs creating employment opportunities to about 5417 persons approximately.

*During the period from 1997 to 2007 a large number of Industries decided to set up their Industries in the State of Meghalaya because of proactive administrative and excellent escort services provided by the State machinery. As a result of which Meghalaya became the second largest Industrialized State amongst the 8 (eight) North Eastern States. The multinational company like Lafarge (India) Cements Ltd has made Meghalaya as their investment destination.*

**10.12. Prime Minister's Employment Generation Programme**

Government of India has approved the introduction of a new credit linked subsidy programme called Prime Minister's Employment Generation Programme (PMEGP) by merging the two schemes that were in operation till 31.03.2008 namely Prime Minister's Rojgar Yojana (PMRY) and Rural Employment Generation Programme (REGP) for generation of employment opportunities

through establishment of micro enterprises in rural as well as urban areas. PMEGP will be a central sector scheme to be administered by the Ministry of Micro, Small and Medium Enterprises (MoMSME). At the State level, the Scheme will be implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs) and District Industries Centres (DICs) and banks. The Government subsidy under the Scheme will be routed by KVIC through the identified Banks for eventual distribution to the beneficiaries / entrepreneurs in their Bank accounts.

**Objectives:**

- To generate employment opportunities in rural as well as urban areas through setting up of new self-employment ventures/projects/micro enterprises.
- To bring together widely dispersed traditional artisans/ rural and urban unemployed youth and give them self-employment opportunities to the extent possible, at their place.
- To provide continuous and sustainable employment to a large segment of traditional and prospective artisans and rural and urban unemployed youth in the country, so as to help arrest migration of rural youth to urban areas.
- To increase the wage earning capacity of artisans and contribute to increase in the growth rate of rural and urban employment.

**Table 10.8 Year–Wise PMRY applications sponsored, Sanctioned and Disbursed**

Year	Targets	Applications		
		Sponsored	Sanctioned	Disbursed
		Nos.	Nos.	Nos.
1	2	3	4	5
(93-94)	200	199	139	135
(94-95)	300	428	307	288
(95-96)	550	592	513	477
(96-97)	550	635	553	497
(97-98)	550	588	524	464
(98-99)	550	583	463	396
(99-00)	550	609	477	290
(00-01)	600	640	417	179
(01-02)	2000	1920	1466	1195
(02-03)	400	337	251	206
(03-04)	1350	1167	999	750
(04-05)	1400	1394	968	584
05-06)	1400	1484	1107	853

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(06-07)	800	821	627	475
(07-08)	400	446	283	209
<b>Total</b>	<b>11500</b>	<b>11356</b>	<b>9094</b>	<b>6998</b>

Source: Directorate of Industries, GOM

**Table 10.9 STATUS OF PMRY**

Year	Targets	Applications				
		Sponsored	Sanctioned		Disbursed	
			Nos.	% sanctioned cases to cases sponsored	Nos.	% disbursed cased to cases sanctioned
1	2	3	4	5	6	7
1.(03-04)	1350	1167	840	71.98	633	75.36
2.(04-05)	1400	1394	693	49.71	244	29.05
3.(05-06)	1400	1473	1107	72.57	1049	10.97
4.(06-07)	800	821	627	68.80	475	61.79
5.(07-08)	400	455	283	18.51	209	47.42
<b>Total</b>	<b>5350</b>	<b>5444</b>	<b>3309</b>	<b>60.78</b>	<b>1936</b>	<b>58.51</b>

Source: Directorate of Industries, GOM

**Table 10.10 DISTRICT-WISE PERFORMANCE**

Sl.No.	Name of District	Investment in Plant & Machinery( Lakhs)	Employment(Nos)
1	East Khasi Hills	16034.95	6536
2	East Garo Hills	235.51	1808
3	West Khasi Hills	186.54	1307
4	West Garo Hills	262.68	959
5	Jaintia Hills	480.32	2902
6	Ri Bhoi	2396.84	1614
7	South Garo Hills	32.49	294
	<b>TOTAL</b>	<b>19629.33</b>	<b>15420</b>

Source: Directorate of Industries, GOM

### 10.13. Technology Mission for Integrated Development Of Horticulture :

The horticulture sector, which includes fruits, vegetables, spices, plantation crops, floriculture, medicinal and aromatic plants, cashew nut, etc., has ample potential for development, as compared to other crops, in the the state in view of the diverse agro-climatic conditions, varied soil types and abundance of rainfall, which has remained unexploited.

**The development of NE** region examined by various Commissions and Committees recommended for integrated development of horticulture in a mission mode to foster rapid growth of the region. Based on these recommendations a Centrally Sponsored Scheme on Technology Mission for Integrated Development of Horticulture in North Eastern region including Sikkim, was approved

by EFC and CCEA, has been launched from 2001-02. The Goals of the Mission are to establish convergence and synergy among numerous ongoing governmental programmes in the field of horticulture development to achieve horizontal and vertical integration of these programmes to **ensure** adequate, appropriate, timely and concurrent attention to all the links in the production, post-harvest management and consumption chain, **maximise** economic, ecological and social benefits from the existing investments and infrastructure created for horticulture development, **promote** ecologically sustainable intensification, economically desirable diversification and skilled employment to generate value addition, **promote** the development and dissemination of eco- technologies based on the blending of the traditional wisdom and technology with frontier knowledge such as bio-technology, information technology and space technology; and to provide the missing links in ongoing horticulture development projects.

**The Technology Mission has four Mini Missions**

**Mini Mission - I Research:** Coordinated and implemented by ICAR,.

**Mini Mission - II Production and Productivity:** Coordinated by DAC and implemented by the Agriculture / Horticulture Departments of the States.

**Mini Mission - III Post-harvest management, marketing and export:** Coordinated by DAC and implemented by NHB, DMI, NCDC, NAFED and APEDA.

**Mini Mission - IV Processing:** Coordinated and implemented by MFPI

**The status of mini Mission IV has not been so encouraging in the past.** There are only a few units under this mission.

**10.14. State Government Corporations under Industry department:**

The Department of Industries headed by the Director of Industries in the State level and District Industries Centre at the District level. Apart from this the department is ably supported by State Corporation and subsidiaries.

**10.14.1 Meghalaya Industrial Development Corporation Ltd.**

Meghalaya Industrial Development Corporation Ltd was incorporated under the Companies Act 1956 in 1971. It is an agency for promotion and developing industries in the state is performing the dual task as

- Industrial Development Corporation (IDC)
- State Financial Corporation (SFC)

Apart from the loaning operation and equity participation, the Corporation has developed; Industrial Areas, Industrial Estates, Export Promotion Industrial Park (EPIP) and Industrial Growth Centre in the state.

### 10.14.2 Meghalaya Bamboo Chips Limited

Meghalaya Bamboo Chips Ltd was incorporated in **1979**. The whole purpose was to make use of the bamboo available in the region and thereby create Job Avenue in the state. Meghalaya Bamboo Chips had to be closed in want of market in **1987**. The Company was re-commissioned as ceiling tiles manufacturing unit in the year **1992**. The unit run for three years and had to shut down in May **1995** due to machine breakdown. It was re-started in **1999** after repairing of machine. The unit produces ceiling tiles of various sizes and decoration. Installed Capacity of the plant is 1000 pieces of tiles per day. There is huge demand of ceiling tiles in the entire country. Production started falling from **2005** onwards due to erratic power supply and age old machineries. The unit is virtually closed and has applied for modernisation support under NLCPR.

### 10.14.3 Mawmluh Cherra Cement Limited (MCCL)

- ❖ Mawmluh Cherra Cement Limited (MCCL) was incorporated in 1955.
- ❖ The Plant was commissioned way back in November, 1966. Initially it started with one kiln of 250 TPD. Presently the plant is in the process of expansion & modernisation with capacity to 930 TPD.

Presently the MCCL is undergoing modernization with considerable investment of more than Rs 85 crore.

### 10.14.4 Meghalaya Khadi & Village Industries Board

The Khadi & Village Industries Board in Meghalaya was established in the year 1975 under the enabling clauses of the Meghalaya Khadi & Village Industries Board Act (last amended 1980). As stated in the Act, the Board is “to provide for the better organization, development and regulation of Khadi and Village Industries in the State”.

The objectives of the Board are:

- To encourage development of Khadi & Village Industries in the State.
- To conduct training with a view to equipping them with the necessary knowledge for starting their own village industry.
- The Meghalaya Khadi & Village Industries Board (MKVIB), through the Rural Employment Generation Programme (REGP) extends fiscal benefits as Margin Money to the extent of 30 % of the Project Cost.
- 

**Table 10.11 Status of REGP**

Project Finance (Nos)	Project Cost (in crores)	Employment Generated
946	1065.36	7460

Information furnished by KVIB, Shillong



#### 10.14.5 Meghalaya Handloom & Handicraft Development Corporation

This is a company promoted by the government and whose activities are complementary to the activities of the Industries Department of the Government of Meghalaya. It is also an organization that is recognized by the Ministry of Textiles of the Government of India, by the Development Commissioners of Handicrafts and Handloom. Its area of operation is throughout the State of Meghalaya in all potential areas. Its basic aim is therefore to out to all individual artisans and groups that possess skills and which have the potential to grow. The MHHDC was established with additional objective of providing the much needed Marketing Thrust to the products existing within the State. It is attempting to network and reach out to as many potential areas and individuals within the constraints existing. Besides the Handloom and Handicrafts sectors it has also made some inroads into the emerging Bamboo Sector; the identified applications that could range from the use of this raw material for handicrafts ( traditional nad new designs), as a food item in the value added form, for structural and industrial purposes. The Corporation has also implemented certain development schemes like the establishment of a Bamboo Mat Production Centre which is in the last stage of implementation at Sohkhari Bhoi District. It will attempt to harness the skills of at least 2000 to 2500 mat weaving artisans.

Year	Targets No of beneficiaries	Physical Achievements (No of beneficiaries)
2005-06	375	410
2006-07	605	650
2007-08	4220	4060

#### 10.15. Sericulture and Weaving

India continues to be the second largest producer of silk in the world. Four common varieties of silk produced in India are mulberry, eri, muga and tasar. Of these, mulberry is the most dominant accounting for 91.7% of the silk produced. Eri accounts for about 6.2%, whereas tasar and muga account for 1.6% and 0.5% respectively. Sericulture and Weaving can form an important base for the development of agro-based cottage industry in the state. A total of over six million persons in India seek gainful employment in sericulture of who majority are women. High quality silk has always been in great demand and commands good price. India produced nearly 15,544 tonnes of raw silk in 1998-99 and exported a total of silk worth 1250.55 crores in that year<sup>1</sup>. Karnataka is the largest producer of raw silk and registered a production of 6760 tonnes in 2002-03, whereas

<sup>1</sup> Source: Ministry of Textiles

Andhra Pradesh with a production of 5650 tonnes was the second largest producer of raw silk in India. In the North East however, Assam with a production of 574 tonnes is the largest producer <sup>2</sup>.

Sericulture & Handloom Weaving are the two most important rural cottage based Industries in the State. The sector is basically women oriented activity for providing self employment in the rural areas. Rearing of Eri, Mulberry and Muga is traditionally practiced in the past and presently by the rural people as a subsidiary Cottage Industry. The main programme in respect of Sericulture Industry is to identify, increase and expand the plantation areas of the existing Eri, Mulberry and Muga in the individual holdings or community lands through development of systematic and economic plantation of silkworm food plants with emphasis to enhance the productivity per unit area. It is also proposed to improve and strengthen the Departmental Farms and Centres for sufficient production of quality silkworm seeds for increasing the production of raw silk and introduction of scientific rearing method of silkworms. Production of raw silk is anticipated to be increased from the present level of 339.50 MT to 394.13 MT.

#### **Sericulture Farm:**

The state inherited 6 sericulture farms from the erstwhile state of Assam. These included a sericulture farm each at Shillong, Ummulong and Tura; a foreign race seed station at Moodymmai; an Eri seed grainage at Nongpoh; a Muga seed farm at Resubelpara. In addition it also inherited silk reeling units at Shillong and Gangdubi. In 1984-85, the number of sericulture farms was reported at 7 and covered an area of 37 hectares only. In 1985-86, the number increased to 8, the total No. of farm as on 1993-94 stands at 25 nos. Although, the area covered by these farms grew substantially to 172.96 hectares. There had been no change in the number of sericulture farms or the area covered till 1999-2000. In 2003-04, the area covered by the farms dropped to 130 hectares even though the number of farms has remained constant at 22 out of 25 nos.

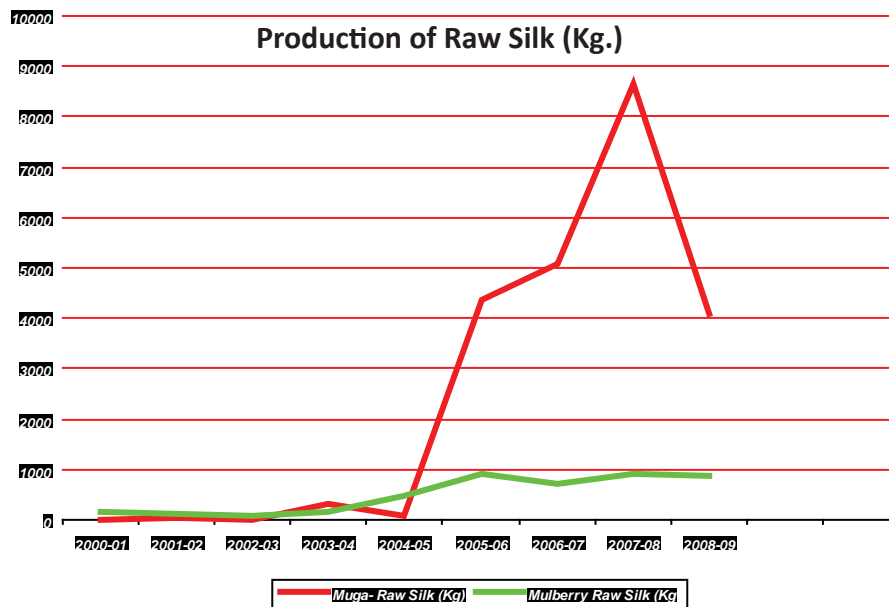
Inadequate infrastructure with poor maintenance having under-developed and ageing farms with technologically deficient situation has been accentuated by the fact that no new assets of infrastructure has been created during the last 10 years in the state. Present infrastructure in sericulture with the govt are: 9 Nurseries, 6 mulberry farms, 4 eri farms, 2 muga farms, 88 Sericulture Extension Centres, and 1 State Level Sericulture Training Institute at Ummulong.

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<sup>2</sup>Source: Statistical Abstract India 2003, Central Statistical Organisation, Ministry of Statistics and Program Implementation

**Reeling Units and Silk production:**

Meghalaya had 6 silk reeling units in 1984-85, which produced a total of 270 kilograms of raw silk. In 1995-96, a total of 8 reeling units produced the all time high of 829 kilograms of raw silk. However, since 1995-96, the raw silk production in the state has been constantly falling. By 2000-01, the silk production in the state came down to 159 Kg which was even below 1984-85 level of 270 kilograms. In recent years since 2005-06 the production of Raw Silk has shown considerable increase. During 2007-08 it went above 9500 Kgs.



Source: Directorate of Sericulture & Weaving, GOM

Furthermore there is no organized market for purchase of Mulberry Cocoons from the producers. The Sericulture & Weaving Department has added 8 silk reeling units in the past few years. During the IX Plan, initiatives have been taken to train the private reelers in the 4 silk reeling units. After the training, these reelers are expected to set up their own Mini Raw Silk Production units.

For Muga silk, the cocoon production has averaged 260 lakh annually over the last 5 years. Yarn production has averaged less than 2 MT annually over the last 5 years. 70% of cocoon production transported to Assam for conversion. For Eri silk Cocoon production has averaged 335 MT annually, while the Yarn production has averaged 90 MT annually over the last 5 years of which 60% of cocoon production transported to Assam for conversion.

The challenges in Silk are: Increasing production; Increasing value addition, at different stages, within the State and Developing new & diversified products. Another aspect is Plantation upgradation with larger plots, fencing, package of practices and Restoration of rearer subsidies.

Developing production, processing & market infrastructure; addressing the absence of organized markets; disposal of cocoons in villages at price of traders; Dearth of technical manpower (Only 35 PG diploma holders in Sericulture serving in the Department) with Enhancing the managerial skills are some of the priorities requiring attention.

### **Sericulture Villages:**

The current demand for raw silk exceeds its production. India imports large quantities of silk for manufacturing value added products to cater to export demand. Encouragement of sericulture in the state can therefore provide gainful employment to thousands of people. However, the state would also have to setup mechanism to assist the silk producers to lucratively dispose their produce. Tourists often like to take back souvenirs from the places they visit. Tourism in the state is all set to grow in the coming years. Setting up fair price shops in Shillong and other important towns to showcase and sell the silk products can be of great help the silk-based cottage industry in the state. This will however require training and capacity building to enable the weavers to produce high quality silk products.

### **Handloom and weaving:**

**Meghalaya has established traditions of weaving with highly skill based and good workmanship. There is strong traditions of cotton weaving, largely with traded yarn as there is low base of local yarn, except in silk.**

**The State of Meghalaya has 25,000 weaver households, substantially working with traditional looms & designs and catering to household and vicinity markets. Of these, 60% of weaver households are in the Garo Hills and 90% of weavers are women. There are 8 production centres, 32 demonstration-cum-production centres, 10 weaving training centres and 1 State Level Handloom training Institute (Mendipathar, East Garo Hills).**

The proposed programme for Handloom Weaving Industry is to intensify and step-up production of quality handloom fabrics. The production is also sought to be increase by introducing and supplying modern improved looms/accessories to weavers which would result in the increased of production of Handloom Fabrics from the present level of 108.00 lakhs sq.mtrs in 2008-09 to 128.00 lakh sq. mtrs during 2009-10.

Additional training, demonstration & production centres ; Renovation and replacement of dilapidated and non-functional infrastructure; Strengthening of HTI Mendipathar with machinery & equipment, improved looms, power looms, jacquards, CAD etc are urgent felt need.

Local traditions of usage of indigenous & natural dyes need to be strengthened, and process improvements are also required to be done. For this, training required on working with commercial natural dyes and Specific designer support for natural dyes needs to be tied up.

Documentation of traditional handlooms and Preparation and dissemination of extension material are urgent felt need for the weavers. Dependence on Government supplies for yarn; Usage of traditional looms, which need to be replaced by improved looms. and lack of opportunity of exposure and study tours for weavers are some of the issues. Event based marketing opportunities and Two handloom haats (State Government able to provide land) are some of the requirements. Local lack of trained designers; arranging for Designer workshops; Short duration attachment of designers to State Level Institute; Projectised support from NID/ NIFT and Deputation of Departmental design staff to design institutions are also needed for giving boost to the sector.

#### **10.16. Industrial Co-operatives in Meghalaya:**

**Co-operatives societies** are the institution, which makes it possible to organize resources on the basis of mutual help and share benefits rather than exploiting one another.

The cooperative organization, which emerges as a result of voluntary association of individuals, in terms of resources, is able to stand up to big private institutions for the furtherance of economic and non-economic objectives. Cooperation is therefore, conveniently suited to bring about the desired socio-economic changes in the context of existing rural condition in the country.

This institution helps in eliminating un-wanted delay generally government procedure takes a lot of time from filling, graft, administrative approval etc, which adversely affect the enterprising spirit and enthusiasm of the people. As a result, there is little desire and will left with people to work hard, to save and to invest.

In Meghalaya there are 39 Village Industrial Cooperative Societies which are serving the commoners in the society. They are engaged in various types of activities with the Paid up share capital, volume of business and working results shown at Appendix-VI.

##### **10.16.1 Central Assistance to States for Developing Export Infrastructure (ASIDE)**

Exports have come to be regarded as an engine of economic growth in the wake of liberalization and structural reforms in the economy. A sustained growth in exports is, however, not possible in the absence of proper and adequate infrastructure as adequate and reliable infrastructure is essential to facilitate unhindered production, cut down the cost of production and make our exports internationally competitive.

While the responsibility for promotion of exports and creating the necessary specialised infrastructure has largely been undertaken by the Central Government so far, it is increasingly felt that the States have to play an equally important role in this endeavour. The role of the State Governments is critical from the point of view of boosting production of exportable surplus, providing the infrastructural facilities such as land, power, water, roads, connectivity, pollution control measures and a conducive regulatory environment for production of goods and services. It is, therefore, felt that coordinated efforts by the Central Government in cooperation with the State Governments are necessary for development of infrastructure for exports promotion.

Department of Commerce currently implements, through its agencies, schemes for promotion and facilitation of export commodities and creation of infrastructure attendant thereto. The Export Promotion Industrial Parks Scheme (EPIP), Export Promotion Zones scheme (EPZ), and the Critical Infrastructure Balancing Scheme (CIB) are also implemented to help create infrastructure for exports in specific locations and to meet specific objectives. However, the general needs of infrastructure improvement for exports are not met by such schemes. With a view, therefore, to optimizing the utilization of resources and to achieve the objectives of export growth through a coordinated effort of the Central Government and the States this scheme has been drawn up. The features of the Scheme and the Guidelines for consideration of proposals in respect of the Scheme are given below:

**Objective**

- The objective of the scheme is to involve the states in the export effort by providing assistance to the State Governments for creating appropriate infrastructure for the development and growth of exports.
- States do not perceive direct gains from the growth in exports from the State. Moreover, the States do not often have adequate resources to participate in funding of infrastructure for exports. The proposed scheme, therefore, intends to establish a mechanism for seeking the involvement of the State Governments in such efforts through assistance linked to export performance.

**Table 10.12 STATUS OF ASIDE SCHEME IN THE STATE**

<b>PARTICULARS</b>	<b>PROJECTS</b>	<b>TOTAL COST (in lakhs)</b>
Number of Projects Approved	29 Nos	
Total Project Costs		Rs.9708.38
Fund Received from Ministry of Commerce		Rs.3072.00
Fund Released to Implementing Agencies		Rs.2880.67
Amount required to complete the projects		Rs.6827.71

Source: Directorate of Industries, GOM

**10.17. Trade with Bangladesh**

The partition of the country undoubtedly disrupted the age-old trade and communication within the state of Meghalaya. It abruptly stopped the free open trade with the districts of Sylhet and Mymensingh which became part of Bangladesh. In fact, the length of the international boundary with Bangladesh is about 443 km. naturally; in order to ameliorate the condition of the people in the border areas and to rejuvenate the once prosperous economy special steps have been undertaken. Several old roads have been made functional to revive border trade. The land borders with Bangladesh are not only more accessible but also cost effective from the point of view of international trade. The importance and efficacy of the land-routes have been recognized both by the Central and State Governments. Several of the land border points have been converted into Land Custom Stations along the international borders between Meghalaya and Bangladesh. These Stations are not only used for trade but also act as custom check posts. According to the information provided by the office of the Commissioner of Customs, Shillong, currently 17 Land Customs Stations (LCS) have been used for export and import purposes in the North Eastern Region. Out of these 17, as many as 8 LCSs are located in Meghalaya, 4 each in the Khasi-Jaintia Hills and the Garo Hills.

Nonetheless it may be noted here that the nature and extent of border trade cannot be properly ascertained for want of authentic data either from official or non-official sources. The problem is essentially rooted in ways through which trades are carried on in different parts of the region. The trade between the North Eastern Region and the neighbouring countries is broadly divided into two types-official and unofficial. While the trading activities through the official channels are recorded at different points, the unofficial trade is more often designated as illegal trade or simply trans-border smuggling. In view of this, it is convenient to ascertain the nature of commodity structure of export and import and the volume of official trade being presently carried on in the state. There is another dimension to this problem. Although the land custom stations located in Meghalaya are mainly used for the export of raw materials and locally produced perishable items, it is difficult to estimate how much of these commodities are exclusively produced within the state and then being exported to Bangladesh. Despite the difficult tasks involved in making a realistic assessment about Meghalaya’s share in export trade of the country in general and North East in particular.

**Table 10.13 Export of Commodities for The Year 2005 – 2006**

L.C.S.	Commodity	Quantity	Value
Dawki	Coal	292313.6 Mt.	476211782.00
Borsora		461026 Mt.	828959408.00
Mahendraganj		5176 Mt.	9979032.00
Ghasuapara		118080.8 Mt.	233616121.00
Dalu		46399 Mt.	114263305.00

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Dawki	Lime Stone	552 Mt.	140637.00
Borsora		29475.26 Mt.	17371971.00
Shella Bazar		110491 Mt.	28144829.00
Bholaganj		221643.5 Mt.	74620658.00
Dalu		504.7 Mt.	132980.00
Shella Bazar	Boulder Stone	8200 Mt.	2060455.20
Mahendraganj	Crushed Stone	5023 Mt.	3088745.00
Mahendraganj	Ginger	617 Mt.	4145566.00
Dawki	Orange	2246980 Nos.	2145691.00
Dalu		20 Mt.	188580.00

**Table 10.14 Export of Commodities for The Year 2006 - 2007**

L.C.S.	Commodity	Quantity	Value
Dawki	Coal	239138.584 Mt.	471834816.00
Borsora		473528.85 Mt.	924223201.00
Mahendraganj		3309 Mt.	6822234.00
Ghasuapara		231499.4 Mt.	472683846.00
Dalu		53363.4 Mt.	108107840.00
Baghmara		2055.5 Mt.	3678777.00
Dawki	Lime Stone	6322.4 Mt.	1635279.00
Borsora		125408.7 Mt.	32670466.00
Shella Bazar		600975 Mt.	170551740.00
Bholaganj		402961 Mt.	112958849.00
Dalu		235.5 Mt.	63466.00
Dawki	Boulder Stone	531.9 Mt.	193507.00
Bholaganj		530 Mt.	113585.00
Mahendraganj		2000 Mt.	867583.00
Dalu		200 Mt.	71840.00
Mahendraganj	Crushed Stone	1472 Mt.	1002849.00
Mahendraganj	Ginger	415 Mt.	2917209.00
Gasuapara		21.126 Mt.	158202.00
Dawki	Tomato	6000 Kgs.	78000.00
Dawki	Raw Hides And Skins	57 Mt.	1029360.00



**Table 10.15 Export of Agriculture and Horticultural Produce during 2007-08 (Up to January)**

( Value In Rupees )			
<b>Dawki</b>			
1	Orange	2576530 Nos	1922395.10
2	Citrus Fruit	49080 Nos	71955.00
<b>Mahendraganj</b>			
1	Bamboo	177 Mt	126765.00
2	Ginger	155 Mt.	1120224.00
3	Tamarind	80 Mt.	267304.00
	<b>Total</b>		<b>3508643.10</b>

Source: Commissioner, Customs, Government of Meghalaya

The present data reveals that items exported to Bangladesh from Meghalaya are mainly those which are available in the hills of the state. However, contrary to the general impression, the volume of export of horticultural produce appears to be very limited. People living in border areas have been traditionally cultivating crops such as oranges, bananas, betel nuts, betel-leaves, bay-leaf and selling them in border hats. The system was almost institutionalized but as a result of numerous barriers and formalities imposed by the Governments on both sides of the border, these cultivators have their horticultural crops but are deprived of smooth traditional markets. Under the condition, a sizeable section of these cultivators are using unofficial channels to export their products. Meghalaya thus primarily exports mineral and horticultural products to Bangladesh which constitute almost 90 percent of the total exports from North Eastern Region of the country. Coal and limestone, two major mineral products are found in southern belt of Meghalaya and conveniently exported through the land custom stations located at Dawki, Borsora, Mahendragang, Baghmarā, Gasuapara, Dalu, and Mankachar along Meghalaya-Bangladesh border. In fact there exists a complementarity between the resource base of the hills of Meghalaya and the nearby plains of Bangladesh. A cement factory at Chhatak in Bangladesh, for instance, fully depends on Meghalaya for limestone. Likewise, the tea gardens, jute mills and brick-manufacturing units in Bangladesh largely depend on coal mined in Meghalaya.

#### **10.18 Land Custom Stations (LCSs) in Meghalaya:**

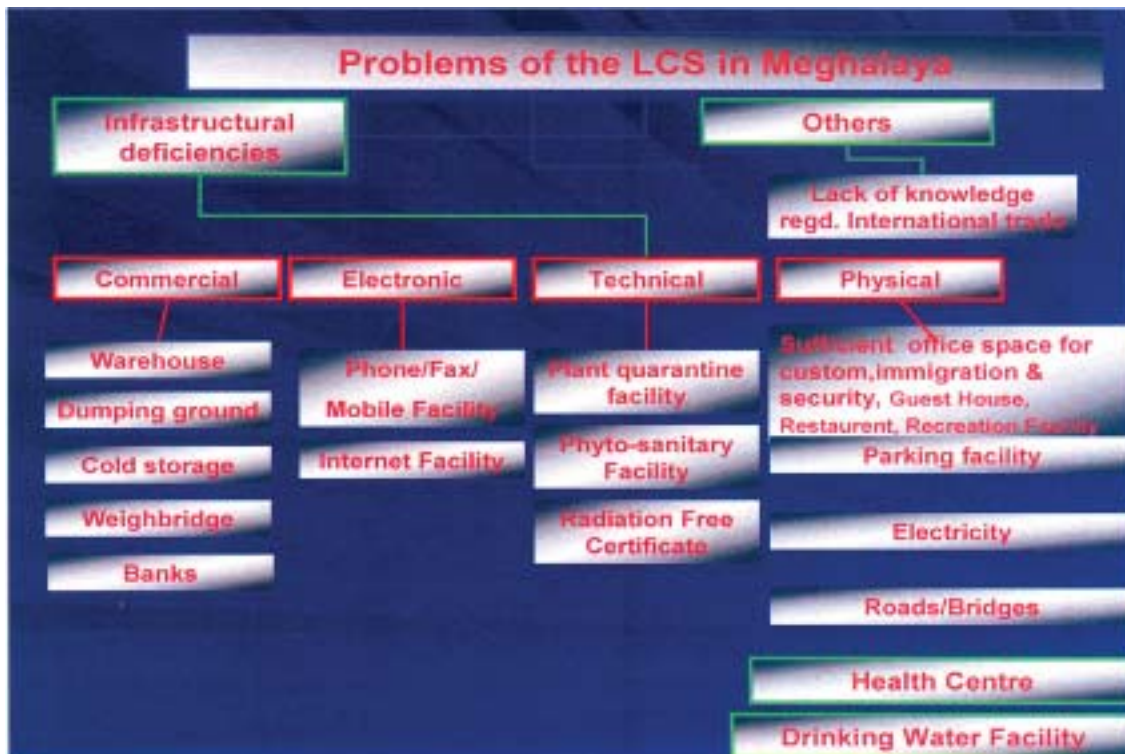
The State of Meghalaya has 10 (ten) Land Custom Stations which plays a significant role in the economy of all the North Eastern states including the state of Meghalaya. This is because of the fact that in many cases, goods originating in one state finds its way to the neighbouring countries through another state. All these Land Custom Stations are along the Indo-Bangladesh border. These are:-

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Sl. No.	Name of LCS with location	Functional /Non-Functional	Counter part LCS in Bangladesh
1.	Borsora, West Khasi Hills	Functional	Borsora
2.	Dawki, Jaintia Hills	Functional	Tamabil
3.	Gasuapara, South Garo Hills	Functional	Karaituli, GobraKura
4.	Shella Bazar, East Khasi Hills	Functional	Chatak
5.	Dalu, West Garo Hills	Functional	Nakugoan
6.	Bholaganj, East Khasi Hills	Functional	Chatak
7.	Mahendraganj, West Garo Hills	Functional	Dhanua Kamalpur
8.	Baghmara, South Garo Hills	Functional	Bijoypur
9.	Balat, East Khasi Hills	Non-Functional	Dalura
10.	Ryngku, East Khasi Hills	Non-Functional	Sonamgunj

In addition, The State has proposed for opening 3 (three) more LCSs with Bangladesh, viz., 1. Kuliang, Jaintia Hills, 2. Maheshkhola, South Garo Hills, and 3. Iew Thymmai, East Khasi Hills.

**10.19. Problems of the LCSs in Meghalaya:** The common major problems faced by the LCSs in Meghalaya are as highlighted below:-



## 10.20. Reasons for Weak Resource Industry Linkage in the State

### a. Brief Overview of Resource Base

In the absence of steady growth in the manufacturing sector, question of sustainability of overall growth appears to be a major concern for the economic policy makers in the state. Meghalaya have highlighted the weak industrial base and its nuances from the perspective of the North Eastern Region. The state has a strong resource base including land, forest, water and mineral resources (coal, lime-stone, clay etc).

It receives the highest rainfall in the world. The average annual rainfall in the state is about 2050 mm with 200 rainy days in a year. The physical feature of the state causes high surface runoff. There are a number of waterfalls and rivers flowing in the state. As a result, Meghalaya has a large hydro electricity potential, estimated to be about 3000 MW. Currently only 186.71 MW is being tapped, which accounts for nearly 6% of the total potential. Per capita consumption of electricity of the state is as low as 192.81 KWH.

The state also has sizeable deposits of many important minerals. Uranium and other radioactive minerals are found in various parts of the state with estimated reserves of around 13.5 million tones. The Uranium deposits at Domiasiat in West Khasi Hills are of a higher grade than some of the best grade uranium currently being exploited in the country. Though exploratory mining of this strategic mineral was carried out, mining activities could not commence amidst protests by the local over environmental and health concerns. Meghalaya has substantial reserves of coal having low ash content and a very high calorific value. The production of coal in the last 25 years has shown a tremendous growth from 59 thousand tones in 1975-76 to 4060 thousand tones in 1999-2000. But most of the extracted coal is being exported without any value addition.

### b. Weak Resource Industry Linkage

Even though the resource base of the state provides immense potential for setting up of wide range of industries and manufacturing units, the level of industrialization is low when compared with the national level. Three decades of planning has led to some improvements in the basic physical infrastructure of the State, but not adequate enough to usher a structural change in the economy. The physical achievements have fallen short of goals. Investments for industrial development have been almost non-existent. As a consequence the contribution of industry to the NSDP has remained virtually stagnant.

The low credit-deposit ratio of Commercial Banks (39%) and Regional Rural Banks (36.94%) at the end of June 2006 has also contributed to the slow pace of development in the State.

Market imperfections such as lack of information regarding the availability of products, available technologies, size of market, etc. has produced undesirable results. Ignorance has been a major hindrance in the economic growth. People with surplus capital prefer to invest in property and vehicles and shy away from risky ventures. Spirit of entrepreneurship is very low in the state. Moreover, complex land tenure system has hampered the inflow of private investments from other parts of the country.

### c. Political Economy of Weak Resource Industry Linkages

The industrial backwardness can also be traced from the peripheral location of this region in relation to national market. Moreover, the partition of the country has made the region land locked and deprived it of the traditional channels of communication and positioned. This has raised the transportation cost substantially, which in turn has made most of the production activities in the state non competitive. The region's loss of market in the erstwhile East Bengal, now Bangladesh, has not been compensated in terms of either the growth of a regional market within the region or a strong integration with the national market. The region is exposed to the backwash effects of national development and hence been experiencing some form of de-industrialization in the post independence era. This lack of access to market has been one of the main causes for under utilization of the available resources as well as weak resource-industry linkages in the region. In this regard, the development of border trade may provide encouragement to the industry in the state. (A detailed discussion on the potential of border trade appears in Chapter 12 – Border Area Development).

Apart from the economic factors some socio political factors also act as reagent in the transformation of trade capital to industrial capital. One such factor is the political environment both internal and external. The internal political stability in the state is often threatened by the subversive group of people. Anti investment climate is often accentuated by the lack of confidence of the locals toward outsiders and a sense of uncertainty in the minds of potential investors. Further, illegal trading of mineral and forest produce to the neighbouring Bangladesh being more lucrative from the short run perspective, acts as a deterrent to investment in the organized industrial sector.

### d. Lack of Entrepreneurship

*“Entrepreneurial orientation to rural development, contrary to development based on bringing in human capital and investment from outside, is based on stimulating local entrepreneurial talent and subsequent growth of indigenous companies. This in turn would create jobs and adds economic value to a region and community and at the same time keeps scarce resources within the community. To accelerate economic development in rural areas, it is necessary to increase the supply of entrepreneurs, thus building up the critical mass of first generation entrepreneurs (Petrin, 1992)”.*

**Entrepreneurship** is not a new concept; today it is considered to be a prime mover in development. That is why nations, regions and communities that actively promotes entrepreneurship development; demonstrate much higher growth rates and consequently higher levels of development than nations, regions and communities whose institutions, politics and culture hinder entrepreneurship. An entrepreneurial economy, whether on the national, regional or community level, differs significantly from a non-entrepreneurial economy in many respects, not only by its economic structure and its economic vigorousness, but also by the social vitality and quality of life which it offers with a consequent attractiveness to people.

In Meghalaya Entrepreneurship Development is much more important as because the law of the land demand so. Land is not easily transferable in the state. There are also certain restrictions in granting licenses or permits to the outsiders. Therefore, non-resident entrepreneurs tend to enter into partnerships with locals. While the outside entrepreneur is in de-facto control of the affairs of the enterprise by making all the investment, the local partner's contribution is limited to the offering of premises and obtaining necessary licenses and permits. This kind of arrangement inhibits the development of entrepreneur skills among the local population. Furthermore, even the outside entrepreneurs view such arrangements as fraught with risk and thus siphon out of the state any profit and surplus from such enterprise.

#### **10.21. Potential areas for investments**

- **Knowledge Outsourcing Opportunities** – the youth from Meghalaya has proved its worth in the IT/ITES industry in places like Bangalore and other IT based destinations, Meghalaya can pitch for investments in this area.
- **Travel and Tourism in NE India** - the most undiscovered place on planet earth is ripe from eco and cultural tourism from foreign tourists. With increase in propensity to spend domestic tourism requires greater attention.
- **Export Textile and Craft Opportunities** - the opportunity is big but global markets are unaware of what is available. Furthermore most products need to be adjusted to meet the tastes of foreign markets.
- **Outsource of Natural Talents** - Music, graphic arts, film, animation and English writing are a few of the strengths of the people of NE India. Once this talent to global standards they can provide these services to customer anywhere. This will create jobs and allow this talent to be the best they can be while living with their family in Meghalaya, India.
- **Horticultural Ideas** - This is the land of milk and honey where anything grows including flowers, spices, fruits, tea, coffee, exotic seed and medicinal plants. Organic farming, tissue culture and other opportunities exist.

- **Mineral base-** Systematic exploitation of mineral resources and converting into value added product should be thought about instead of sending it as a raw material.

A liberalized State Industrial policy with attractive fiscal incentives and subsidies along with the NEIIPP 07 has made investment in the State a high yielding proposition. Meghalaya has declared a comprehensive IT Policy, Tourism Policy and Power policy offering opportunities for new business ventures. The State has bright prospects for agro-processing and horticulture, mineral based industry, power, tourism and health care, medicinal plants, pharma etc. In order to boost exports, the Government provides industrial infrastructure and special export incentives to industrial units. Meghalaya with its wealth of mineral deposits is a storehouse of industrial potential. There are extensive deposits of coal, limestone, granite, clay, quartz, uranium and other minerals.

### 10.22. Future Plan for Next 4 Years (11<sup>th</sup> Plan)

The Department of Industries, Government of Meghalaya, desires to focus on the following to achieve during the current 11th five year plan.

- Industrial Policy being review
- Entrepreneurship Development Programme
- Strengthening of MIDC / MKVIB / MHHDC
- Cluster Approach
- Food Park
- Creation of New Industrial Estates
- Expansion of Growth Centre by 146 Hectares
- Development of Extended Export Promotion Industrial Park (EPIP)
- All weather roads to LCS
- Promotion of SEZ

The thrust areas are: Agro- Horti based ; Bio-resource and technology based such as Tissue culture, Medicinal plant & other essential oils; Pharmaceuticals; Mineral based ; Electronics, IT and IT related activity; processing- tea, rubber, Meat ;and Other non polluting industry

### 10.23. Observations

A state like Meghalaya, with its rich resources has unlimited potential to attract investment, but needs able hand to do the aggressive marketing. The state in itself is small both in size and population and has limited local market for goods and services produced by industry, will need to be innovative to develop industry. Various global models of industrial and manufacturing development have been attempted; some of these have been particularly successful. The successful examples are found in

the East Asian countries namely- Korea, Malaysia, Japan, Taiwan, Thailand, Chile and in some other countries. The success has been possible mainly due to the adoption of the following policies:

- Development Bank support was actively provided to local entrepreneurs at concessional rates.
- Development Bank support was not unconditional but was tied up to the entrepreneur following a re-structuring, technology up-gradation, financial and organization management plan. Funds were released in installments and only when agreed milestones had been achieved by the industry.
- Financial assistance was tied to export of goods and services produced. In order to make the industry financially viable, government support was provided through well thought and industry specific subsidies, which could be either in the form of concessional finance, tax holidays or direct cash doles.

The state government, after a detailed analysis of potential industries could adopt some of the successful models in the world. It is a fact that financial constraints, lack of data and poor surveys of the region are some of the inhibiting factors that effect the industrial growth in the state. Meghalaya is pivoting its E-Governance and industrial development around the web portals at state, district and block level but, the irony is that these portals have outdated data. Industry and minerals were given a back seat in budget allocations in the state. This is because of no proper ground work and research work done on the industrial front; no concrete industrial policy is available. The prospect of industrialization depends to a large extent on the availability of raw materials, skilled personnel, unskilled labour, easy communication and other infrastructural facilities. It is for these reasons that industrialization of the state is still at nascent stage with few sprinkling of mineral based industries. Planning for development requires more precise knowledge about quality and quantity of available resources. The transition from resource potential to utilization of reserves is affected through a sequence of exploration and probing. In Meghalaya, only a small fraction of mineral resources of the region have been probed so far.

It must be understood that private capital plays a critical role for progress in the state. Although private capital is no panacea it is a critical component for economic progress and dynamism. Higher levels of private investment are essential to generate productive employment, raise productivity and improve technology and the work culture. Despite announcements of several policy statement, the Centre is less likely, or has been less able to increase public expenditure in order to remove infrastructural bottlenecks. The bulk of capital that will be required to improve supply responses in the region will ultimately have to come from private rather than government sources. Private investment has powered the growth of Industry in the last few years in other parts of the country.

The recent announcement of North East Industrial & Investment Promotion Policy (NEIIPP) 2007 and the state's industrial policy (1997\* under revision) alone will not prompt private investment to pour in. What is more urgently required is an enabling environment so that investments become lucrative and returns become assured. Once appropriate market conditions are created, private investment will automatically rush in. Therefore, attracting private capital should be given the highest priority.

If the correct policies are pursued, the region will be able to improve its economy. Under a new economic strategy, private investment should be viewed as the critical component. But, first of all, the state has to become investor-friendly. To encourage private investment, policy makers

have to focus on infrastructure (both hard and soft), land and labor policies and substantial improvements in the law and order situation. Secondly, the geographical proximity of the region to the dynamic Southeast Asian economies can be utilized if bold policies are initiated both by the State governments as well as by the Centre.

### **Suggestion 1: Accountability**

- Set up monitoring units resourced with adequate budgetary allocations to periodically hold review meetings and annually convene. Members should consist of representatives from government and civil society.
- Allocate resources for social monitoring of all schemes and for building the capacity of the monitoring team.

### **Suggestion 2: Infrastructure:**

- State should have more funds for infrastructure development.
- Continuous up gradation of human resource development & continuous flow of technical expertise support system.
- Road communication should be upgraded as per All India level.
- Proposed power generation should be implemented at the earliest.

### **Suggestion 3: State Support Services:**

- State to provide access to credit facilities
- Post harvest technology should be passed on to down stream level.
- State to undertake responsibility in marketing products by SHGs
- More Urban Hut should be constructed for marketing rural products.
- In view of the focus given to border trade with neighboring countries, special economic Zone(SEZ) should be created in all states of NE Region

### **Suggestion 4: Development & Environment:**

- Constitute a people's Committee of repute to monitor and guide ongoing implementation and interventions in other developmental works where needed.
- Constitute a policy to protect Common Property Rights to Resources like water, land & forests.
- Protect existing forests and promote micro hydro electricity projects.

### **Suggestion 5: Entrepreneurship:**

- In present scenario entrepreneurs play a vital role in instigating social and economic change, hence there is an urgent need of planned and systematic effort to promote and develop entrepreneurship. Technocrats, Graduates, Women, Business-man should be encouraged to take up entrepreneurship. For that matter state should have Entrepreneurship Development Institute (EDI).
- "Entrepreneurship" should be introduced as one of the compulsory subject in X-plus two.
- Special emphasis should be given to generate women entrepreneurs.

### **Suggestion 6: Poverty/Employment/Infrastructure and Social Security**

- Term BPL should be Redefined to suit today's context
- Provide identity cards for all workers in unorganized sector.
- Establish a single window information system



**Some other Key Recommendations include:**

- Make women more visible in agricultural policy, as they are the majority workers. Support them with policy and programme support, focusing on their access to land, decision-making and property rights
- Implement a need-based minimum wage
- Frame comprehensive labour policy legislation for the unorganized Sector

**Appendix-I List of Large & Medium Industries in the State**

Sl. No	Name of Unit	Items of Manufacture	Investment made (Rs in lakhs)	Employment Generated
1	M/s Greystone Ispat Ltd	Torsteel	180	47
2	M/s Maithan Smelters Ltd	Ferro Alloys	935	81
3	M/s Byrnihat Ispat (P) Ltd	Integrated Steel Plant, Ferro Alloys	117	23
4	M/s Gita Ferro Alloys (P) Ltd	Ferro Alloys	249	0
5	M/s Shyam Century Ferro Alloys Ltd	Ferro Alloys	976	43
6	M/s Meghalaya Carbide & Chemicals (P) Ltd	Calcium Carbide, Ferro Alloys	323	27
7	M/s Adhunik Meghalaya Steels (P) Ltd	Ferro Alloys	1182	58
8	M/s Commercial Iron & Steel (P) Ltd	M.S. Ingots	139	28
9	M/s Bharm India (P) Ltd	C.I. Mould, M.S. Ingots, Sponge Iron	147	30
10	M/s Meghalaya Steels Ltd	M.S. Ingots, Re-Rolling and Ferro Alloys	214	47
11	M/s Trishul Hitech Industries	TMT Bars & Coil, M.S. Ingots	232	25
12	M/s Anirudha Steel (P) Ltd	M.S. Ingots, Ferrous & Non Ferrous Casting	113	23
13	M/s Nalari Ferro Alloys (P) Ltd	Ferro Alloys	395	42
14	M/s Meghalaya Sova Ispat Alloys Ltd	Ferro Alloys	496	0
15	M/s Trikuta Ferro Alloys (P) Ltd	Ferro Alloys, M.S. Ingots, Re-Rolling Mill	500	62
16	M/s Meghalaya Alloys Ltd	Integrated Steel Plant, Ferro Alloys	194	25
17	M/s Nezones Industries Ltd	G.I. Pipes	283	28
18	M/s Nezones Alloys Ltd	Ferro Silicon	450	40
19	M/s Greystone Smelters Ltd	Steel melt unit	235	35
20	M/s Meghalaya Mineral Product	Re-Rolling Mill	259	30
21	M/s Khasi Alloy Ltd	Ferro Alloys	330	26
22	M/S Purbanchal Alloys Ltd	Ferro Alloys	990	45
23	M/S Kamakshi Ispat (P) Ltd	M.S Ingots	139	28
24	M/s R.N.B. Minerals & Chemicals (P) Ltd	Alum, Ferrous, Non ferrous	146.22	30

## MEGHALAYA STATE DEVELOPMENT REPORT

25	M/s R.N.B. Carbides & Ferro Alloys (P) Ltd	Carbides, Ferro Alloys	101.43	40
26	M/s Sesami Chemicals (P) Ltd	Carbide & Ferro Alloys	126.57	20
27	M/S Riango Veneer (P)Ltd	Steel Tubular Poles	125.49	30
28	M/s Jaintia Ferro Alloys (P) Ltd	M.S. Ingots, Ferro Silicon	147.02	77
29	M/s Megha Ispat (P) Ltd	M.S. Ingots, Ferro Silicon	372.96	75
30	M/s Jaintia Alloys (P) Ltd	M.S. Ingots	117.15	48
31	M/s Satyam Steel (P) Ltd	M.S. Ingots	120	50
32	M/s Shivam Ispat & Alloys (P) Ltd	M.S. Ingots	130.5	35
33	M/s Shivani Ispat (P) Ltd	M.S. D. Bars, Flats etc	137.5	32
34	M/s Bimla Ispat (P) Ltd	M.S. Ingots	129	30
35	M/s Pawan Ispat (Meghalaya) (P) Ltd	M.S. Ingots	132.64	60
36	M/s Shree Ganapati Rolling Mills	Rolling of Missroll & S.D. Bar	159	71
37	M/s Meghalaya Cast & Alloys (P) Ltd	M.S. Ingots, Runner Risers	140	60
38	M/s Pioneer Carbide (P) Ltd	Ferro Silicon, Calcium Carbide	174	40
39	M/s Shree Sai Rolling Mills (P) Ltd	Rolling of M.S. Bar, Flats, Angles	259.19	44
40	M/s Shree Sai Smelters (P) Ltd	M.S. Ingots, M.S Runners,	199.17	50
41	M/s Shree Sai Megha Alloy (P) Ltd	M.S. Ingots, M.S Runners, Risers	225	45
42	M/S Shillong Ispat & Rolling Mill (P)	Integrated Steel Plant (M.S. Re-rolled Products/M.S Ingots)/Ferro Alloys	249	40
43	M/s Pawan Castings (Meghalaya) Pvt. Ltd, Harlibagan, Byrnihat, Ri Bhoi.	M.S Re-Rolling Mill	276	40
44	M/S Sai Prakash Alloys (P) Ltd,13th Mile, Byrnihat, Ri Bhoi.	Ferro Alloys	175	50
45	M/S Jai Kamakhya Alloys (P) Ltd	Integrated Steel Plant	249	40
46	M/S Satyam Alloys (P) Ltd	Ferro Alloys	864	40
47	M/S Satya Megha Ispat (P) Ltd	Ferro Alloys & M.S Ingots	964	45
48	M/S Kushi Metals (P) Ltd	M.S Re-Rolling Mill	276	40
	<b>Total</b>		<b>15073.84</b>	<b>1925</b>
	<b>Lime Stone Mining/Crushing Plant: 4 Nos</b>			
1	M/S Megha Technical & Engineers (P) Ltd, Lumshnong, Khliehriat, Jaintia Hills.	Lime Stone Mining/Crushing Plant	500	40
2	M/S Meghalaya Minerals & Mines Ltd, Lumshnong, Jaintia Hills District.	Limestone Mining & Crushing	236	21
3	M/S Lummawshun Minerals (P) Ltd, Shella, East Khasi Hills	Limestone Mining	560	55
4	M/S Komorrah Limestone Mining Co. Ltd, Shella, East Khasi Hills, Meghalaya	Limestone Mining	500	220
	<b>Total</b>		<b>1796</b>	<b>336</b>

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<b>Foods : 12 Nos</b>				
1	M/s J. G. Spices (P) Ltd	Oil Oleoresins	239	38
2	M/s NERAMAC	Ginger Oil	110	0
3	M/s Regetta Food Products	Meat Processing	110	15
4	M/s N.R. Roller Mills	Atta, Suji Flour, Brand	100.48	19
5	M/s Hindustan Coca Cola (P) Ltd	Soft drinks	2058	181
6	M/s K.K. Beverages (P) Ltd	Packaged Drinking Water & Carbonated Drinks	150	22
7	M/S Shree Sarvamayee Products (P) Ltd, Baridua, Amerigog, Ri Bhoi.	Food Grain Processing, Grading and Nutri Food Unit.	158	20
8	M/S Megha Agro Industries, Byrnihat, Ri Bhoi.	Ginger Oil & Tumeric Powder	450	30
9	M/S Mahabir Foods Ltd, Byrnihat, Ri Bhoi District	Biscuit Plant	366	28
10	M/S Shiromoni Foods Products (P)Ltd	Food Grain Grading	90	20
11	M/s N.R. Foods, Them Marwet, Khanapara, Ri Bhoi District.	Manufacture of Bakery Products	80	30
12	M/S A.A. Nutrition's, Baridua, Ri Bhoi District.	Noodles	147	27
Total			3831.48	373
<b>IMFL : 3 Nos</b>				
1	M/S MDH Beverages (P) Ltd	IMFL Bottling Plant	150	45
2	M/s North East Bottling (P) Ltd	Rum, Whisky, Brandy.	140	19
3	M/S Milestone Beverages (P) Ltd, 13th Mile, G. S. Road, Byrnihat, Ri Bhoi.	IMFL Bottling Plant	199.94	35
Total			489.94	99
<b>Coke : 2 Nos</b>				
1	M/S Abhi Coke (P) Ltd, Ladrymbai, Jaintia Hills District.	Low Ash Metallurgical Coke	310	30
2	M/S Jaintia Coke (P) Ltd, Khalaria Hat, Jaintia Hills District.	Low Ash Metallurgical Coke	446	40
Total			756	70
<b>Information Technology : 2 Nos</b>				
1	M/S S.S. Netcom (P) Ltd	ISP	133	50
2	M/S Anderson Computers (P) Ltd, Lachumiere, Shillong, East Khasi Hills.	Computer Soft ware & Services Export Business.	150	35
Total			283	85
<b>HDPE Bags : 4 Nos</b>				
1	M/S Seven Sisters Plastics (P) Ltd, Amjok, Umtru Road, Byrnihat.	HDPE /PP Woven Bags	457.5	25

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2	M/S Umadutt Industries Ltd, Amjok, Byrnihat, Ri Bhoi.	Manufacture of H.D.P.E. Bags (Polymer Woven Sacks)	681.9	30
3	M/s Marak Plastic (P) Ltd	PPH woven Sacks, PPH woven Fabrics	106	45
4	M/S Megha Plast (P) Ltd, Byrnihat, Ri Bhoi.	HDPE Bags	128	35
	Total		1373.4	135
	<b>Others : 31 Nos</b>			
1	Anderson Biotech (P) Ltd, Mawlai Mawiong, Shillong	Organic Manure	128	26
2	M/s Matiz Metals (P) Ltd	Copper rods	106	0
3	M/s Byrnihat Oxygen (P) Ltd	Industrial Oxygen Gas	105	20
4	M/s Kakarania Innovatives Systems (P) Ltd	Packaging Polythene Items	331.5	15
5	M/s Forbes Aqua Mall	Water Purifier Aquaguard	110	30
6	M/s North East Power Line (P) Ltd	D.G. Sets, Pump Sets	145	25
7	M/s Foto Industry	Camera Photographic	120	25
8	M/S Synergy Composites (P) Ltd	Saw & Bamboo Dust Pannels	120.6	48
9	M/s Omni Agate System (P) Ltd	Energy Meters, Electrical Components	270	40
10	M/s Colortek Meghalaya (P) Ltd	Cosmetics	104.8	30
11	M/S Meghalaya Ispat Ltd	G.C. Sheet, G.P. Sheet, G.P. Coil	416.5	80
12	M/s Timpack (P) Ltd	Bamboo Mat Boards Corrugated Sheet & Particle Board	116.1	85
13	M/s York Print	Printed Cartons Corrugated boxes Leaflets Packing Materials	388.09	46
14	M/s Godrej Saralee Ltd	Mosquito Repellent Coils ,Mats Refills	149.92	64
15	M/S Utkarsh Trexim (P) Ltd, 15th Mile G.S. Road, Ri-Bhoi.	Kitchen Shutters/Panel Doors/ Laminated Lumber Board/Wooden Floorings/Allied Products	479	25
16	M/S Jai Plastech (P) Ltd, Rajabagan, Byrnihat, Ri-Bhoi.	Plastic Disposable Glass Cups & Plates	138	20
17	M/S Dynarroof (P) Ltd, Byrnihat, Ri -hoi.	Colour Coated Cold Forming Profile Sheets	144.02	30
18	M/S Meghalaya Bitchem (P) Ltd, Byrnihat, Ri-Bhoi.	Cationic Bitumen Emulsion for Roads	112	25
19	M/S Oxford Packaging (P) Ltd, 9th Mile Baridua, Ri -Bhoi District.	Corrugated Boxes and Packaging Materials	65	45
20	M/S Umadutt Industries, Amjok, Umtru Road, Byrnihat, Ri-Bhoi.	Foam Manufacturing Unit	228	40

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21	M/S G.R. Industries, 10th Mile, Village Mawsmai, Ri Bhoi District.	Manufacture of Plastic Ropes, Plastic Sulti	531	25
22	M/S Anabond Limited 9th Mile, G.S Road, Baridua, Ri-Bhoi District.	Adhesive and Sealants	160	30
23	M/S Surya Alloys Industries (P) Ltd, Tamulkuchi, Byrnihat, Ri-Bhoi	Railway track Materials and Wagon Components	278	35
24	M/S Brahmaputra Wire Products (P) Ltd	Wire Drawing	130	25
25	M/S Byrni Steels (P) Ltd	M.S. Black Wire & GI Wire, Steel fabrication & Transformer Assembling & repairing	120	20
26	M/S Ishan Technologies (P) Ltd	Machines Mosquito coils & Mats	1700	30
27	M/S Meghalaya Feed Products	Animal Feed	120	26
28	M/S Byrnihat Springs Ltd, Byrnihat, Ri-Bhoi.	Railway Track Fittings	439	30
29	M/S Milestone Concrete (P) Ltd, Kharkutta, Bajengdoba, East Garo Hills.	Stone Crushing	144.02	50
30	M/S Simsang Lime Products (P) Ltd, Mendipathar, East Garo Hills.	Lime & Allied Products	6320.51	45
31	M/S Capricon Stone Products, Dainadubi/Resubelpara.	Stone Crushing	141.03	48
Total			13861.09	1083

### Appendix-II Status of Large & Medium Industries

Sl.No.	Year	Number of Unit (s)	Investment made (Rs in lakhs)	Employment Generated
1	1966-1967	1	2500	662
2	1972-1973	1	500	220
3	1997-1978	1	225	45
4	1998-1999	4	2430.5	235
5	1999-2000	3	513	137
6	2001-2002	10	5086.65	496
7	2002-2003	19	4534.95	746
8	2003-2004	16	5136.06	626
9	2004-2005	16	24571.9	689
10	2005-2006	18	4239.97	656
11	2006-2007	10	12750.6	454
12	2007-2008	14	10254	433
13	2008-2009	3	1016.5	75
Total :		116	73759.13	5474

**Appendix-III Status of District wise Industries from 2001-2008**

Sl.No	Name of District	Manufacturing, Assembling & Processing	Repairing & Maintenance	Servicing	Total investment
1	2	3	4	5	
1	East Khasi Hills	1127	41	94	19629.33
2	East Garo Hills	343	-	9	
3	West Khasi Hills	214	27	86	
4	West Garo Hills	100	11	75	
5	Jaintia Hills	219	14	63	
6	Ri Bhoi	147	8	24	
7	South Garo Hills	53	12	23	
	<b>TOTAL</b>	<b>2203</b>	<b>113</b>	<b>374</b>	<b>19629.33</b>
Sl.No	Name of District	Proprietary	Partnership	Pvt.Comp	
1	2	3	4	5	
1	East Khasi Hills	1266	-	-	
2	East Garo Hills	352	-	-	
3	West Khasi Hills	325			
4	West Garo Hills	150	-	-	
5	Jaintia Hills	290			
6	Ri-Bhoi	140	2	37	
7	South Garo Hills	88			
	<b>TOTAL</b>	<b>2611</b>	<b>2</b>	<b>37</b>	
Sl.No	Name of District	SSI	SSSBE	Ancillary	
1	2	3	4	5	
1	East Khasi Hills	1067	197	-	
2	East Garo Hills	327	25	-	
3	West Khasi Hills	210	117	-	
4	West Garo Hills	98	52	-	
5	Jaintia Hills	237	59	-	
6	Ri-Bhoi	119	41	1	
7	South Garo Hills	67	27	-	
	<b>TOTAL</b>	<b>2125</b>	<b>518</b>	<b>1</b>	

**Appendix-IV Employment Generated by the SSI Units**

Sl.NO	Name of the District	Investment in Plant & Machinery (in lakhs)	Employment (in Nos)
1	East Khasi Hills	16034.95	6536
2	East Garo Hills	235.51	1808
3	West Khasi Hills	186.54	1307
4	West Garo Hills	262.68	959
5	Jaintia Hills	480.32	2902
6	Ri-Bhoi	2396.84	1614
7	South Garo Hills	32.49	294
	<b>Total</b>	<b>19629.33</b>	<b>15420</b>

**Appendix-V Trend of SSI unit in the State**

Year	Number of Unit set up
2001-2002	266
2002-2003	268
2003-2004	323
2004-2005	468
2005-2006	459
2006-2007	465
2007-2008	404
<b>Total</b>	<b>2653</b>

**Appendix-VI SERICULTURE RESOURCES**

Sl. NO	Particulars	Meghalaya
1	Mulberry reeling cocoons in (`000 Kg)	21.43
2	Tasar reeling cocoons in lakh	NA
3	Eri cut cocoons (`000 Kg)	422.54
4	Muga reeling Cocoons in lakhs	289.91

Source – Director of Statistics & Economics, Meghalaya 2005

**ANNEXURE VII**

**LIST OF FOREST BASED UNITS : UMIAM INDUSTRIAL AREA, RI-BHOI DISTRICT**

**UNITS EXISTING AND FUNCTIONING : 12 NOS**

Sl. No.	Name of the Unit	Area (in Acres)	Nature of Industrial Activities	Installed Capacity (p.a)	Investment on Plant & Macineres (Rs in Lakhs)
1.	M/s Saini Timber Industries	0.37	Saw Mills	9000 CUM	15.00
2.	M/s Vishal Industries	0.98	Saw cum Veneer Mills	8400 CUM	8.00
3.	M/s Riango Veneer (P) Ltd	0.75	Saw cum Veneer Mills	7500 CUM	27.00
4.	M/s Shillong Veneer Products cum Saw Mills	1.20	Saw cum Veneer Mills	8400 CUM	25.00
5.	M/s M.N. Saw cum Veneer Mills	0.74	Saw cum Veneer Mills	8500 CUM	25.00
6.	M/s Eastern Saw Mills	0.75	Saw cum Veneer Mills	8500 CUM	25.00
7.	M/S Domina Pathaw Saw Mill	0.45	Saw Mills	8000 CUM	20.00
8.	M/S Vikash Saw Cum Veneer Mill	0.74	Saw cum Veneer Mill	8500 CUM	25.00
9.	M/s S.K. Dewasaw Saw Mills	0.37	Saw Mills	8000 CUM	20.00
10.	M/s Marbaniang Saw Mills	0.37	Saw Mills	8500 CUM	25.00
11.	M/s Timber Crafts	1.48	Saw cum Veneer Mills	12000 CUM	51.35
12.	M/s Meghalaya Forest Product	0.74	Saw Mills	8500 CUM	25.00

**ANNEXURE VIII INDUSTRIAL ESTATE , KHLIEHTYRSHI, JAINTIA HILLS DISTRICT.**

SL. NO.	Name & Address of the Entrepreneurs allotted Shed/Land	Activity	Shed/Plot No.	Area Allotted (in Sqm)	Present Status of the Unit
1	2	3	4	5	6
1.	Shri W. Passah, New Hill, Jowai.	Saw Mill	Plot No 3	3880.74	Functioning
2.	Shri Monis Lyngdoh, Ladthalaboh, Jowai.	Saw Mill	Plot No 1	1498.01	Not yet started
3.	Shri T. Shangpung, Wahsynnah, Ummulong.	Saw Mill	Plot No 2	1503.06	Not yet started
4.	Shri Johnting Dhar, Khliehkhum, Nartiang	Saw Mill	Plot No 4	1676.36	Functioning
5.	Shri Niece N.Nongrum M/S Priyang Saw Cum Veneer Mill	Saw Cum Veneer Mill	Plot yet to be identified	3000.00	Functioning



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**ANNEXURE IX DETAILS OF INDUSTRIAL ESTATE AT MAWIABAN, NONGSTOIN.**

(Year of Establishment 1989)

**Total Area : 12 acres.**

Sl. No	Name of the Industrial Units.	Shed/Area occupied	Nature of Industrial Act.	Installed Capacity (P.A.)	Investment on plant and machineries (in Lakhs)
1.	M/s Santina Sohshang, Saw cum Veneer Mill.	3000 Sqm	Saw cum Veneer Mill.	8400 CUM	Rs.9,50,000/-
2.	M/s Krosswell Marngar, Saw cum Veneer Mill & Plywood Mill.	-do-	Saw cum Veneer Mill & Plywood Mill.	9000 CUM	Rs.9,00,000/-
3.	M/s Shally Lyngdoh Saw Mill.	1500 Sqm	Saw Mill.	8500 CUM	Rs.8,90,000/-
4.	M/s Dadak Shyrkon, Saw & Veneer Mill.	3000 Sqm	Saw & Veneer Mill.	8000 CUM	Rs.9,50,000/-
5.	M/s Mawshynrut Saw cum Veneer Mill.	-do-	Saw cum Veneer Mill.	9000 CUM	Rs.9,60,000/-
6.	M/S T.S. Nongkynrih Saw Mill	-do-	Saw cum Veneer Mill.	Yet to be implemented	-
7.	M/S Sohpdang Saw Mill	-do-	Saw cum Veneer Mill.	Yet to be implemented	-
8.	M/S Nongrum Timber Mill	-do-	Saw cum Veneer Mill.	Yet to be implemented	-
9.	M/S Riang Saw Cum Veneer Mill	-do-	Saw cum Veneer Mill.	Yet to be implemented	-

Appendix X Status of Land Custom Stations in the State

<b>DATA OF EXPORT / IMPORT UPTO THE MONTH OF MARCH,2008</b>			
<b>DIVISION : SHILLONG ( EXPORT )</b>			
<b>( VALUE IN RUPEES )</b>			
<b>L.C.S. : DAWKI ( EXPORT )</b>			
1	<b>COAL</b>	331855.060MT	599993713.99
2	<b>LIME STONE</b>	5922.000 MT	1308622.71
3	<b>RAW HIDES AND SKINS</b>	423.000 MT	6577002.00
4	<b>QUICK LIME</b>	44MT	113997.00
5	<b>QARTZ STONE</b>	20.000 KGS	11002.00
6	<b>ORANGE</b>	3008230 NOS	2254035.10
7	<b>CITRUS FRUIT</b>	51120 NOS	74327.00
	<b>TOTAL</b>		610332699.80
<b>L.C.S. : BORSORA ( EXPORT )</b>			
1	<b>COAL</b>	582248.25MT	1077833971.40
2	<b>LIME STONE</b>	61685 MT	15870724.14
	<b>TOTAL</b>		1093704695.54

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<b>L.C.S. : SHELLA BAZAR ( EXPORT )</b>			
1	LIME STONE	564006 MT	166134853.37
2	SHALE	83341MT	12777499.90
	<b>TOTAL</b>		<b>178912353.27</b>
<b>L.C.S. : BHOLAGANJ ( EXPORT )</b>			
1	LIME STONE	341125 MT	96804991.01
	<b>TOTAL</b>		<b>96804991.01</b>
<b>DIVISION : DHUBRI ( EXPORT )</b>			
<b>L.C.S. : MAHENDRAGANJ ( EXPORT )</b>			
1	COAL	1040 MT	1819475.00
2	BAMBOO	191 MT	136007.00
3	BROKEN OR CRUSHED STONE	328 MT.	198854.00
4	GINGER	155 MT.	1120224.00
5	TAMARIND	80 MT.	267304.00
6	BOULDER STONE	229 MT.	103584.00
	<b>TOTAL</b>		<b>3645448.00</b>
<b>L.C.S. : GASUAPARA ( EXPORT )</b>			
1	COAL	186233.3MT	356768995.00
	<b>TOTAL</b>		<b>356768995.00</b>
<b>L.C.S. : DALU ( EXPORT )</b>			
1	COAL	50718.505 MT	116500621.80
	<b>TOTAL</b>		<b>116500621.80</b>
<b>L.C.S. : BAGHMARA ( EXPORT )</b>			
1	COAL	5863.030 MT	9936988.98
	<b>TOTAL</b>		<b>9936988.98</b>
<b>DAWKI(IMPORT)</b>			
1	FOOD/ EDIBLE ITEMS		149764
	<b>TOTAL</b>		<b>149764.00</b>
<b>L.C.S. MAHENDRAGANJ ( IMPORT )</b>			
1	SYNTHETIC NET FABRICS	406.548 MT	39109324.00
2	COTTON WASTE	793.500 MT	4481345.00
3	READYMADE GARMENTS	9205 PCS	123247.00
4	FLOAT GLASS	145969.952 SQMT.	13643484.00
	<b>TOTAL</b>		<b>57357400.00</b>
<b>L.C.S. DALU ( IMPORT )</b>			
1	READYMADE GARMENTS	167394 PCS	2664825.00
2	BLEACHING POWDER	31 MT.	157352.00

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3	<b>SYNTHETIC NET FABRICS</b>	28780KGS	2496665.00
	<b>TOTAL</b>		5318842.00
<b>EXPORT / IMPORT DIVISION - WISE</b>			
<b>( Value in Rupees )</b>			
<b>SL. NO</b>	<b>DIVISION</b>	<b>EXPORT</b>	<b>IMPORT</b>
1	<b>SHILLONG</b>	1979754739.62	149764.00

Sources: Commissioner Customs, Meghalaya, Shilong

### APPENDIX XI

<i>Items exported from Meghalaya (India )to Bangladesh through the Land Customs Stations of Meghalaya :</i>						
	<i>Value in Rs. Crore</i>					
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Mineral products (Coal, Limestone)	148.01	182.49	197.39	235.58	185.03	171.41
Fish/Dry fish/ other animal products like raw hides skin/ poultry feed etc.	0.11	0.16	0.004	0.18	0.35	
Fruits	0.96	1.37	1.19	1.31	1.25	.23
Agricultural and Forest produce	1.19	1.73	3.52	1.88	3.38	.41
Other miscellaneous goods	0.96	0.14	0.60	1.06	0.41	
<b>Total</b>	<b>151.24</b>	<b>185.89</b>	<b>202.704</b>	<b>240.01</b>	<b>190.42</b>	<b>180.06</b>

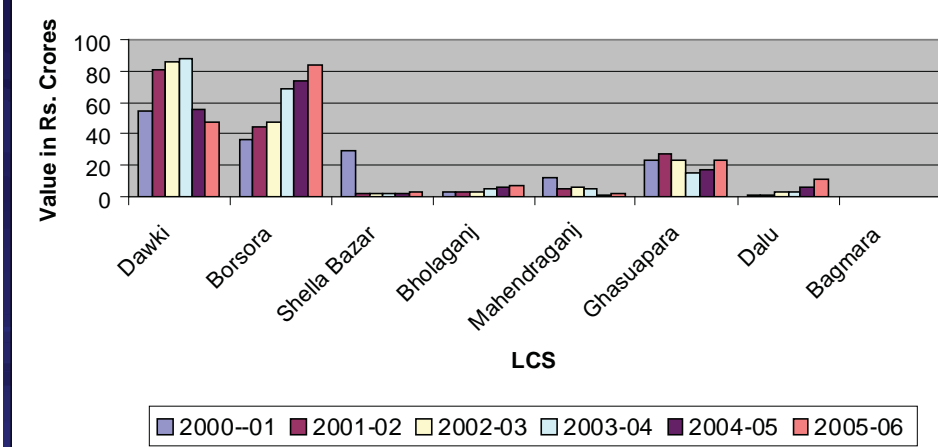
APPENDIX XII

Export Volume from Meghalaya to Bangladesh vis-a-vis NER Export:  
Exports (Rs. Crore):

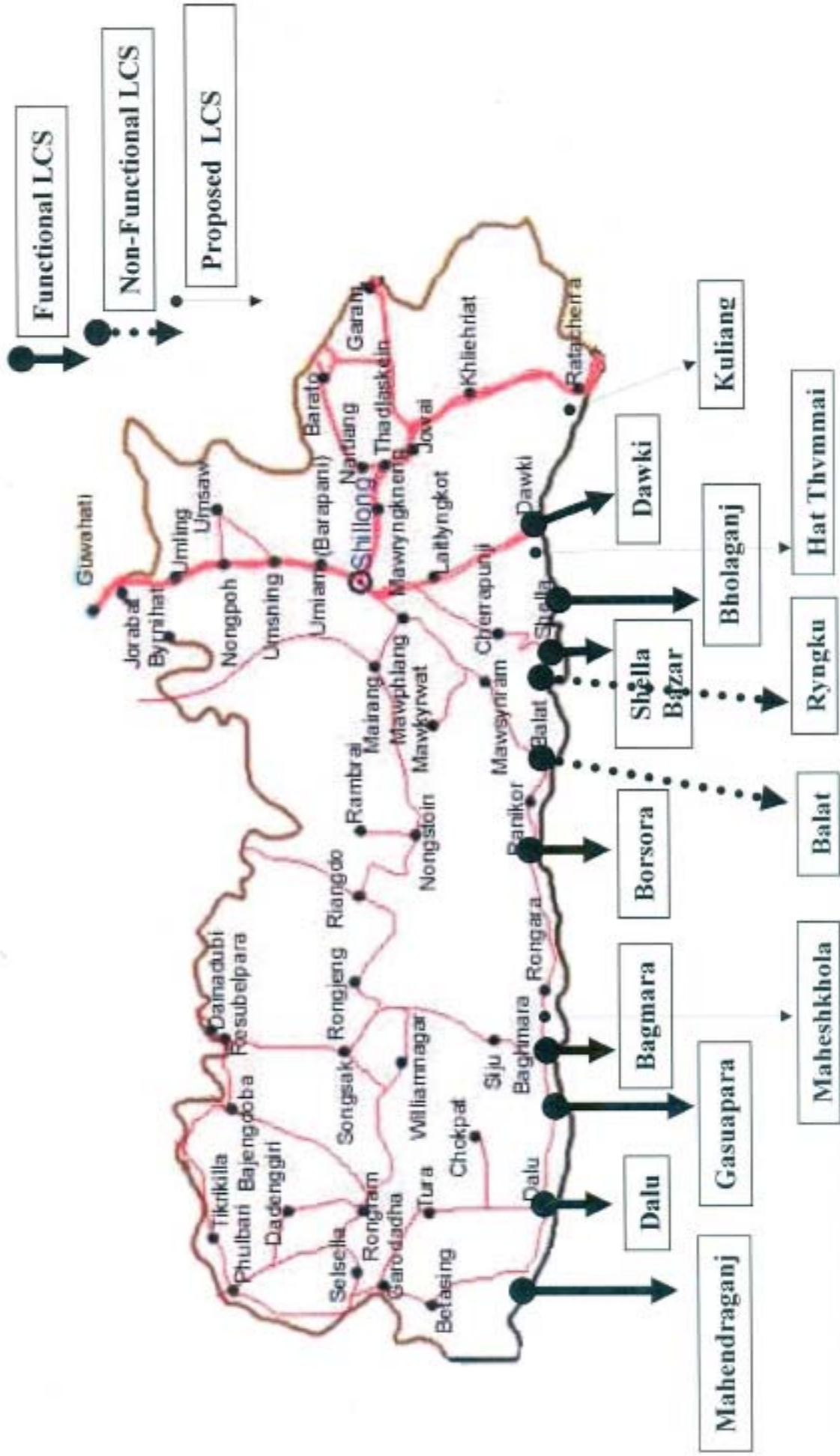


APPENDIX XIII

Year wise Export from the LCS of Meghalaya



## Land Custom Stations in Meghalaya



Appendix-XIV

Status of Cooperative Society of Meghalaya

STATEMENT SHOWING THE LIST OF VILLAGE INDUSTRIAL COOPERATIVE SOCIETIES											
Sl. No.	Name Of The Cooperative Society	Registration No. & Date	Paid Up Share Capital		Business Turn Over During The Last 3 Years			Working Results During The Last 3 Years			
			Individual	Govt.	Total	2005-06	2006-07	2007-08	2005-06	2006-07	
1	2	3	4	5	6	7	8	9	10	11	
West Khasi Hills District											
1	New Nongstoin Women Book Depot Cum Typing Shorthand School Industrial Coop.Society Ltd.	Nong.2 of 1998, Dt 27.8.1998	1,32,450	2,70,000	4,02,450	8,15,629	5,34,032	6,25,517	(+) 11,450.00	(+) 9,784.00	
2	Nongstoin Tailoring Industrial Coop.Society Ltd.	Nong.19 of 1982, Dt 15.9.1982	1,32,321	83,500	2,15,821	333,745	5,90,830	1,98,009	(+) 8568.87	(+) 8446	
3	Nongsiejlieh Sawmill Coop. Society ;Ltd.	Shill.17 of 1978, Dt 5.8.1978	13,560	50,000	63,560	67,709	4,27,810	6,65,220	(+) 578	(+) 29,816.00	
4	Mawiong Women Tailoring Industrial Coop. Society Ltd.	No.Nong.1/93, Dt.15.4.93	16,320	2,77,000	2,93,320	-	1,82,000	2,00,000	(+) 58,120	(+) 8445	
5	Phlangkynshi Carpentry Industrial Coop.Society Ltd.	No.Nong.2 of 1990, Dt. 18.2.1990	10,900	1,30,000	1,40,900	94,960	96,735	1,40,000	(+) 2,708	(+) 2516	
6	Dofei Computer Centre And Industrial Coop.Society Ltd.	No.Nong.1/2005/24, Dt.7.4.2005	18,000	1,40,000	1,58,000	-	1,26,100	1,69,300	(+) 75,650	(+) 19,372	

STATEMENT SHOWING THE LIST OF VILLAGE INDUSTRIAL COOPERATIVE SOCIETIES												
Sl. No.	Name Of The Cooperative Society	Registration No. & Date	Paid Up Share Capital		Total	Business Turn Over During The Last 3 Years			Working Results During The Last 3 Years			
			Individual	Govt.		2005-06	2006-07	2007-08	2005-06	2006-07	2006-07	
1	2 Con. Society Ltd.	3	4	5	6	7	8	9	10	11		
7	Thiepkseh Lawdidoh Cane & Bamboo Industrial Coop.Society Ltd.	No. Nong.5 Of 2007, Dt. 9.5.2007	15,000	Nil	15,000	-	-	19600	-	-		
8	Khasi Iron & Steel Fabrication Cum Auto Workshop Coop. Society Ltd.	No. Nong.4 Of 2007, Dt.24.4.2007	3,000	Nil	3,000	-	-	19,06,300	-	-		
9	Mawranglang Tailoring Industrial Coop.Society Ltd.	Shill.61 Of 1967, Dt. 30.8.1967	22,040	61,000	83,040	20,412	26,090	42,680	(+) 246	(+) 6,429		
10	Marshillong Blacksmith Industrial Coop.Society Ltd.	Shill. 72/1967, Dt.27.12.1967	1,02,470	2,30,500	3,32,970	31,502	48,502	55,089	(+) 1629	(+) 15,405		
11	Nongbah Rangbland Industrial & Tailoring Coop.Society Ltd.	Nong.1 Of 1990, Dt. 30.1.1990	23,600	77,000	1,00,600	-	-	30,440	(+) 7600	(+) 15,413		
12	Sakwang Cane & Bamboo Industrial Coop.Society Ltd.	Shill.30 Of 1997, Dt.3.8.1977	29,500	2,27,500	2,57,000	2,20,300	2,31,315	2,50,000	(+) 3000	(+) 3330		
13	Mawkyrwat Tailoring Industrial Coop.Society Ltd.	Nong.10 Of 1984, Dt.8.7.1984	43,900	1,41,500	1,85,400	42,000	75,000	99,565	(+) 572	(-) 29,468		

## MEGHALAYA STATE DEVELOPMENT REPORT

Sl. No.	Name Of The Cooperative Society	Registration No. & Date	Paid Up Share Capital			Business Turn Over During The Last 3 Years			Working Results During The Last 3 Years	
			Individual	Govt.	Total	2005-06	2006-07	2007-08	2005-06	2006-07
1	2	3	4	5	6	7	8	9	10	11
14	Rangthong Betelnut Processing Industrial Coop. Society Ltd.	Nong 9 Of 1987, Dt.4.11.1987	64,500	1,72,500	2,37,000	-	-	3,68,555	(+) 1800	(+) 2000
15	Mawri Cane & Bamboo Industrial Coop.Society Ltd	Nong. 12 Of 1987, Dt. 19.11.1987	33,380	1,62,000	1,95,380	1,25,444	1,95,000	1,88,300	(+) 3559	(+) 4185
16	Nonglang Furniture Cum Hollow Block Making Industrial Coop. Society Ltd.	Shill. 180 Of 1974, Dt.12.12.1974	25,000	84,900	1,09,900	1,02,100	1,96,000	1,25,300	(+) 4280	(+) 5000
17	Maiawan Nonglang Tailoring Industrial Coop. Society Ltd.	Nong. 1 Of 1992, Dt.29.5.1992	20,000	1,26,500	1,46,500	52,000	1,96,000	-	(+) 600	(+) 5000
18	Mairang Industrial Coop. Society Ltd.	Nong.1/2003, Dt. 12.2.2003	17,000	98,000	1,55,000	5,52,285	3,09,000	-	-	(+) 31,546
19	Nongbahrim Rangblang Areas Industrial Coop. Society Ltd.	Nong.1 Of 1990, Dt.31.1.1990	21,600	35,000	56,600	2,03,090	2,16,870	-	(+) 3887	(+) 4070
20	Jashiar Tailoring Industrial Coop.Society Ltd.	Nong.14 Of 1984, Dt. 11.1.1984	70,800	1,97,000	2,67,820	58,800	74,770	-	(+)1200	(+)1650
	Total :-		448100	489400	221,200	701,128	321,097	247374		



**STATEMENT SHOWING THE LIST OF VILLAGE INDUSTRIAL COOPERATIVE SOCIETIES**

Sl. No.	Name Of The Cooperative Society	Registration No. & Date	Paid Up Share Capital			Business Turn Over During The Last 3 Years			Working Results During The Last 3 Years			
			Individual	Govt.	Total	2005-06	2006-07	2007-08	2005-06	2006-07	2007-08	
												4
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>		
<b>JAIINTIA HILLS DISTRICT</b>												
21	Kyan Mynksar looksi Cane & Bamboo Industrial Coop. Society Ltd.	JWI.13 of 1991, dt 17.10.91	1410	2,49,000	2,50,410	3,51,960	39,960	4,50,000	(+) 939	(+) 10,480	(+) 50,800	
22	Nongtalang Arecanut Processing Coop.Society Ltd.	AM.XIII of 2002-03, dt.29.11.02	7000	80000	87000	-	82300	170000	(+) 2476	(+) 7760	(+) 10,000	
23	Amjajer Rako Arecut Processing Coop.Society Ltd.	AM.IX of 2002-03,dt.1.8.02	8000	2,25,000	2,33,000	-	51,040	46,062	(+) 4110	(+) 12,230	(+) 9000	
24	Kongwang Ropeway Industrial Coop.Society Ltd.	AM.XIV of 2002-03,dt.nil	14350	55000	69350	24785	18490	26000	(-) 18946	(-) 14183	nil	
	Total :-		30760	135000	156350	24785		242062	26471	44653	69,800	
	Dofei Computer Centre And Industrial Coop. Society Ltd.	No.Nong.1/2005/24, Dt.7.4.2005	18,000	1,40,000	1,58,000	-	1,26,100	1,69,300	(+) 75,650	(+) 19,372		
<b>EAST KHASI HILLS</b>												
25	Eastern Border Tailoring Industrial Coop. Society Ltd.	Shill.1 of 1998,dt.19.4.98	82300	280500	362800	159630	179130	196000	(+) 89.81	(+) 636.33	(+) 43081	
26	Wahkdiat Arecanut Processing Tailoring Industrial Coop. Society Ltd.-	Shill.11 of 2003 dt.10.9.03	1800	135000	136800	168800	433767	898965	(+) 3289	(+) 19805	(+) 11794	
27	Pongtung Sohpieng Industrial Coop. Society Ltd	Shii.11 of 1974, dt.7.05.74	2000	99000	101000	368250	241290	NIL	(-) 4611	(+) 18090	Nil	
28	Kshaid Bee Keepers Industrial Coop.Society Ltd.	Shill 3 of 1987. dt.11.12.87	1300	75500	76800	122500	135000	NIL	(+) 4526	(+) 6520.14	-	

# MEGHALAYA STATE DEVELOPMENT REPORT

Sl. No.	Name Of The Cooperative Society	Registration No. & Date	Paid Up Share Capital			Business Turn Over During The Last 3 Years			Working Results During The Last 3 Years			
			Individual	Govt.	Total	2005-06	2006-07	2007-08	2005-06	2006-07	2007-08	
1	2	3	4	5	6	7	8	9	10	11		
	Industrial Coop. Society Ltd.	dt.11.12.87							4526	6520.14		
29	Women Net making & Cane making Industrial Coop.Society Ltd.	Shill.145 of 1975, dt.5.8.75	5835	279500	285335	146360	152000	-	(+) 726.94	(+) 3244.7		
30	Nongkyrsoi Industrial Coop Society Ltd.	Sohra 7 of 2007. dt.23.2.07	25000	nil	25000	-	-	129638	-	-	(+) 2256	
31	Rangkatdor Industrial Coop Society Ltd.	Sohra 6 of 2006. dt.21.8.06	19500	90000	109500	-	-	266450	-	-	(+) 2000	
32	Skhem Triang Industrial Coop.Society Ltd.	Shill. 3 of 2003. dt.21.3.03	4800	30000	34800	-	36462	33015		(-) 15169	(+) 4122	
33	Laittyra Arecanut Processing Industrial Coop. Society Ltd.	Shill 5 of 1979. dt. 2.3.79	21890	117000	138890	-	28100	64750	-	(+) 165066		
<b>TOTAL :-</b>			<b>164425</b>	<b>1106500</b>	<b>1270925</b>	<b>965540</b>	<b>1E+06</b>	<b>1588818</b>	<b>13242.75</b>	<b>228531.2</b>	<b>63253</b>	
<b>RI BHOI DISTRICT</b>												
34	Tyllilang Handicraft Industrial & Allied Coop. Society Ltd.	NPH 1 of 2006, dt.10.8.06	4500	30000	34500	-	15700	18300	-	(+) 7500	(+) 1575	
35	Rilang Bee Keeping & Industrial Coop. Society Ltd	NPH 4 of 2003, dt.1.11.03	15450	25000	40450	11880	10000	-	(+) 10686	(+) 5441		
<b>TOTAL</b>			<b>19950</b>	<b>55000</b>	<b>74950</b>	<b>11880</b>	<b>25700</b>	<b>18300</b>	<b>10686</b>	<b>12941</b>	<b>1575</b>	

# MEGHALAYA STATE DEVELOPMENT REPORT

WEST GARO HILLS DISTRICT											
36	J.P.Spice Agro Industrial Coop. Society Ltd.	No.T-30 of 2001-02, dt.11.5.1.02	280	287500	287780	325000	123659	395620	(+ )10481	(+) 1270	(+) 15690
	<b>TOTAL</b>		<b>280</b>	<b>287500</b>	<b>287780</b>	<b>123659</b>	<b>395620</b>	<b>10481</b>	<b>1270</b>	<b>15690</b>	
EAST GARO HILLS DISTRICT											
37	Maniganj silk reeling and Spinning Coop. Society Ltd.	W.2 of 1999- 00,dt.1.3.2000	15000	10000	25000	nil	nil	nil	(- )1938	nil	-
38	Williamnagar Leather Craft Coop Society Ltd	W.regd.1999-2000, dt.nil	2400	70000	72400	3000	-	-	(+ )1,000	-	
	<b>TOTAL</b>		<b>17400</b>	<b>80000</b>	<b>97400</b>	<b>3000</b>			<b>2938</b>		
SOUTH GARO HILLS DISTRICT											
39	Dondime Momin's Tailoring Coop Society Ltd	No.B-3 of 2007-08, dt.31.1.08	750	nil	750	-	-	2045	-	-	(+ )212
	<b>TOTAL</b>		<b>750</b>		<b>750</b>			<b>2045</b>			<b>212</b>



**EPIP BYRNIHAT**





**UMIAM INDUSTRIAL AREA**



**SERICULTURE AND WEAVING**

**CHAPTER - XI**

**SOCIAL SECTOR**

CHAPTER XI

SOCIAL SECTOR<sup>1</sup>

**11.1.** The importance of Social sector, mainly health, education and welfare are undeniable and intricately linked to the developmental efforts in other sector and also becomes the push or pull factor in the process of development. Human potential cannot be expressed and achieved fully unless well being, capabilities and capacities are enhanced continuously.

**11.2. Health :**

**11.2.1. Public Sector Health Infrastructure:** The 3-tier health delivery system is as follows:

- 1) A Community Health Centre (CHC) for a population of approximately 80,000 serves as a referral centre for PHCs. It should be manned by four Medical Specialists; a surgeon, a physician, a gynaecologist and a paediatrician. It has 30 beds for indoor patients with an operation theatre, X-ray, labour room and laboratory facilities.
- 2) A Primary Health Centre (PHC) for population of 20,000 serves as the first contact point between the village community and a medical officer. It acts as a referral unit for 6 or so Sub-centers. It has 10 beds for indoor patients.
- 3) A Sub-Centre for a population of 3,000 is the most peripheral contact point between the Primary Health Care system and the community. It is manned by one Multi-Purpose Worker (Male) and one ANM.

Public sector health care infrastructure as it existed in 1972 and its growth since then is shown in Table 11.1. At present there are 7 Districts with 9 hospitals (beside one MIMHANS and 2 TB hospitals, and one 100 bedded institution), 28 CHCs, 104 PHCs, 405 Sub-Centres, 9 Dispensaries and 12 urban health centres. Besides, there are in-house hospitals for the police (2) and jails (1) with emergency bed facility. Further, development and improvement in health care services are seen not only in curative services but also in preventive and promotive health care services in the state.

**Table 11.1: Status of Public Sector Health Institutions and Services (1972-2007)**

Items	1972	1981	1991	2001	2007
Number of Hospitals	7	9	9	6	9
Number of Dispensaries	57	58	23	20	14
Number of CHCs				12-17	28
Number of PHCs	9	23	63	85-88	104
Number of sub-centres		93	272	401	405
Number of Beds	781	1264	1811	2735	3166
Number of indoor patients	3385	40260	342740	97000	158000
Number of outdoor patients	90788	2039973	1915790	1511000	1923000
No. of IUCD inserted	485	284	1789	2407	2646
No. of sterilizations	582	257	612	2294	2264

<sup>1</sup> For details on various aspects of Social Sector, please see the Meghalaya Human Development Report, 2008.

## MEGHALAYA STATE DEVELOPMENT REPORT

Doctors	113	189	335	389	568
Nurses	117	305	318	384	862
Health visitors	8	30	45	59	71
ANMs	82	227	450	594	687
Pharmacists			137	92	188
Lab. Technicians			45	100	172
Vaccinators			148		106
Birth rate				28.3	25.1
Death rate				9	7.5
IMR		58	53	56	49

Note: There is variation in the number of Hospitals, CHCs, PHCs and Sub-centres due to definitional problems, and sometimes due to the exclusion of non-functional entities and institutions such as the Institute of Mental Health and Neurological Sciences.

Source: Compiled from handbooks of statistics (Directorate of Economic and Statistics-  
<http://www.megplanning.gov.in/handbook.htm>)

Based on the current population of around 27.25 lakh vis-à-vis the norms indicated above, the State would require setting-up of SC/PHC/CHC as follows:

**Table 11.2: Estimated Number of Sub-Centres, PHCs and CHCs required by Meghalaya by 2020**

Institutions	Presently Required	Available	Shortfall	Availability by 11th Plan	Availability by 12th Plan	Requirement by 2020	Additional requirement
<b>Sub Centres</b>	817	405	412	551	801	1021	220
<b>PHCs</b>	122	104	18	119	144	153	9
<b>CHCs</b>	31	28	3	31	36	38	2

Source: MHDR, 2008

*Urban Health Centres (UHCs)* were introduced in 2005-06. At present, there are 9 UHCs in Shillong, 2 UHCs in Tura and 1 UHC in Jowai. There are also *first referral units (FRUs)*, to provide 24 - hour emergency referral services, particularly in maternal and child health care. At present, 12 institutions have been identified to function as FRUs. Of these only 3 are functional, these are (1) Ganesh Das Hospital, Shillong (2) Civil Hospital Tura and (3) Civil Hospital, Jowai.

Out of the 28 *Community Health Centres (CHCs)* in the state, 12 are fully equipped, eight do not have OTs and 7 have OTs that are not fully equipped. 6 CHCs have non-functioning Labour Rooms. Almost all CHCs are without the required specialist doctors.

Out of the 104 *Primary Health Centres (PHCs)* in Meghalaya, 82 have no OTs. Of the remaining PHCs only eleven have fully equipped OTs. 22 PHCs do not have Labour Rooms. 12 of the PHCs do not have fully equipped Labour Rooms. 17 PHCs need repairs of the main buildings and quarters. Many PHCs are without vehicles.



There are 14 *Dispensaries* in the state out of which one is functioning from a rented house. All Dispensary buildings require repairs. In course of time these should be converted to PHCs.

Of the 405 Sub-Centres, 53 are non-functioning because ANMs are not staying in the place of work. 19 Sub-Centres need new buildings, and 133 need repairs. 75 Sub-Centres need water and power supply. 73 Sub-Centres need separate quarters for ANMs to stay. 13 Sub-Centres are located far away from the villages and need to be shifted within the villages for better accessibility to the people. 10 Sub-Centres are functioning from rented houses. Many health institutions lack adequate furniture, examinations tables, delivery tables, steps, and other items like stool, bench, almirrahs, tables and chairs.

At the district level, South Garo Hills district has no hospital, while West Khasi Hills district, East Garo Hills district and West Garo Hills district have no dispensaries. Table 3.3 gives the distribution of public sector health care institutions in the districts of Meghalaya and in Table 11.4 we report certain other indicators of availability of health infrastructure in the districts of Meghalaya.

**Table 11.3: District-wise Distribution of Public Health Care Institutions in Meghalaya, 2008**

District	Hospitals	CHCs	PHCs	Dispensaries	Sub-Centres	UHCs
East Khasi Hills	4	5	22	9	65	9
West Khasi Hills	1	5	17	-	65	-
Jaintia Hills	1	5	16	1	72	1
Ri Bhoi	1	4	8	2	28	-
East Garo Hills	1	3	16	1	72	-
West Garo Hills	1	5	18	-	82	2
South Garo Hills	-	1	7	1	21	-
<b>Total</b>	<b>9</b>	<b>28</b>	<b>104</b>	<b>14</b>	<b>405</b>	<b>12</b>

*Source: MHDR, 2008*

**Table 11.4: Some Other Indicators of Availability of Health Infrastructure in Meghalaya, 2007**

Name of District	No. of PHCs/CHCs with functioning microscope	No. of PHCs/CHCs with LTs	No. of villages/habitations	No. of villages with ASHA	No. of villages with trained ASHA	ABER in PHCs
East Khasi Hills	24	28	980	867	0	3.6
Ri Bhoi	10	12	597	517	250	23.1
West Khasi Hills	17	22	1024	946	891	4.1
East Garo Hills	14	20	922	952	919	9.2
Jaintia Hills	16	21	519	552	349	17.4
West Garo Hills	23	24	1507	1660	1660	29.3
South Garo Hills	8	8	701	515	952	23.4
<b>Total</b>	<b>112</b>	<b>135</b>	<b>6250</b>	<b>6009</b>	<b>5021</b>	<b>14.3</b>

Note: ABER – Annual Blood Examination Rate; Source: MHDR, 2008

### 11.2.2 Private Sector Health Infrastructure

Table 11.5 shows the names and bed-strength of the well known private hospitals in Meghalaya. In addition to the Private Hospitals listed in Table 3.5, there are also a few other private institutions, which provide only outdoor services or deal with specialized subjects only. The two of the better known are:

- 1) Ramakrishna Mission Dispensary, Shillong, for outdoor services only.
- 2) Sanker Nursing Home, Shillong, for Mental Health Care Services. It is having both Indoor and Outdoor facilities.

Besides, there are a number of dispensaries in the rural areas, mainly run by Christian missionaries.

*NGOs in health care:* There is no mother NGO working in the State. However, there are a few active NGOs like Bosco-Reach out, Impulse NGO Network, Lions Club, Rotary Club, Inner Wheel Club, VHAM (Voluntary Health Association of Meghalaya), World Vision, Ka Lympung ki Seng Kynthei, Ka Synjuk ki Rangbah Shnongs and YMCA, that are involved in health care in various ways. Besides, there is a Livelihood Improvement programme implemented by the MRDS (IFAD and GOI funded programme) which has a small health component.

**Table 11.5: Bed Strength of Selected Private Hospitals in Meghalaya**

Name of Private Hospitals	No of Beds	Name of Private Hospitals	No of Beds
K.J.P. Hospital, Shillong	600	K.J.P. Hospital, Jowai	100
Nazareth Hospital, Shillong	500	Mission Hospital, Tura	60
Bethesda Hospital, Shillong	40	Holy Cross Hospital, Tura	50
Woodland Hospital, Shillong	150	Holy Cross Hospital, Mairang	50
Indian Red Cross Society, Shillong	10	Bethany Hospital, Shillong	90
<b>10 Hospitals-----1650 beds</b>			

*Source: MHDR, 2008*

### 11.2.3 Central Government Health Institutions

*The North East Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS)*, which is now commissioned and where the first batch of MBBS students have been enrolled, will have a 500 bedded Super-Speciality Hospital. However, there are a number of vacancies in the faculty in various departments. This Institute when fully functional can be utilized for giving 6 months training of Medical Officers on Obstetrics and Gynaecology, Paediatrics and Anaesthesiology. The Union Ministry of Health is likely to set up an Institute of AYUSH (Ayurveda Unani Siddha & Homeopathy) within the campus.

*Military and Paramilitary Health Institutions:-* There are a number of military and paramilitary hospitals and dispensaries around Shillong. Some of the main such institutions are: (1) Military

Hospital, Shillong (2) BSF Hospital, Shillong (3) Assam Rifle Hospital, Shillong and (4) Air Force Hospital, Shillong. These hospitals also coordinate with the state health authorities on preventive and promotive health care services such as immunization and other RCH services, besides organizing health camps for the community.

*CGHS and ESI:* Meghalaya also has Central Government Health Scheme (CGHS) and Employees' State Insurance (ESI) services at a very modest level.

*Regional Directorate of Health Services, Ministry of Health, GOI, Shillong:* This Regional Directorate also has an important role in health care services for Meghalaya particularly in connection with National Anti-Malaria Programme and RCH Programme. Some of the important and essential activities are the verification and confirmation of the correctness of positive and negative blood-slide smears in diagnosis of malaria parasites, the training of Microscopists for correct diagnosis of malaria parasites, and the quality control of some contraceptives.

### **11.2.4. Problems and constraints of health sector in Meghalaya**

Current problems faced by the health care services in Meghalaya include:

1. Persistent gaps in manpower and infrastructure especially at the secondary and tertiary health care levels and poor referral services.
2. Sub-optimal /improper utilization of the infrastructure and resources including manpower resources.
3. Various health institutions (Government, voluntary and private) do not have appropriate manpower, diagnostic and therapeutic services and drugs.
4. Low absorption capacity for programme funds.
5. Massive intra state differences in performance as assessed by health and demographic indices; availability and utilisation of services being poorest in the most needy areas.
6. Sub-optimal inter-sectoral coordination; poor coordination among various services provided by directorates.
7. Lack of innovation and adaptation.
8. Poor capacity of personnel and poor exposure to technological advances.
9. Growing dual burden of communicable and non-communicable diseases because of demographic, lifestyle and environmental transitions.
10. Increasing awareness and expectations of the population regarding health care services.
11. Lopsided emphasis on short term, quick fix solutions; lack of long term planning and delivery of services.
12. Escalating costs of health care, ever widening gap between what is possible and what the individual or the state can afford.
13. Lack of an adequate management information system for planning, monitoring and evaluation.

#### 11.2.5. Human Resources for Health Services

The selection by the World Health Organisation (WHO) of the theme “*Human Resource for Health*” for observation of the World Health Day, 2006 is particularly relevant for Meghalaya. Most of the CHCs in Meghalaya function without specialists. At the village level, the curative, preventive and promotive health care services are provided and looked after by Sub-Centres through the Female Health Workers (ANMs) and Male Health Workers, by working in close co-ordination with the community mainly through the help of the recognized workers like ASHAs, AWW, Trained Birth Attendants (Traditional Dais), FTDs (Fever Treatment Depots), DTCs (Disease Treatment Centres) and Village Health Committees.

Meghalaya has no Medical College. However, a welcome development is the setting up of NEIGRIHMS with under graduate and post graduate study facilities as noted in section 3.2.5 above. In Meghalaya there is an acute shortage of specialized manpower (Doctors) in Obstetrics & Gynaecology, Paediatrics, General Surgery and Anaesthesia. The Government of Meghalaya has requested the Government of India to allot more seats for MBBS Course and Post-Graduate Courses in various Medical Colleges in the Country. Under RCH - II, a proposal was incorporated in the State Programme Implementation Plan to undertake supplementary training of six months duration for selected Medical Officers of the state in urgently needed specialized subjects for proper functioning of CHCs and FRUs. These are yet to fructify.

For requirement of nursing staff, etc. there are 5 training centres in the public sector which include: 1 Regional Health and Family Welfare Training Centre, 2 GNM training centres, and 2 Nursing Training Schools and 1 ANM training school. The State Government had also submitted its requirement of 2 additional GNM Training Schools to be set up at Tura Civil Hospital and Jowai Civil Hospital. The proposal of setting up of a paramedical training institute and for strengthening of the existing Government Nursing Schools and ANM Training Centres should be given priority. In order to build capacity in the health sector the Government of Meghalaya has provided land for setting up of Indian Institute of Public Health. Emphasis is also being given to the development of trained manpower to cope with the increasing demand of increasing strength of manpower vis-à-vis the increasing bed strength in the State. The present Doctors: Patient ratio is 1: 5000 and the Nurse: Patient ratio is 1: 1700.

**Table 11.6: Existing and Additional Requirement of Manpower in Health Sector of Meghalaya (2007)**

Manpower	Existing	Additional Requirement
Specialist Doctors	78	200
General Duty Stream	471	200
Dental Surgeons	36	25
Nursing Professional (GNM and ANM)	1232	500
Allied Health Professional(Para-medical staff)	350	200

*Source: MHDR, 2008*

#### **11.2.6. Public Expenditure on Health Sector in Meghalaya**

Public investment has been recognized as an indicator of planning priorities. But investment in public health in the country as a whole – and in Meghalaya – does not show that health care has been given due importance. In Meghalaya, the Government funding and Plan expenditure had increased from Rs.16.65 crore in the Seventh Plan to Rs.54.72 crore during the Eighth Plan. Further in the Ninth Plan the expenditure was more than Rs 150 crore which again saw an increase of expenditure to the extent of Rs. 205 crore during the Tenth Plan. These figures do not include the annual expenditure of about Rs 50 crore under non- plan and expenditure in cash and kind under various Central and Centrally Sponsored health sector programmes including that of the NRHM which if absorbed well can exceed more than Rs 100 crore annually. The proposed state Plan outlay during the 11th plan is more than Rs 600 crore.

Table 3.7 shows at a glance, the year wise percentage of expenditures on Health & Family Welfare from the consolidated fund of the Government of Meghalaya. However, as mentioned above the table does not take into account the expenditure under various national health programmes, funds for which are directly received in various health programme societies, including the State Committee on Voluntary Action (SCOVA) and State Health Society implementing RCH and NRHM programmes. The assessment of such funds has not been done so far.

**Table 11.7: Expenditure on Health & Family Welfare in Meghalaya**

*(Source: MHDR, 2008)*

Year	State Total Revenue and Capital expenditure (Rs. lakh)	State Revenue and Capital expenditure for H & FW (Rs. lakh)	Expenditure for H & FW as percentage of total
1999-2000	85864.37	6368.00	7.4 percent
2000-2001	103697.08	7050.59	6.8 percent
2001-2002	102447.99	8206.93	8.0 percent
2002-2003	109579.18	8186.40	7.5 percent
2003-2004	182084.77	8256.43	4.5 percent

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2004-2005	207234.21	9194.87	4.4 percent
2005-2006	200709.28	9602.81	4.8 percent
2006-2007	232010.25	9910.97	4.3 percent
2007-2008 (R.E.)	344846.82	12742.89	3.7 percent
2008-2009 (B.E.)	397322.38	15484.94	3.9 percent

Note: (a) Does not include direct programmatic fund and material flow from GOI.; (b) R.E. – Revised Estimates, B.E. – Budget Estimates; Source: Government of Meghalaya “Budget at a Glance”, various issues.

As per estimates during the 11<sup>th</sup> Plan following fund is likely to flow to the sector: (a) State Plan - Rs. 450 - 500 crore; (b) Funding under NRHM and other Centrally Sponsored Schemes - Rs 450 crore (approx.); (c) from NEC, NLCPR and other agencies of GOI - Rs 150 crore. (d) Non-Plan fund - Rs. 500 crore. Thus, about Rs 1400-1500 crore may be available if programmes are managed well.

The central resources to the overall public health funding have been limited to about 15 percent only. There is also inherent problem of absorption of programmatic fund due to various factors. The current annual per capita public health expenditure is no more than Rs 200. But with the launching of NRHM by the Government of India, it is expected that things will greatly improve. This expectation is mainly because the NRHM also aims at commitment of the Government of India to increase public spending on health from 0.9 percent of GDP to 2 - 3 percent of GDP, during the Mission period from 2005 to 2012. It remains to be seen how well the entire health sector absorbs the fund and the managers in the state leverage and perform under NRHM. The initial years show somewhat tardy progress in the matter in the state which requires concerted and expeditious mode of action. It is a matter of record that the health sector failed to utilize a possible expenditure of Rs 22.0 crore, which was slashed down to Rs. 6 crore, which ultimately was utilised for a paltry sum of about Rs 50 lakh or so for similar mission mode programme under the European Commission Programme during 2000-2005.

### 11.2.7 Health Indicators in Meghalaya

With difficult hilly terrain and poor road connectivity in the rural areas, the shortage of proper health infrastructure, manpower, and the trend of financial investment/ absorptive capacity on health by the State Government etc. as discussed earlier, we cannot expect much about the improvement of health conditions of the people and about the accessibility of health care services to the people, particularly the remote vulnerable sections of the rural population of Meghalaya. Poor human-resources management and poor work culture of the service providers at different levels of the health systems, have further worsened the situation. This is evident from some of the recent available health indicators for Meghalaya that are mentioned below.

The health indicators given below are based on the following sources:

- 1) The National Family Health Surveys (NFHS-1, NFHS-2, NFHS-3)
- 2) The Sample Registration System Surveys (SRS, Monthly Surveys)
- 3) The Rapid Household Surveys for RCH Services (1998-99 & 2002-2004)
- 4) Monthly/ Quarterly reports of Health & Family Welfare Department  
(Management Information System Reports)
- 5) The Birth and Mortality Survey, 2007

The health indicators from the first three services of the independent agencies above are not for the whole State or for every part of the State of Meghalaya. They only show the status of health conditions and health services provided for a few selected villages and urban areas and a few households of Meghalaya. For example, the NFHS-2 covered only about 1250 households (out of about 3 lakh households of Meghalaya), and about 1000 couples (out of more than 2 lakh couples). Therefore, the figures may be taken to be indicative only.

The health indicators from the monthly reports of the Health and Family Welfare Department are often considered unreliable, because they are given and reported by the service providers themselves, though they cover more than 60 percent of the villages of the State. However, those reports are also important because it is also their objective to invite corrective measures by the higher level authorities of the health system.

**11.2.8 Health Programmes:** Like other states in India, the health department of the Government of Meghalaya, caters for implementation of different National Health Programmes of the Government of India. All the different vertical Health programmes of the Government of India are integrated under the Multipurpose Health programme at all levels in the State. The earlier Family Planning programme was renamed as Family Welfare programme and later modified as Reproductive and Child Health (RCH) programme. All the different National Health programmes are being implemented as per guidelines of the Government of India. At present, the welcome development is that the hitherto unreached rural population is attempted to be reached out through the National Rural Health Mission (NRHM), though it needs a focused and dedicated effort.

The Programmes of the Department aims at a rapid transition and transformation in which efficient health systems will improve quality of life well being of the people and reduce burden of diseases which in turn will increase economic productivity and growth. This is to be achieved through (i) various health programme and parameters under NRHM (ii) Strengthen Public health infrastructure (iii) Improve professionalisation of health service delivery (iv) Improve convergence of health related activities of various sectors of Government (v) Increase Public Private Partnership (vi) Improve monitoring, accountability and transparency of the system (vii) Popularization of alternative medicine systems like AYUSH and (viii) Ensuring access to essential drugs in public health system.

**National Rural Health Mission (NRHM):-**

The NRHM was launched in April 2005 in the State with a view to bring about marked improvement in the health System and health Status of the people. The Mission seeks to provide universal access to equitable, affordable and quality health care to the people and especially the poor and vulnerable section of community residing in the rural areas through out the country . The duration of the mission is 7 years (2005-2012). The state and the District Health Missions and Societies are constituted for effective implementation of the goals of the Mission.

**Components of NRHM:**The National Rural Health Mission seeks to adopt a sector wide approach and subsumes key national programme, such as RCH-II Programme, the National disease Control Programme and Intigrated Diseases Surveilance, Universal Immunization Programme (UIP) and The Intersectoral convergences are 5 important parts of the efforts

**The current Health Status in the State is as follows:-**IMR-49(SRS-2006); BR-25,1(SRS-2006); DR-7.5(SRS-2006); TFR-3.8(NFHS-3);MMR-450(State Records)

Physical targets under NRHM :In line with the goals of the Mission the State expects the outcome of NRHM by 2012 will be as follows :

- a. **IMR** to be reduced to **30/1000** live births.
- b. **MMR** to be reduced to **100/1000,000**.
- c. **TFR** to be brought to **2.1**.
- d. **Malaria mortality reduction rate – 50% upto 2012**.
- e. **Cataract Operation** : increasing to **1000** cases per year until **2012**.
- f. **Leprosy prevalence rate** : to be brought to less than **1/10.000**.
- g. **Tuberculosis DOTS Services** : from the current rate of **1.8/10,000,85%** cure rate to be maintained through the entire Mission period.
- h. **34 Community Health Centres** to be upgraded to **Indian Public Health Standards**.
- i. **Utilisation of First Referral Units** to be increased from **less than 20% to 75%**.
- j. Link Workers (**ASHA**) will be engaged in all the Villages of the State (5438 ASHAs in place against a total of 6180 is required).

**Activities And Performances Under NRHM upto 2008-09:-**

JSY Beneficiaries—Total target (2006-07) – 4000 : Total achieved (Sept 2007) – 1500.Procurement of Drug, Kits under NRHM have already been supplied and distributed to all districts. 7 Nos. Mobile Medical Units, one for each district has been approved by Government of India; 2 Health Meals are being held annually.



**Table 11.8 NRHM FINANCIAL STATEMENT FOR 2008-09**

(Rs. in lakhs)

Sl. No	Name Of Scheme (Ongoing/ New)	Approved Outlay For the Scheme During 2007-2008	Actual Expenditure up to 31 <sup>st</sup> March, 2008.	Approved Outlay for the Scheme During 2008-09	Cumulative Achievement up to Sept, 2008.	Percentage of Achievement %
1	2	3	4	5	6	7
1.	RCH -II	1174.86	407.14	1377.04	225.80	16.39
2.	NRHM	4849.25	3234.91	4332.73	529.36	12.21
3.	UIP	167.00	87.67	191.21	16.56	8.67
4.	IPPI	66.15	59.59	86.00	6.62	7.69
	<b>TOTAL</b>	<b>6257.26</b>	<b>3789.31</b>	<b>5986.98</b>	<b>778.34</b>	<b>13.00 %</b>

**Progress of physical and financial achievement under NRHM.**

**Achievement for 2007-08 & 2008-09:**

- The Approved **Outlay** for **2007-2008** was **Rs. 6257.26 lakhs** against which an amount of **Rs.3789.31 lakhs** has been utilized. The percentage of utilization is **60 %**.
- Of the Approved **Outlay** for **2008-2009** amounting **Rs. 5986.98 lakhs** an amount of **Rs. 778.34 lakhs** has been utilized **up to 30.9.08**. The percentage of utilization is **13 %**.

**Cumulative Achievement till Sept 2008:**

**RCH- II – Maternal Health**

- **30** Nos of **ANMs** have been recruited against the **Target of 50** Nos.
- **3** Nos of **Staff Nurse/PHN** for 24X7 PHCs have been recruited against the **Target of 42**
- **15 AYUSH doctors** have been recruited against the **Target of 15** Nos.

**Training:**

- Training of on skill birth attendance(SBA) - **31** against the **target of 120** SNs/PHN.
- Multi skilling training of Mos from CHC - **2** Nos. against the **target of 20** Nos.
- Training on RTI/STI - **41** MOs. against the **target of 75** MOs.
- Training of MOs on mini laparoscope or conventional tubectomy - **2** MOs against the **target of 21** MOs
- Training of MOs on ARSH - **41** MOs against the **target of 75**.
- Training of ASHA - **3197** Nos. of ASHA against the **target of 6180** Nos.

**NRHM**

- 7 CHCs have been Upgraded and 17 are near completion.
- 1 Store Keeper has been appointed.
- 2 Assistants have been appointed.
- 4 Helpers have been appointed.
- 7 Nos of MMU have been released to all Districts against the **target of 7** Nos MMUs.
- Outsourcing of 14 PHCs to NGOs is under progress.
- 15 AYUSH Doctors have been recruited in 10 PHCs & 5 CHCs against the **target of 15** Nos.
- 63 Nos. of PHC Accountant have been appointed of accountant against the target of **104** Nos.
- 1 Accounts Manager has been appointed
- 1 Office assistant has been appointed

**Development of Infrastructure:-**

**A. Medical Institutions :-**

- At present, the Department has 9 Hospitals, 28 CHCs, 104 PHCs and 405 Sub-Centres. The strategy of the Department during the Plan period is to upgrade the existing Hospitals by providing more beds and facilities with a view to improve patient – to – bed ratio (1:730) drastically. It will also focus on upgradation of CHCs to Hospitals on case to case basis. Simultaneously, the Department will also set up new CHCs, PHCs and Sub-Centres to cover more population of the State as per the norms.
- The Department would achieve the goal to set up additional 10 CHCs, 20 PHCs and 200 Sub-Centres during the Plan period.
- Accident and Trauma Centres at Tura, Williamnagar and Jowai will be set up.
- Construction of Warehouses at all the District Head Quarters would be initiated.
- Training Centre for Male Health Workers will be set up for both in-service and newly recruited workers.
- Female Health Workers Training Institutes at Shillong and Rongkhon will be upgraded.
- The Department will also set up Training Institute on Para-Medical Workers.
- The Regional Family Welfare Training Institute at Shillong will also be upgraded to meet the requirement of in-service staff at various levels.
- Blood Bank Unit at all District Hospitals with 24 hours delivery services would be set up.

**B. Equipments :-**

- Pasteur Institute, Shillong would endeavour to set up the New Tissue Culture (NTCARV) for preparation of anti-rabbies vaccines.
- Major Hospitals and CHCs are required to maintain standards in terms of waste disposal systems. All Hospitals and CHCs would be equipped with Waste Disposal Units.
- District Hospitals would be provided with Laparoscopic and Endoscopic machines.
- 18 ECG machines would also be provided at all District Hospitals and CHCs located at the District and Sub-Divisional Headquarters.

- 18 X-Ray machines would also be provided at all major Hospitals/CHCs. 25 Portable X-Ray machines would also be provided and attached at all District Hospitals. Accidents and Trauma Centres and for the purpose of Post Mortem Operations.
- 25 Dental Chairs would be provided at all Hospitals and CHCs.
- Deficiency in critical equipments may also be ameliorated through Public-Private Partnership and outsourcing mode.

### **Material And Child Health & Family Welfare Programmes:-**

MCH & FW Programme is taking a shift from normative to a need-based Client oriented programme with twin objectives of (i) Maternal and Child Health and (ii) Family Welfare Programme on the one hand to seek stabilization of population in the shortest time and on the other hand to seek improvement in the reproductive and child health status. To meet these objectives, a number of interventions are being attempted through various programmes including NRHM. Some of the main intervention under MCH & FW Programme are (i) Reproductive and Child Health Programme (under NRHM) (ii) Training activities taken by Health & Family Welfare Training Center, Shillong is an ongoing activity conducted in all the seven District of the State (iii) Civil Registration System of Births and Deaths and Vital Statistics (iv) Iodine deficiency Disorder (IDD) Control Programme (v) Universal Polio Immunization Programme (UPIP).

**11.2.9. Looking Ahead:** The plan document mentions following desirables for its future plans:

- Professionalisation of Health Service Delivery:-This include
- Further specialization of Doctors, Nurses, Para Medical Staff and Multipurpose
- Health Workers in Training Institutes both outside and inside the State.
- Extensive use of Computers in office management, hospital management, inventory control, monitoring, data collection and reporting of facilities.
- To provide with Telemedicine 3 Hospitals and to cover District and Sub Divisional Hospitals during the 11th Five Year Plan.
- Restructuring of location of health facilities as per need and functional utility by GIS mapping of all facilities.
- To counter distance factor and to bridge this time divide, a public policy would be worked out to establish Call Centers on Health Information and advice on minor ailments etc.
- **Convergence of Activities:** To achieve the goals of convergence, high level Co-Ordination Committee are set up at State and District levels involving all concerned sectors to ensure best possible result during the Plan period.
- **Monitoring, Accountability and Transparency:** Monitoring is done at various levels. Regular audit is done by Accountant General and by the Chartered Accountants. It is proposed to improve monitoring by use of Information Technology and increased performance based accountability by decentralization and improving monitoring through concurrent sample surveys, social audit and institutionalizing community management at all levels through the committee in the Sub-Centers, PHC, CHC and Hospital levels.

- **Public Private Partnership (PPP):**
  - PPP exists in the form of recognition of specially hospital both within and outside the State for treatment for certain category of persons. The Department proposes to extend such facility to more specialty hospitals during the Plan period.
  - Hospital Management Societies will be set up in all hospitals, CHCs and PHCs involving NGOs under NRHM during the Plan period.
  - The issue of handing over and manage some public infrastructure, like sub- centers, PHCs, CHCs and Hospitals for private joint management would be considered by the Department.
  - The implementation of a comprehensive Health Insurance Policy for the people of the State is a key area where PPP is envisaged under the Plan period.
  - Training on Professional course for all categories of Doctors and Staff is under consideration on a tie up with medical Institution of repute.
  
- **Popularisation of Alternative Medicine System like AYUSH:-**
  - AYUSH will be established as a institution in all District Hospitals and CHCs.
  - Medicines and treatment as a supporting base will be provided to supplement other treatment.
  - All CHCs and Hospitals will be provided with at least 1 (one) Ayurvedic /Homoeopathic Physician.
  
- **Access to Essential Drugs:-**
  - All District Hospitals, CHCs and PHCs will support the need of common ailments with essential drugs.
  - Essential drugs will be provided through these Medical Institutions free of cost. The budget provision will be doubled for this purpose.
  
- **Focused and integrated approach to National programmes of disease control-**

The National Programmes on control of Communicable Diseases will also be continued, where special attention will be given to control of Malaria and Tuberculosis diseases to reduce the menace of the diseases. An Integrated Disease Surveillance Programmes has already been initiated and will be carried on. The same will be followed with respect to Scheme such as Establishment of Ayurvedic / Homoeopathic Wing in all the Districts.
  
- **Integration Of NRHM with National Health Programmes:** All national and state health programmes would be integrated with NRHM in order to enhance delivery of Health Services. This will be attempted to be done in a seamless manner by integrating structures, institutions, establishments and plans and programmes. Ayush would also be mainstreamed. A focused effort would be made for convergence with Water Supply Sanitation, Nutrition, and Welfare Programmes such a mental health, drug abuse, persons with disabilities etc.

**11.2.10. Observations and Recommendations of the State Planning Board:**

- There is no document pertaining to the maternal mortality rate (MMR). There is need to gather correct information on the MMR in the State.
- Recognition of the traditional system of medicine was stressed upon.
- Physically challenged persons need to be given proper health care.
- Awareness programmes on sanitation and health need to be undertaken.
- Potability of water used in CHCs and PHCs needs to be addressed.
- As far as health is concerned data could be collected family wise.
- Greater sensitivity to be shown to women when addressing health issues.
- Increase the number of maternity beds in health centres.
- Health is to be identified as the primary concern.

**11.3. Education:**

**11.3.1 General Education**

**A. Elementary Education:** The vision of the State is for Universalisation of Elementary Education along with universal access to schools and constantly improving quality of teaching and learning process. The aims and objective is for attaining total enrolment and retention of children in schools by the year 2010. The level of enrolment at the end of the 10th Plan is 488000 in the Lower Primary and 212000 in the Upper Primary stage. During 2007-08, the enrolment had increased to 518000 in the Lower Primary and 232000 in the Upper Primary stage. The physical target fixed for 2009-10 is 550000 in the Lower Primary and 265000 in the Upper Primary stage. The Sarva Shiksha Abhiyan (SSA) is a Programme for universalization of Elementary Education for providing quality education to the primary students. With the launching of the SSA programme and its various interventions the Department is making an effort to provide education of satisfactory quality, bridge the existing gaps in access, provision of infrastructure including educational curricula and teachers Training.

- **Financial Status of SSA from 2000-01 to 2007-08 :** Allocation approved by the Project Approval Board according to the AWP&B was **Rs.262.08 crore. Fund received** against the allocation - **Rs. 261.32 crore; Expenditure** incurred - **Rs. 200.08 crore; Unspent** balance at the end of 2007-08 - **Rs. 61.24 crore.**
- **Financial Progress of Implementation during 2007-08:** Approved **Outlay = Rs. 14007.306 lakhs; Expenditures = Rs. 9735.19 lakhs; Percentage** of Achievement - **69.50 %.**

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- **Physical Achievement during 2007-08:** The status is as shown below:

Sl. No	Achievements :-	Completed/ Achievement
1.	No. of EGS Centres	1197 Nos
2.	Nos. of New L.P. Schools opened (including upgradation of EGS)	1604 Nos. (including 267 upgraded EGS)
3.	Nos. of LPS upgraded to Upper Primary Schools	1223 Nos
4.	TLE provided for LPS	1604
5.	TLE provided for UPS	1223
6.	School Grant	Rs. 2000/- per School released to all existing LPS and UPS
7.	Teacher Grant	Rs. 500/- per Teacher released to all existing LPS and UPS Teacher
8.	Text Books & Exercise Books	Provided to all children
9.	Teachers' Training	A. 7495 Teachers – 20 days, In-service Training; B. 534 Teacher – 30 days, Induction Training; C.3612 Teachers- Deputed to CPE against Target of 4400
10.	No. of BRCs/CRCs functioning	A. 39 BRCs functioning B. 437 CRCs “ “
11.	Nos. of School given access to Computer Aided Learning.	132 UPSs

LPS- Lower Primary School; UPS – Upper Primary School; TLE – Teaching Learning Equipment;BRC – Block Resource Centre; CRC – Cluster Resource Centre; **Dropouts** -The total number of dropouts during the period are 27028 children. Implementation in progress.

- **Progress of Implementation during 2008-09:** The Physical achievement up to September 2008 under the Scheme is shown below:

Sl. No	Items of Works/Programmes	Completed/ Achievement	Target
1.	No. of EGS Centres	33022 Nos.	33022 Nos.
2.	New Primary Schools	Nil	497 Nos.
3.	Appointment of Teachers	3208 Nos.	4202 Nos
4.	Interventions for Disabled Children (i) Total CWSN enrolled (ii)CSWN provided assistive devices (iii) Teacher's Training (iv) Barrier Free Access	3408 Nos. 32 Nos. 347 Nos. 272 Nos	3630 Nos 1300 Nos. 780 Nos. 272 Nos
5.	TLE provided for New Primary	Nil	497

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6.	TLE provided for New Upper Primary	Nil	298
7.	School Grant (i) Lower Primary (LPs))	Being collected	6618
	(ii) Upper Primary (Ups)	-- do --	2259
8.	Teacher Grant (i) Lower Primary	Being collected	16273
	(ii) Upper Primary	-- do --	10599
9.	Text Books & Exercise Books	Nil	410520 LPS
		Nil	175525 UPs
10.	Teachers' Training (UPs)	4716 Nos.	7023 Nos
	Training for untrained Teachers	918 Nos.	1500 Nos.
11.	Block Resource Centres		
	(i) Appointment of Resource Persons	234 Nos.	234 Nos.
	(ii) Contingency Grant	39 Nos	39 Nos.
	(iii) Meeting, T.A.	39 Nos.	39 Nos.
12.	(iv) TLN Grant	39 Nos	39 Nos.
	Cluster Resource Centres		
	(i) Appointment of Resource Persons	438 Nos.	438 Nos.
	(ii) Furniture Grant	111 Nos.	111 Nos.
	(iii) Contingency Grant	438 Nos	438 Nos
13.	(iv) Meeting, T.A.	438 Nos.	438 Nos.
	(v) TLN Grant	438 Nos.	438 Nos.
13.	Civil Works	Nil	85201 Nos.

LPS- Lower Primary School; UPS – Upper Primary School; TLE – Teaching Learning Equipment; BRC – Block Resource Centre; CRC – Cluster Resource Centre

- Financial Achievement 2008-09 upto september:** Approved **Outlay** for SSA + NPEGL + KGVB during **2008-09 = Rs. 16613.492 lakhs** ; **Expenditure** up to 1st Quarter = **Rs. 1201.99 lakhs**; **Cumulative Expenditure** up to the 2nd Quarter ending 30.9.08 for SSA+NPEGL+KGVB =**Rs. 4359.44 lakhs**; The percentage achievement was **26.24 %**.
- Statement of Expenditure up to September, 2008**

(Rs. in lakhs)

Sl. No	Name of Scheme (On -Going/ New) (CSS/ State Plan)	Approved outlay for the scheme during 2008-09	Achievement up to September, 2008
1	2	3	4
1	New Primary School	2815.560	157005
2	New Upper Primary School		
3	Block Resource Centre	97.500	68.76
4	Cluster Resource Centre	191.068	70.15
5	Civil Works	8335.960	1505.10
6	Toilets, Drinking Water		

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7	Interventions for Out of School Children	1337.549	138.84
8	Interventions for Girls Children		
9	Innovative Activities	347.000	134.73
10	Interventions for Disabled Children	70.736	18.06
11	Maintenance Grants	227.000	-
12	Managements & MIS	731.360	108.97
13	Research & Evaluation	79.893	1.86
14	School Grants	489.030	205.02
15	Teacher Grants	134.360	103.93
16	TLE	248.400	8.70
17	TLM		13.520
18	Teacher Training	219.376	33.16
19	Community Mobilisation	25.124	13.27
20	SIEMAT		-
21	Free Text Books	1054.593	327.22
22	State Component	131.508	23.79
23	Others		
<b>Grand Total Under SSA</b>		<b>16536.017</b>	<b>4345.11</b>
24	NPEGEL		1.20.
25	KGVB	77.475	13.13
<b>GrandTotal (SSA+NPEGEL+KGVB)</b>		<b>16613.492</b>	<b>4359.44</b>

*NPEGEL=National Programme for Education of Girls at Elementary Level; KGVB = Kasturba Gandhi Balika Vidyalyaya. Source: Education Department, Meghalaya*

**Mid Day Meal (MDM):** The National Programme for Nutritional Support to Primary Education (NPNSPE) known as Mid Day Meal Scheme is being implemented in the State for providing cooked meals for every child in Govt. and Govt. Aided Primary Schools & EGS Centres and Upper Primary Schools. The cost for conversion of foodgrains has to be met jointly by the Govt. of India @ Rs. 1.80 per child per day and the State Govt. @ Rs. 0.20p per child per day for Primary level and Rs. 2.30 per child per day and Rs. 0.20p by Govt. of India and State Govt. respectively at the Upper Primary level. Kitchen devices are being provided by the Govt. of India @ Rs. 2500/- per school and Rs. 2000/- per EGS Centre. Govt. of India has provided fund also for Monitoring, Management and Evaluation (MME) of the Scheme. Construction of Kitchen sheds @ Rs. 60,000/- per school for 2539 Govt. LP Schools has been provided by the Govt. of India. An amount of Rs. 500.00 is proposed for State Share for Mid Day Meal Schemes.

**Status of implementation:** The Mid Day Meal Scheme is a National Programme started in the year 2005. The scheme is related with free distribution of food grains by Govt. of India through FCI where the transportation cost incurred by the DRDAs of the respective districts is to be reimbursed by the Govt. of India. Meghalaya as one of the special category state receive the maximum transport subsidy of Rs. 125 per quintal. Initially the scheme was implemented by free distribution of food grains to the children @ 3 Kg per child per month as dry ration. However, as per Supreme Court order in 2001 all the State Governments are directed to provide cooked Mid Day Meal containing



450 calories and 8-12 grams of protein per child per day. In Meghalaya, Mid Day Meal is given for 210 days in a year to all Governments and Government Aided Primary Schools and EGS Centre. **In 2008-09 Upper Primary Schools are also included under the schemes both Government and Government Aided.**

- **Mid Day Meal Schemes during 2007-08:** Total fund received -Rs. 3003.79 lakhs; Expenditure incurred-Rs. 2979.23 lakhs; Unspent Balance- Rs. 33.26 lakhs .
- **Financial Achievement for Upper Primary Schools in Educationally Backward Blocks for Year 2007-08:** Amount received-Rs. 434 lakhs; Expenditure-Rs. 4,04 lakhs; Total unspent Balance is Rs 7 lakhs.
- **Progress of Implementation during 2008-09:** Approved Outlay -Rs. 1907.65 lakhs; Expenditure up to the 2nd Quarter ending 30.9.08 = Rs. 1498.70 lakhs. The percentage achievement was 78.56 %. **Physical Achievement up to September, 2008:** LP Schools-6618; UP Schools-2259; EGS-1197; **Total-10074**, against the target of **10,074 Schools**.

**Enrollment up to September, 2008: Total achievement= 675512 against the target of 637266 ;** The achievement is based on the release made as per sanctioned of the Government of India for 2007-08.

In order to clear the backlog of untrained teachers 2 year diploma course are being conducted by the DIETs. Further, teachers are being deputed in two cycles within a year for the certificate course for Primary Education (CPE) being conducted by IGNOU. There are also various short term training being conducted by DERT, DIET and at the Block Resource Centres. Maintenance of Govt. Schools and Govt. Office buildings and also for replacement of dilapidated Govt. schools. Maintenance of Non Formal Education Centres now EGS Centres under SSA is also done.

**Adult Education:** Adult Education programmes are also undertaken by the department which includes maintenance of staff under DAEO/DSEO, meeting the contingency, strengthening the Total Literacy Campaign(TLC), Post Literacy Project (PLP) and Continuing Education Programme (CEP) to remove illiteracy in the adults.

**B. Secondary & Higher Education:** Salaries to Govt. Establishment and recurring maintenance grant to Non-Govt. Institutions are being given by the Govt. Other programmes include provision of basic facilities like school buildings, furniture, Science equipments and Co-curricular activities like Science Seminar and exhibition etc. Besides maintaining the existing 74 Higher Secondary Schools, (18 Govt. and 56 Non-Govt.) there is a need to set up more Govt. Higher Secondary Schools through out the State in order to cater to the need of transferring the Plus two stage from the college to the school level. There is also a need for assistance for building, equipments etc. enhancement to Non-Govt. Higher Secondary School teachers. These would require considerable investment. There is a need to rationalise the grant in aid systems and reduce the burden on Govt. mainly in urban centres and to such institutions which have received aid for considerable continued period.

**Creation of essential infrastructure for Higher & Secondary Education :** With the attainment of statehood in 1972 many of the existing educational institutions were inherited from the Govt. of Assam. At present there are 8 Government Secondary, 19 Government Higher Secondary Schools and 3 Government Colleges in the State. The Government has also planned to provincialise 3 Colleges in the State soon. While the status of existing institutions shall have to be maintained, it is the vision of the Government to improve the quality of infrastructure in the educational

institutions in the State. It may also be mentioned that many of the old existing institutions are badly in need of renovation. However, during the past few years the Govt. has not been able to strengthen infrastructure due to fund constraint. Since good infrastructure is the key to quality education, there is an urgent need to strengthen infrastructure in Secondary and Higher educational institutions by upgradation and modernization of existing facilities, provision of well lit and well maintained school rooms in schools with provision of basic facilities like clean toilet, drink clean water and have good play facilities, many of which are lacking in schools in the State. Hostels facilities for students coming from the villages are urgently required.

The medium-term goal is to ensure these schools have enough classrooms, basic necessities such as water and toilets and facilities such as sports equipments, libraries, laboratories, hostels etc. Schools are ideal nurturing ground for instilling in children clean and healthy habits, but this is possible only when water and facilities exist.

**College & Higher Education :** According to UGC norms there shall be 5(five) Lecturer per subject in Government and Deficit grant-in-aid colleges, at present many colleges under deficit grant-in-aid are having only 2(two) Lecturers per subject. The state proposes to increase the strength of lecturers to 3(three) nos. per subject, subject to fund availability.

**Language Development:** The recognition of Khasi and Garo languages by the Sahitya Academy will depend on the enrichment of these languages in various field likes science, classics, folktales, cultural heritage. The promotion of language will be done through assistance to authors, translation and publication.

**Youth Welfare Programme For Students (NCC & NSS):** This programme is partly operated by the DHTE and major share opted by Director of Sports & Youth Services. The National Service Scheme covers students of College and University level. At present there are approximately 3000 NCC cadets which are not even 10% of the College/University student population. Efforts to increase the NCC, Scouts & Guides & Jr. Red Cross activities in the State to cover all the Districts / Sub-Divisions within the next five year plan and target at least 20 % of the student population are necessary to inculcate disciplined and strong youth force. The Ministry of Culture, Youth & Sports Department has approved the establishment of a State level NSS cell to be financed by the Govt. of India in order to increase the activities under the National Service Scheme.

**Vocational Education / Skill Development :** It is necessary to implement Vocational Education in right earnest so as to divert at least 25% of students completing 10 years education to the vocational stream, reducing the pressure on the universities and also preparing students for gainful employment. This would enhance individual employability, reduce the mismatch between demand and supply of skilled manpower and provide an alternative for those pursuing higher education thus ultimately diversify educational opportunities and bring about a change in the structure of the working population from the present rate of 2%-3% who are engaged in the industrial sector. The Government is encouraging the Private organization to establish Vocational institutions for offering short term courses on vocational education. At least 2 vocational institutes will be established in each district and 3 Secondary/Higher Secondary institutions will be identified for running courses in vocational education. At present Govt. is giving grant for vocational education to Don Bosco Technical School, Shillong.

**C. Training :** The programmes under the sector are being administered by the Directorate of Educational Research & Training (DERT). These comprises improvement of the quality of education through training of teachers, research and innovation including the development of curricula etc.

The Directorate of Educational Research and Training (DERT) is primarily involved in the task of improving and promoting the standard and quality of School Education and Teacher Education in the State through provision of In-service Trainings, holding of Seminars and Conferences, Workshops and undertaking Research Studies, Surveys and Innovative Programmes.

**Long –term training:** To help clear the backlog of In-service untrained Teachers at the Elementary stage, Long-term In-service Trainings for primary teachers are being conducted at the Government Basic Training Centres (BTCs) located at Shillong, Thadlaskein, Resubelpara and Tura as well as at the Non-Govt. Cherra Teachers Training Centre, Sohra. The duration of the training programme is two year. Long-term In-service Trainings for Upper Primary Teachers are being conducted at the Government Normal Training Schools (NTSs) located at Sohra and Tura as well as at the District Institutes of Education and Training (DIETs) located at Sohra, Thadlaskein, Resubelpara, Nongpoh, Nongstoin, Tura and Baghmara. Untrained Primary Teachers are also provided training at the above DIETs during 2008-2009. As per the direction of the National Council of Teacher Education (NCTE) the duration of the Training Course is two years.

**Basic Computer Training for U.P. School Teachers:** 140 Upper Primary Teachers were provided training in Computer Awareness at the Computer Cell of the DERT, Shillong. This scheme will continue.

**Other Schemes:** State Level Screening Test for National Talent Search Examinations & State Talent Search Examinations; Intelligence Test for Talented Children from Rural Areas for award of National Scholarships at the Secondary Stage; Evening Coaching Classes for Tribal Students in Science, Mathematics & English in 92 (ninety two) Coaching Centres located in different districts; Grants-in-Aid to Meghalaya Board of School Education (MBOSE) and Training of Lower Primary School Teachers on foundation course for children with disabilities in Distance mode are some of the other schemes of the department.

**EDUSAT:** The uplinking Hub of the Educational Satellite has been installed and construction of sound proof studio and air conditioning of rooms is being made.

**D. Technical Education:** The Shillong Polytechnic falls under Technical Education with four (4) Streams namely, Civil, Mechanical, Electrical and Electronics besides sponsoring students for various technical courses outside the State. Technical Education is being augmented through introduction of additional courses in Shillong Polytechnic, namely, 3years Diploma in Computer Science and Engineering and 2 years post Diploma in Information Technology. Under the World Bank Assisted Tech Ed-III Project, two new polytechnics in Jowai and Tura respectively have been set up and the matter of taking over the management of two Polytechnics by the Government or a Society is under consideration. The new courses introduced are (1) Tura Polytechnic – Food Processing and Preservation (b) Computer Application (c) Medical Electronics and (2) Jowai Polytechnic – (a) Architectural Assistantship (b) Costume Design and Garment Technology (c) Automobile Engineering. **Community Polytechnic Scheme** sponsored by Govt. of India for training of school drop out, women and other disadvantaged groups in technical skills for gainful employment and transfer of technology for improving the local production and for generally improving the quality of life of the rural population is being implemented through Shillong Polytechnic. The various trades are motor driving and auto mechanic, welding and fabrication, plumbing and sanitation,

cutting and tailoring, house wiring. The state is likely to upgrade the Shillong Polytechnic to a Degree level Institution/Engineering College either on its own or in PPP mode. Besides the state permitted technical institutes, and private universities to function and hope to make the state a place of learning and educational hub (details in the infrastructure chapter). The state is committed to exploring the possibility of setting up more Technical Professional and Vocational Institutions under PPP Mode.

**I.T. Education :** A strategic IT vision for the State titled “IT Vision 2020” has been drawn up by the State Government to cover various aspects of ICT development for the State as well as for promoting IT education. The overriding focus of the vision is the creation of jobs through ICT within the State. Human Resource and Skill Development besides facilitating placements to youth and student will be the prime focus. The Government envisages reaping the benefits of ICT revolution in terms of jobs for local youths which will eventually increase the State GDP, socio-economic upliftment and improvement of human development indices. As of now, youth from the State are forced to migrate to other parts of the country to find jobs in IT/ITeS industries and software companies. IT Department has envisaged the need to have a finishing school in IT Sector. The school will provide training, expertise to students and youth and also create a talent pool to make them employable in the rapidly growing ICT sector and local needs of NeGP. The Government intends to train 2000 students over a period of 2(two) years thereby making them IT professional ready for the job market. It may be mentioned that NASSCOM (An autonomous body under Ministry of Communication & Information Technology) are scouting for 2000 students during 2007-08 for employment in the IT Sector but has not been able to reach the target.

**11.4. Sports & Youth Services:** Development of sports and games and also to take up relevant, youth welfare activities is important aspect of development facet. Necessary infrastructure and facilities right from the village and block levels to the District and State Level to promote physical fitness, discipline, and excellence in sports and all round development are important. More tournaments in various disciplines, creation of various state Sports Associations, participation in the Regional, National and International sports events, regular coaching and training facilities are some of the aspects needing attention.

**11.5. Arts & Culture:** Intensive Arts & Culture Dev. Programme and Development of Traditional & Folk Music and maintenance of Heritage Conservation are some of the programmes undertaken under this sector. **Performing Arts:** Promotion of Arts & Culture, Fine Arts and Literature is a vital field of activity of the Department. The Department is regularly imparting lessons free of charge in folk songs and dances and also in Western Music such as guitar and piano playing. Apart from participation in all major national festival, the department regularly associated with and sponsored artistes to participate in the Cultural Programme organized by the North East Zone Cultural Centre, Dimapur at various places with a view to promote cultural exchange between Meghalaya and the rest of the Country. **Research and Documentation:** Publication of the State Gazetteers, financial assistance to the budding authors to develop and promote literary works, and for production of folk literature, promotion of Garo and Khasi Languages, Museum activities such as collection of exhibits and artifacts, promotion of Traditional musical instruments and art and craft galleries. **The Development of Traditional Folk Music and for Intensive Arts & Culture Development Programme** respectively are schemes implemented by the choice of MLAs. Hence the sector has

hardly adequate allocation for the NGOs and associations. **Archaeology:** The preservation and protection of ancient monuments and historical sites in the States also could not make much progress due to shortage of fund. There are ancient and mid age archaeological sites which has not been developed owing to lopsides approach in the matter. **Library Services:** The State Central Library, Shillong and four District Libraries at Jowai, Tura, Williamnagar and Nongstoin, at Nongpoh, Sohra and Baghmara have been set up. The library services should be made available in all the District Headquarters of the State. **Archives:** The State Archives is still in the nascent stage. Only limited numbers of public records, etc. are available at present. Collection of old and valuable manuscripts. Documents, files from different district headquarters of the State and also from various States in India could not be done for want of space and accommodation. Further the services of trained personnel and better infrastructure are also required for the purpose. **State Museum:** The State Museum is considered as one of the centre of studies into the history and culture.

#### **11.6. Social Welfare:**

**A. Welfare Programmes:** The Department have undertaken a number of major initiatives in the Social Welfare Sector, such achievements are vocational training programmes, rehabilitation services to the disabled, training and capacity building for self employment. Schemes are implemented according to the type of disability, environment and social life of the disabled persons. In pursuance with the Disability Act, 1995 several programmes were incorporated towards the welfare and rehabilitation of the Disabled and Handicapped persons according to availability of funds. NGOs and Voluntary Organisations play a vital role in the development of the society and most of the schemes are implemented through NGOs/Voluntary Organisations by providing training and financial assistance to the NGOs and Voluntary Organisations. Effort is being made to mobilize the Non- Governmental Organisations to take up schemes of Central as well as State Sector.

**B. National Social Assistance Programme: i) National Old Age Pension Scheme:-** The Programme envisages payment of financial assistance to old age persons of the age from 65 years and above residing in the villages and urban areas who live below the BPL who are destitutes. The state pay @ Rs 200 pm at present to eligible old persons. **(ii) National Family Benefit Scheme:-** The Programme provides lump sum assistance of Rs 10,000/- to the households living below poverty line on the death of a primary bread winner in the age of 18 to 64 years to help to the immediate need of the family.

**C. WELFARE OF HANDICAPPED :** **i) Scholarship to Physically Handicapped Students :** The rate of scholarship for the physically handicapped is too meagre. During 2008-09, 592 students were covered. Such benefits should cover all the handicapped persons. **ii) Grant in aid to Voluntary Organisations :** Financial assistance is given to Voluntary Organisations for maintenance of special school, vocational training etc for the physically challenged person. The allocation is quite meagre.

**iii) Assistance to Physically Handicapped Persons for Vocational Training/ for Self Employment:**

One year Vocational training is imparted to physically handicapped persons in carpentry, handicraft, knitting, tailoring etc. During the training period they are given a stipend of Rs.500/- per month each and an honorarium of Rs.800/- per month is given to the instructors. Here also the allocation is paltry. **iv) Implementation of the Disability Act, 1995 :** In pursuance of the Disability Act, 1995 disabled students are given financial assistance in the form of uniform grant, book grant, conveyance allowance, and unemployment allowance to the disabled persons. During 2008-09, 600 disabled students is covered under the Scheme.

**v) Rehabilitation Treatment for the Disabled :**The main objective of the scheme is to rehabilitate the persons with disability as normal citizen which also include treatment of all types of disabilities. Under the Scheme, financial assistance for a maximum amount of Rs.25000/- for treatment outside the State is provided to the family whose income does not exceed Rs.3000/- per month based on the recommendation of the Government Medical Officer. **vi) NPRPD – National Programme for Rehabilitation of Persons with Disabilities :**

The NPRPD started as a Central Sector Scheme with the basic objective of providing comprehensive rehabilitation services to persons with disabilities, especially in rural areas closer to their doorstep through a four-tier delivery system established at Community, Block, District and State levels. There is a provision for two Community Based Rehabilitation Workers (CBRWs) at the Community and two Multipurpose Rehabilitation Workers (MRWs) in districts covered under the scheme. A District Resource Centre have been set up at Shillong and Tura and also State Resource Centre was established at Shillong during 2002-03. The scheme has been made a State Scheme under which provision to maintain the CBRW/ SRC Shillong, Tura etc are required. **vii) Implementation of PWD Act, 1995 – Appointment of Commissioner of Disabilities :** In pursuance of Section 60 of the Disability Act, 1995, the full fledged Commissioner for Persons with Disabilities have been appointed .

**D. Field Survey of Social Problems:** Conducting the survey on problems of sexual abuse and trafficking of women and children; conducting survey to ascertain the deprivation of children in need of care and protection and other such requirements are also made.

**E. Contribution to Meghalaya State Social Welfare Advisory Board** is also made by the government.

**F. Welfare Of Aged, Infirm And Destitutes: i) National Plan Of Action For Women Grant In Aids For Voluntary Organisation For Care Of Destitute, Widows, Aged And Infirm Women:** Financial assistance is given to Voluntary Organisations working for the welfare of destitutes, widows, aged and infirm women are given under the scheme. However, the allocation are paltry. **ii) Medical Treatment for the Aged:** Enhanced rate proposed of Rs 2000/- per beneficiary are given to more than 170 aged persons. **iii) National Plan of Action for Older Persons :** In pursuance of the National Policy for Older Persons and Plan of Action of the Government of India to strengthen the legitimate place of the elderly in the society, advocacy meet/ sensitization programme for strengthening the integration and bond between the young and the old are conducted. **iv) International Day for Older Persons are celebrated on October 1<sup>st</sup> .**

**G. Construction of Probationary Hostel and Reformatory School:** The three homes set up under the Juvenile Justice Act 2000, are being housed in rented building with insufficient facilities and space. It is therefore necessary to construct own buildings/homes.

**H. Women and Child Development:** Women and Children are the most important section in our society more so where the society is matrilineal. Programmes for their welfare. Orphans, destitutes, children and deserted women require Government intervention to overcome their problems. Educating and raising women's economic status means educating and improving the economic condition of a family are most important. Children being vulnerable and helpless require a greater social, governmental and NGOs support in order to bring about a healthy environment amongst women and children in the State. **i) Grant-in-aid to Voluntary Organisations Working in the Field of Child Welfare** to voluntary organisations working for the welfare and development of children in rural areas like creches, orphanages etc. are given by the state Government. Motivation of the non-governmental organisations to take up other schemes such as foster care, adoption services, welfare services for street children and working children (Child Labour) are also stressed. **ii) Only 1** (one) Creche is run for the benefit of the State Govt. Employee's Children at Shillong. **iii) Correctional Services: i) Implementation of Children Act. Establishment of Juvenile Guidance Centre:** The Juvenile Justice Care and Protection of Children Act, 2000 which replace the Juvenile Justice Act 1986, clearly define that 2 (two) separate home should be set up for the delinquent juvenile i.e. Observation and Special Home and a separate Home for the neglected children known as Childrens' Home which may be run by NGOs with financial assistance 50:50 basis between the Central and State Government. **ii) Children's Home** for the reception and rehabilitation of child in need of care and protection pending enquiry report if any and subsequently for their care, treatment, education, training development and rehabilitation separately for boys and girls with 25 inmates and also to set up one Shelter Home for the children in the urgent need of care and protection such as destitute, street children and runaway children, requiring immediate shelter such as victim of domestic violence and trafficking etc. **iii) Grant in aid to Voluntary Organisations for Protective Homes and Anti Drug Campaign** and support the NGOs working in the field of women's issues for setting up of temporary shelter/protective homes for women who are victim of domestic violence and to organise sensitization programme for the police, judiciary, health personnel and N.G.Os. are also being done, **iv) Celebration of Anti Drug Day:** June 26<sup>th</sup> is observed as an International Day for Drug Abuse. The Department in collaboration with NGOs observes the Day in all the seven District Headquarters to highlighting the problems faced by the Drug users and prevention on Drug Abuse. **v) Intervention Programmes for Drug Abuse:** The problem of drug addiction is one of the main issues in the present day context and firm and rational measures are essential to combat this menace in the State.

#### **I. Women Welfare:**

**i) Training Centre for Self Employment for Women in Need of Care and Protection:** At present, the State Govt. is running 3 (three) training centres for 105 destitutes women. The training centres

impart training in tailoring, knitting, embroidery and weaving for a period of one year. During the training period a stipend of Rs. 500/- per month per trainee is given. After successful completion of the training, they are given a token grant of Rs. 5000/-, Rs. 4000/- and Rs. 3500/- respectively according to the grade they secured to enable them to start their own self employment. At present the above 3 training centres are located at Shillong, Jowai and Tura only with a capacity of 40, 25 and 40 respectively. It is felt necessary to diversify and upgrade the training in few more trades such as leather works, toy making etc in the training centre at Shillong since these trades have more employment/ income avenues. **ii) Assistance to Voluntary Organisations for Setting up Training Centres for women and care of their children :** Financial assistance is given to voluntary organisations working for the welfare of women in different activities such as handicrafts, training centres. **iii) National Plan of Action on Women's Policy and Empowerment:** The Department had initiated preparation of the State Plan of Action on Women's Policy and Empowerment. The Plan of Action incorporated programme action oriented on women's component and other related women's activities of allied Department. Effort is also being made for convergence and networking of women's development programmes at different level with NGOs which have strong presence at the community level for the empowerment of women. **iv) Meghalaya State Commission for Women:** The State Commission for Women was set up in the State during 2004-05 on the line of the National Commission. **v) Setting Up Employment -cum-Income Generating Units For Women (NORAD) :** The scheme to train women folks in different income generating trades so as to enable them to earn their livelihood and improve their economic status in the Training Centres for Self Employment for Women in need of Care and Protection. The objective of the scheme is to train women, preferably in the non-traditional areas and to ensure their employment.

**J) SWARADHAR:** The Government of India has designed a scheme known as 'Swardhar' with a more flexible and innovative approach to cater to the requirement of various types of women in distress in diverse situations under different conditions. The objective of the scheme is to provide primary need of shelter, food clothing and care to the marginalized women/girls living in difficult circumstances who are without any social and economic support and to rehabilitate them socially and economically through education.

**K. Centrally Sponsored Schemes:** The following Centrally Sponsored Schemes are being implemented by the Department : **i) Integrated Child Development Services Scheme:** 1 (one) State ICDS Cell attached to the Directorate of Social Welfare; 5 (five) District ICDS Cells with Head Quarter at Shillong, Tura, Nongstoin, Jowai and Williamnagar. 39 (thirty nine) ICDS Projects offices at Block Level Head Quarter(s); 2 Urban ICDS Project in Shillong and Tura with 190 AWCs. 3388 Anganwadi Centres and 1234 Mini Anganwadi Centres. Government of India has sanctioned so far 1725 anganwadi buildings. Each building has one room attached with kitchen, store room, water tank and toilet facilities @ of Rs.1.25 lakhs/ Rs.1.75 lakhs. 700 anganwadi buildings have been completed and construction of 457 Anganwadi buildings is under progress during 2008-09. Status of the programme has been mentioned under Rural development ( chapter-7) **ii) Training Programme of the Anganwadi Workers under the ICDS Scheme:** Meghalaya has 2 (two) AWTCs, one at Shillong which caters to the ICDS functionaries from Khasi and Jaintia Hills Districts, the other at Tura covering Garo Hills Districts. Government of India has also sanctioned one MLTC



located in the State Headquarter Shillong which conducted all training programmes of middle level field functionaries, and the lady supervisors. The MLTC also conduct the innovative training programme to in collaboration with SIRD and allied Department. The MLTC has also brought out publications and pamphlets, posters and have translated the materials in local languages (Khasi and Garo) to disseminate information on Nutrition, Health and Education etc. **iii Nutrition Surveillance System (NSS)** :The project is implemented through National Institute of Nutrition (NIN) Hyderabad in collaborative exercise between Department of Women and Child Development, NIN and the State Govt. The project involves training/ reviewing/ monitoring on the implementation of ICDS Programme at the district level and project levels and also involving anganwadi workers. **iv) Balika Samridhi Yojana (BSY)** : Balika Samridhi Yojana (BSY) was introduced during 1997-98 and was implemented in the State covering 12357 beneficiaries. The Scheme aims at giving prime importance to a girl child to ensure population stabilization with gender equity and sustain socio-economic development. The benefits under (BSY) is restricted to two girl child. The BSY is part of the long term strategy to change social attitude and behavioural practices towards the girl child. **v) Kishori Shakti Yojana – KSY (Adolescent Girls Scheme)** :The scheme Kishori Shakti Yojana, a component of ICDS scheme aims to improve the nutritional health of the adolescent girls, promote awareness of health, hygiene, nutritional and family care, link them for learning life skill and take steps to become productive member. The scheme is in operation in all the 39 ICDS Projects as per the guidelines of Govt. of India. **vi) Integrated Women’s Empowerment Programme (IWEP)**: The objectives of the Scheme is establishment of self reliant women Self Help Groups (SHGs), creation of confidence and awareness among members of Self Help Groups, social, economic and political issues. Integrated Women Empowerment Programme is implemented in the 5 (five) Community and Rural Development Blocks viz; Betasing in West Garo Hills, Mawshynrut in West Khasi Hills, Resubelpara in East Garo Hills, Umling in Ri Bhoi District and Myllem in East Khasi Hills. The first phase is over in 2006-07 and it has been extended to 2007-08. The second phase is to start from 2008. During the 2<sup>nd</sup> Phase, 6 Community and Rural Development Blocks is likely to be recommended for implementation of the scheme. **vii) Integrated Child Protection Services**: Under the Juvenile Justice ( care and protection of children’s) Amendment Act, 2006 it is mandatory to set up the child protection units as provided under section 62 A. Child Protection Unit for State and such Units for every District consisting of such officers and other employees as may be appointed by the Government, to take up matters relating to children in need of care and protection and juveniles in conflict with a view to ensure the implementation of this Act including the establishment and maintenance of homes, notification of competent authorities in relation to these children and their rehabilitation and co-ordination with various official and non-official agencies concerned. In Writ Petition (civil) No.473 of 2005 Sampurna Behrua Vrs Union of India & others, the department have given some kind of commitment/assurance that the constitution of the Child Protection Units would be taken up.

**L). Nutrition: Schemes implemented under nutrition are as follows: i) Supplementary Nutrition in Urban Areas** : S.N.P. in Urban Areas is provided to malnourished children below 6 years of age, expectant and nursing mothers of low income group in all the Districts headquarters. The programme is run by the District Social Welfare Officers through the non-governmental organisations and communities in 63 centres covering 13200 beneficiaries i.e. East Khasi Hills - 12 centres, West Garo

Hills - 10 centres, Jaintia Hills - 9 centres, East Garo Hills, South Garo Hills, Ri Bhoi District and West Khasi Hills District - 8 centres each. The cost of foodstuff given to each beneficiaries is @ Rs.1.20/- for children and @ Rs.1.50/- for pregnant and nursing mothers for 300 days in a year i.e. 25 days in a month. Foodstuff such as bengal gram, groundnut, soyabean, suji, dried peas are provided to the beneficiaries at the rate mentioned above. **ii) National Nutrition Mission :** National Nutrition Mission was introduced by the Government of India during the year 2002-03 for implementing subsidized foodgrains to adolescent girls, expectant and nursing mothers belonging to Below Poverty Line families and undernourished. In Meghalaya, East Khasi Hills District has been selected for covering seven ICDS Projects. The programme is to be implemented in the lines of weighing and identification of undernourished, distribution of 6 kgs of foodgrains (wheat/ rice) based on local habitual through Public Distribution System. Training in weighing, health and nutrition education, health check up, referral services, to conduct IEC programme and purchase of weighing scales. The programme is to be implemented through a network with the Department of Food and Civil Supplies and Deputy Commissioner of the concerned district for necessary arrangement of foodgrains and distribution through Public Distribution System. **iii) Supplementary Nutrition Programme for ICDS Scheme :** The Social Welfare is the Nodal Department in the implementation of Supplementary Nutrition Programme in the State i.e. by providing supplementary nutrition to children below 6 years, pregnant and nursing mothers and adolescent girls to improve the health and nutritional status of women and children in rural areas. In the implementation of SNP Scheme food stuff i.e. Bengal gram, Ground nut, Soya bean, Dried peas, Suji, Rice flakes, Green peas, Sugar, Onion, Mustard oil, and Iodised salt are being distributed to the beneficiaries through AWCs in the 39 ICDS. The present unit cost under S.N.P. per beneficiary per day is @ Rs.2.00p for 0 - 6 years children, @ Rs.2.70p for severely malnourished children, @ Rs.2.30p for pregnant mother, nursing mother and adolescent girls. The number of feeding days in a year is 300 days i.e. 25 days in a month . During 2008-09 , 589975 beneficiaries were covered under the Scheme.

**M) Welfare of Scheduled Castes/Scheduled Tribes/ Other Backward Classes:** The All India pre-Examination Training Centre (AIPETC) is meant for meeting the need for imparting Coaching Classes to SC/ST candidates who intended to appear at the Civil Services Examination conducted by UPSC every year.

**11.7. Labour & Employment: i) Strengthening of the machinery** such as Directorate, District Labour Offices and opening of Sub-Divisional Labour Office, for proper implementation of Labour Laws such as (i) Minimum Wages (ii) Child Labour Act and Rules (iii) Contract Labour Act and Rules (iv) Shop and Establishment Act and Rules (v) Motor Transport Act and Rules (vi) Inter State Migrant Act and Rules etc. **ii) Establishment of Labour Welfare Centres :** Labour Welfare Centres at Mendipathar, Byrnihat, Umiam and Khliehriat for providing free training in sewing, knitting and embroidery to the workers and their family members are done in the state. **iii) The Inspectorate of Boilers and Factories:** It has only a Skeleton Staff's since the date of its inspection in 1973. With the present trend of development in the field of Technology and the expansion of Industrial sector, where many industries have been set up in the state especially in the Medium Scale Sector, registration

and inspection of these factories and boilers are numerous and cannot be taken up only with the existing manpower. **iv) Employment & Training:** **a) Employment Services :** The Employment Wing is responsible for administration, control and supervision of the Employment Exchanges in the State. The main activities of Employment Exchanges include placement of registered unemployed youth against vacancies notified by Employers, Employment Market Information(EMI), for collection of employment and unemployment data and conducting Vocational Guidance Programmes to educated unemployed youth. The present system does have some constraints to take up such task. **(b) Craftsmen Training :** The Training Wing is responsible for implementing the Craftsmen Training Schemes(CTS) and Apprenticeship Training Schemes(ATS) at the Certificate level. The Craftsmen Training Schemes being implemented through a network of ITIs/ ITCs is the core Scheme for Vocational Training. Its objectives are to inculcate and nurture a technical and industrial attitude in the minds of the younger generation and reduce unemployment among the educated youth by providing them employable training.

With globalization, liberalization and entry of multinational Companies, the industrial sector has taken a new shape. The employment growth in the organised sector is on the decline. Vocational Training thus needs re-orientation so as to meet the requirement of the changing scenario which is envisaged to be achieved. Running of **Short Term Employment Oriented Course outside National Council of Vocational Training (NCVT)** pattern and taking **the skill development and mini ITIs** and more ITIS in PPP mode or by govt. is essential. – At a time when our youths are facing un-employment problem it is desirable to include new training programmes in the existing ITIs by running Short Term Employment Oriented Course as per the local requirement.

### 11.8 The Human Development Index <sup>2</sup>:

This section provides a comparative analysis of the level of human development in terms of the Human Development Index (HDI) and Gender related Development Index (GDI) among the states in India and among the districts in Meghalaya.

Human development is the combination of people's entitlements and attainments relating to education, health and livelihood. These three areas, taken together, form the everyday experience of 'development' for the people as individuals and as members of a community, state or nation. The concept of human development is a people-centred approach to development where the primary concern is enhancement of human well-being. Human development therefore corresponds to a holistic approach in the process of development.

The term *human development* denotes both the process of widening people's choices and the *level* of their achieved well-being. It also helps to distinguish clearly between two sides of human development. One is the formation of human capabilities, such as improved health and knowledge. The other is the use that people make of their acquired human capabilities, for leisure, productive purposes or being active in cultural, social and political affairs. If the scales of human development do not finely balance the two sides, considerable human frustration may result.

<sup>2</sup> Meghalaya Human Development Report, 2008.

Beginning with the first HDR of 1990 the UNDP has developed a summary indicator for the level of achievement in human well-being, called the Human Development Index (HDI). It measures achievements in the basic dimensions of human development – health, education and income. It is normalized to a scale of 0 to 1 where 1 implies that maximum human development is achieved as per the pre-defined norms and 0 implies no achievement at all.

The MHDR, 2008 have constructed the HDI for each district with the following key components. For the first component – a long and healthy life –the Infant Mortality Rate (IMR) has been used. For the second component – knowledge –two indicators, the literacy rate with two-thirds weight and the combined gross enrolment ratio (primary to higher secondary level) with one-third weight have been used. For the third component – a decent standard of living – is measured with per capita income.

Meghalaya ranks poorly in level of Human Development. Meghalaya ranked 24<sup>th</sup> in HDI in 1991. Its position has deteriorated from a rank of 21 in 1981. The HDI value of 0.365 is also lower than the All-India average of 0.381. This is the case when we take the combined HDI of rural and urban sectors. It reflects the situation in the rural areas due to the population weightage of the rural sector.

The picture in the urban sector, however, is different. The HDI has improved from a value of 0.442 in 1981, which incidentally is exactly equal to the All India average, to 0.624 in 1991, which is higher than the All India average of 0.511. The rank of urban Meghalaya in HDI over the same period improved from 21<sup>st</sup> to 10<sup>th</sup>. Obviously, this is a big leap forward <sup>3</sup>.

Among the North Eastern States, Meghalaya showed better performance than Assam and Arunachal Pradesh only. The other states of the region, namely, Manipur, Mizoram, Nagaland, Sikkim and Tripura showed higher achievements in human development in 1991.

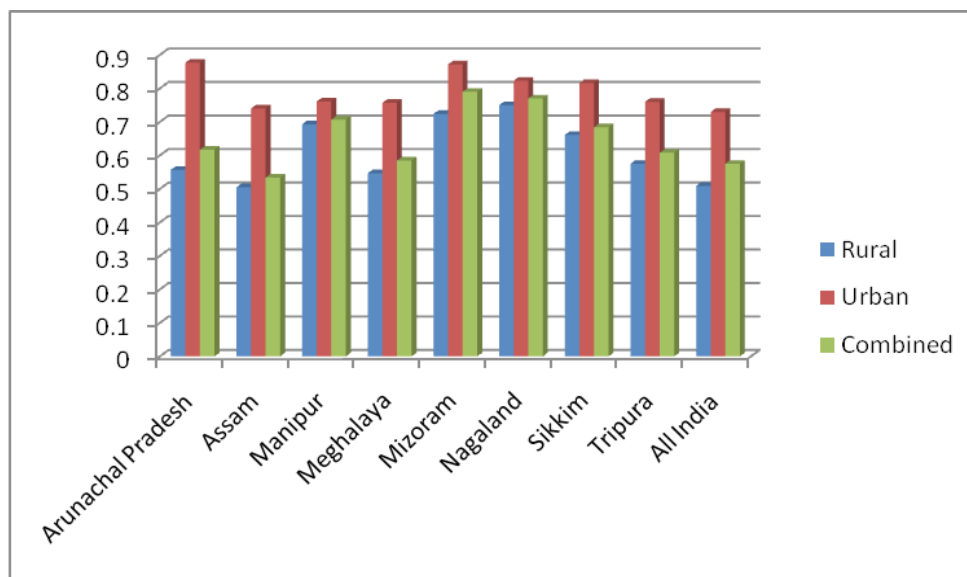
The situation has further deteriorated in 2005. Although the HDI values are not directly comparable with those of the National Human Development Report, 2001; the ranking of the states may be compared. Out of the 35 states and Union Territories, Meghalaya ranks 26<sup>th</sup> in human development (Table 11.1) slipping two places down the ranking in 1991. The HDI rank for the rural areas of the state is 24<sup>th</sup>, same rank as in 1991; and for the urban areas, it is 22<sup>nd</sup> in 2005 down from a rank of 10<sup>th</sup> in 1991.

A closer look at some of the components of the HDI suggests that there has been stagnation or no development in Meghalaya in some areas. For instance, the IMR of Meghalaya has remained more or less constant in the recent years. In the spheres of education and income in Meghalaya, available data show that that there has been improvement and growth during the 25 year period of 1981 to 2005. However, the deterioration in the ranking of Meghalaya in HDI implies that the rate of development is slower than the rate in most of the states and hence many states have improved their ranking while Meghalaya has lagged behind.

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<sup>3</sup> The HDI values of different States for 1981 are taken from the National Human Development Report, 2001.

Figure 11.8.1: Comparison of HDI Values among NE States in 2005



Note: HDI values are as per Table 11.8.1

Table 11.8.1: Human Development Index of States in India – 2005

State/UTs	Rural		Urban		Combined	
	Value	Rank	Value	Rank	Value	Rank
Andhra Pradesh	0.513	27	0.714	29	0.572	27
Arunachal Pradesh	0.557	23	0.877	1	0.617	22
Assam	0.505	28	0.740	25	0.534	29
Bihar	0.427	33	0.625	34	0.449	35
Chhatisgarh	0.470	30	0.690	31	0.516	30
Goa	0.753	3	0.818	9	0.779	6
Gujarat	0.534	25	0.758	21	0.621	20
Haryana	0.607	15	0.725	26	0.644	17
Himachal Pradesh	0.658	12	0.855	6	0.681	14
Jammu & Kashmir	0.569	20	0.716	28	0.601	24
Jharkhand	0.458	31	0.716	27	0.513	31
Karnataka	0.517	26	0.745	24	0.600	25
Kerala	0.799	1	0.856	5	0.814	2
Madhya Pradesh	0.427	34	0.663	32	0.488	33
Maharashtra	0.593	17	0.798	12	0.689	12
Manipur	0.693	10	0.761	17	0.707	11
<b>Meghalaya</b>	<b>0.547</b>	<b>24</b>	<b>0.757</b>	<b>22</b>	<b>0.585</b>	<b>26</b>
Mizoram	0.724	6	0.872	2	0.790	4
Nagaland	0.750	4	0.823	8	0.770	7
Orissa	0.417	35	0.639	33	0.452	34
Punjab	0.635	14	0.761	19	0.679	15

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Rajasthan	0.485	29	0.691	30	0.537	28
Sikkim	0.661	11	0.816	10	0.684	13
Tamil Nadu	0.598	16	0.766	16	0.675	16
Tripura	0.575	19	0.760	20	0.608	23
Uttar Pradesh	0.454	32	0.618	35	0.490	32
Uttarakhand	0.585	18	0.761	18	0.628	18
West Bengal	0.567	21	0.757	23	0.625	19
Andaman & Nicobar Is.	0.707	9	0.864	4	0.766	8
Chandigarh	0.717	7	0.872	3	0.860	1
Dadra & Nagar Haveli	0.563	22	0.833	7	0.618	21
Daman & Diu	0.729	5	0.783	15	0.754	9
Delhi	0.712	8	0.796	13	0.789	5
Lakshadweep	0.783	2	0.805	11	0.796	3
Puducherry	0.654	13	0.791	14	0.748	10
<b>All India</b>	<b>0.509</b>		<b>0.730</b>		<b>0.575</b>	

Source: Special Calculations for the Meghalaya State Human Development Report by Veronica Pala.  
For details of data and methodology used please see the Report(MHDR2008).

The district with the highest HDI is East Khasi Hills district followed by West Garo Hills district. The two major towns of the state namely, Shillong and Tura, are in these two districts and the relatively higher HDIs of these districts seem to suggest that human development in Meghalaya has been urban-centric. The other five districts exhibit HDIs that are lower than the state average.

**Table 11.8.2: Human Development Indices of Districts of Meghalaya**

District	Infant Mortality Rate	Literacy	Combined Gross Enrolment Ratio	NSDP Per Capita at current prices (Rs.)	HDI	HDI Rank
East Khasi Hills	34.51	76.98	63.10	24793	<b>0.676</b>	<b>1</b>
West Garo Hills	18.13	51.03	65.99	13782	<b>0.571</b>	<b>2</b>
Ri Bhoi	60.63	66.07	50.47	14752	<b>0.496</b>	<b>3</b>
South Garo Hills	102.01	55.82	85.52	23321	<b>0.484</b>	<b>4</b>
Jaintia Hills	77.34	53.00	43.31	20405	<b>0.469</b>	<b>5</b>
West Khasi Hills	86.17	65.64	79.13	9926	<b>0.405</b>	<b>6</b>
East Garo Hills	90.60	61.70	60.91	12047	<b>0.396</b>	<b>7</b>
<b>Meghalaya</b>	<b>52.28</b>	<b>63.31</b>	<b>62.87</b>	<b>17595</b>	<b>0.550</b>	

Notes and data sources:

(i) Infant Mortality Rates are as per the estimates obtained from the Birth & Mortality Survey, 2007

(ii) Literacy rates are as per the Census of India, 2001

(iii) The gross enrolment ratio is obtained by dividing the combined enrolment numbers by the population aged 5 - 19 years in 2001. The combined enrolment numbers are for Classes I - XII as per the All India Seventh Educational Survey, 2002.

(iv) Net State Domestic Product Per Capita at current prices are for the year 2004-05 provided by Directorate of Economics & Statistics, Government of Meghalaya.

The most backward district of the state as per our calculations is East Garo Hills. However, five districts out of seven have HDIs value that are lower than 0.5. The HDI scale is a 0 to 1 scale and if we take 0.5 as the half way mark of development, then all districts of Meghalaya except East Khasi Hills and West Garo Hills fall short of that mark. Put another way, they have not achieved even half of what is supposed to be done in the basic areas of human development. South Garo Hills has the highest IMR among all the districts, but because of highest enrolment ratio, it manages to claim position No. 4 in the HDI ranking.

Summing up it may be noted that the concept of human development is much broader and more complex than any summary measure can capture. The HDI is not a comprehensive measure. It does not include important aspects of human development, notably the ability to participate in the decisions that affect one's life and to enjoy the respect of others in the community. The indices give an overview of some basic dimensions of human development, but they must be complemented by looking at the underlying data and other indicators.

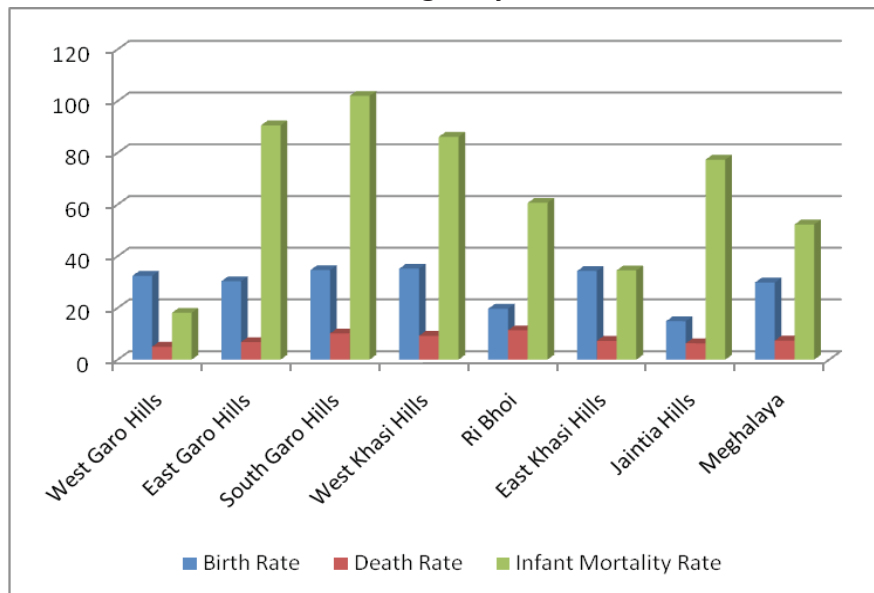
### 11.8.1. Health

The key indicators of the status of health of the people of Meghalaya do not show a happy picture. For instance, in 2002-04, full Immunisation Coverage for Children 12 - 35 months of age was only 14 percent, Coverage of Full Ante-Natal Care for Pregnant Mothers was only 12 percent and only 35 percent of deliveries are attended by skilled persons. The same indicators for the other North Eastern States are much better. Significant inter district variations are also observed. Full Immunisation Coverage for Children 12 - 35 months of age and Coverage of Full Ante-Natal Care for Pregnant Mothers are very low in the three districts of Garo Hills (Source: Rapid Household Surveys for RCH Services).

The IMR is one of the most important indicators of the health status because of its correlation with a number of health and economic characteristics like poverty, illiteracy, health and education of the mother, access to health care facilities and so on. The IMR in Meghalaya in 2007 is 52.28 per 1000 live births. South Garo Hills is observed to have the highest IMR (102) among all the districts. Other districts with IMR above the state average are East Garo Hills, West Khasi Hills, Ri Bhoi, and Jaintia Hills. In other words, the moderate IMR of the state is because of low IMR in East Khasi Hills and West Garo Hills only.

As per SRS survey, the IMR for Meghalaya in 2006 was 53. It is lower than the national average of 57. The rural IMR was 54 for Meghalaya, 62 for all India; urban IMR was 43 for Meghalaya and 39 for all India. Among the states in the North Eastern Region, Assam had the highest IMR of 67. The rest of the NE states showed IMRs that were lower than Meghalaya. Among the NE states, however, Meghalaya has the highest birth rate (24.7) and also the highest death rate (8.0) except Assam with death rate of 8.7 (SRS Bulletin, October 2007).

**Figure 11.8.2: Birth Rate, Death Rate and Infant Mortality Rate in Districts of Meghalaya, 2007**



Source: Birth and Mortality Survey, 2007

As per NFHS-3<sup>4</sup> (2005-06), the total fertility rate or number of children per woman in Meghalaya was 3.8. It has declined from 4.57 in 1998-99. However, this is much above the national average of 2.7. Other states with total fertility rate of 3 and above are Uttar Pradesh, Rajasthan, Madhya Pradesh, Jharkhand, Arunachal Pradesh and Nagaland. The contraceptive prevalence rate for currently married women is the lowest at 24 percent in Meghalaya among all the states in India. The national average is 56 percent. It is highest in Himachal Pradesh at 73 percent followed by West Bengal at 71 percent. A state closer to Meghalaya's performance in this regard is Nagaland at 30 percent.

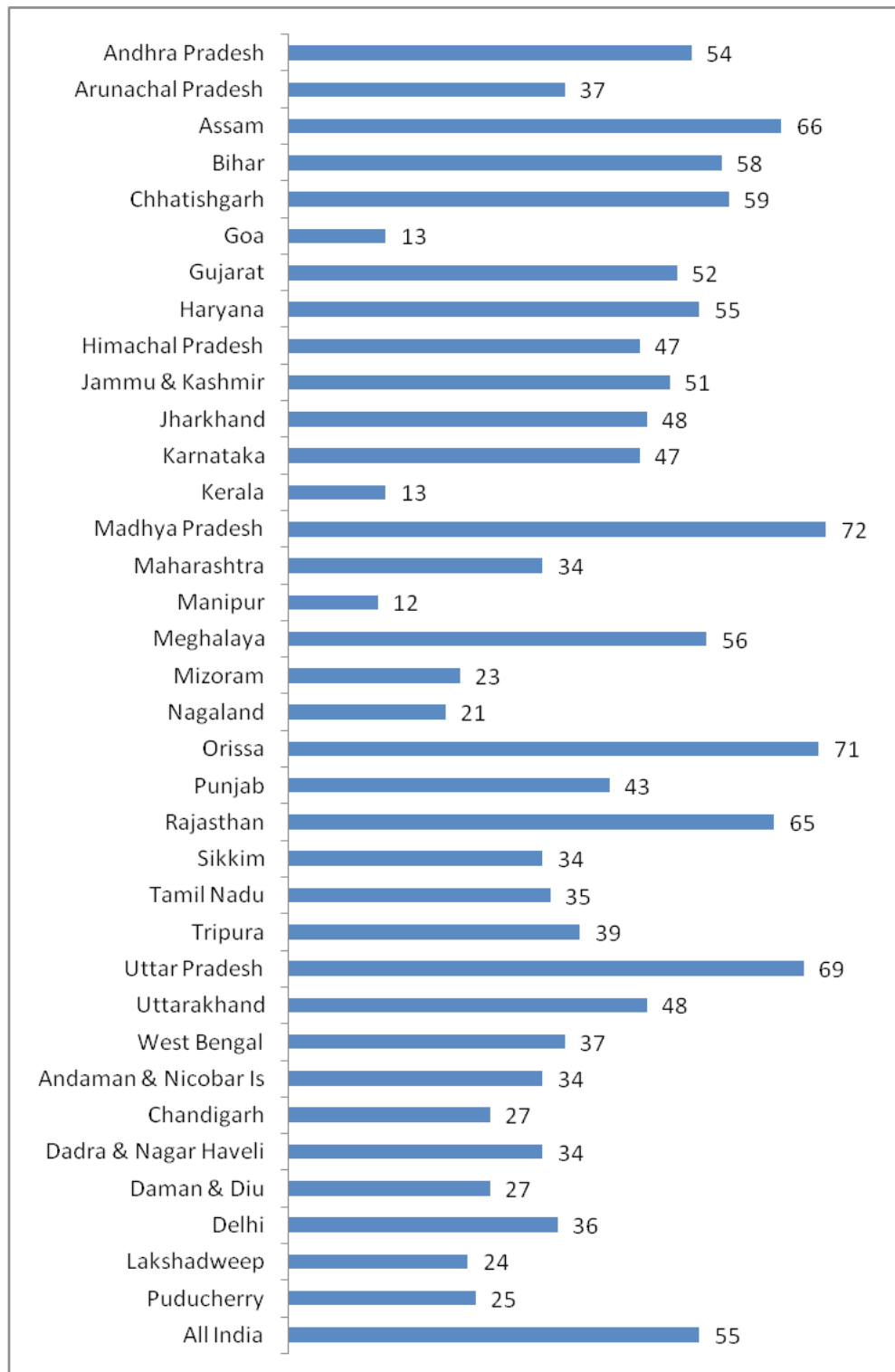
Unmet need for family planning among currently married women is 13 percent for the country as a whole. Among the states, the lowest is 5 percent in Andhra Pradesh and the highest is Meghalaya with 35 percent. In addition to Meghalaya, more than 20 percent of women have an unmet need for contraception in Nagaland, Jharkhand, Bihar and Uttar Pradesh.

At the all India level, as per NFHS-3, 52 percent of mothers had three or more antenatal care (ANC) visits. Meghalaya's figure is slightly above the national average at 53.4 percent. However, other indicators are below the national level. The percentage of births assisted by doctors/ nurses/ LHV/ ANM or other health personnel is 31.7 percent in Meghalaya; 47 percent for all India. The percentage of institutional births is 29.7 percent in Meghalaya; 39 percent for all India. The percentage of mothers who receive post natal care from doctors/ nurses/ LHV/ ANM or other health personnel is 28.8 percent in Meghalaya; 42 percent for all India. Besides, Meghalaya is among the states where the provision of IFA (iron and folic acid) supplements was far below the national average.

<sup>4</sup> Available at <http://www.nfhsindia.org>



Figure 11.8.3: Infant Mortality Rates of the States/UTs of India, 2007



Source: IMRs for bigger states are for the year 2007; for smaller states and Union Territories they are based on three year period 2005-2007 (SRS Bulletin, Vol 43, No. 1, October 2008).

At the all India level 48 percent of children under 5 years of age are stunted and 43 percent are underweight. Wasting is quite as serious problem in India, affecting 20 percent of children. In Meghalaya, 42 percent are stunted, 46 percent are underweight and 28 percent are wasted. These figures point to a very sad state of Undernutrition.

Anaemia is a very common problem in India. 79 percent of children aged 6-35 months are anaemic in the country as a whole. In Meghalaya, the figure stands at 68.7 percent. NFHS-3 reports that although state differentials in the prevalence of anaemia are marked, a high prevalence of anaemia is found in every state.

Meghalaya, however, shows significantly lower levels of Undernutrition and Obesity among adult men and women. In Meghalaya 14 percent (36 percent in all India) of ever married women have BMI below normal. 8 percent (34 percent in all India) of ever married men have BMI below normal. In India, 15 percent of ever married women are overweight and obese. The figure is less than half of the all India average in Meghalaya at 7 percent.

Anaemia is a major health problem for adults as well as in children. It affects 55 percent of women and 24 percent of men in India. In Meghalaya too the problem is serious with significantly less gender differential. It affects 45.4 percent of ever married women aged 15-49 and 34.2 percent of ever married men aged 15-49 in Meghalaya. 56 percent of pregnant women in Meghalaya are anaemic. This leads to high prevalence of anaemia among children.

The key indicators of the status of health of the people of Meghalaya are worrisome, to say the least. Much more needs to be done to improve the health care services and health of the people of Meghalaya.

The state has acute shortage of specialized manpower and proper basic health care facilities especially in the rural areas. Most of the CHCs in Meghalaya function without specialists. For providing quality health care services and for making these services more accessible to the rural poor population of Meghalaya, the provision of quality manpower is equally important. Presently for Meghalaya, quality manpower especially in respect of responsibility and dedication is of more urgent need in addition to the number of medical and paramedical personnel. In this connection the focus on monitoring and supportive supervision is the need of the day to day activities. Further, there are concerns about the quality of service being provided to the people.

Meghalaya has no Medical College; the North East Indira Gandhi Regional Institute of Health and Medical Sciences (NEIGRIHMS), which is now commissioned and where the first batch of MBBS students have been enrolled, will have a 500 bedded Super-Speciality Hospital. However, there are a number of vacancies in the faculty in various departments.

For requirement of nursing staff, etc. there are 5 training centres in the public sector which include: 1 Regional Health and Family Welfare Training Centre, 2 GNM training centres, and 2 Nursing Training Schools and 1 ANM training school. The State Government had also submitted its requirement of 2 additional GNM Training Schools to be set up at Tura Civil Hospital and Jowai Civil Hospital.

Public investment has been recognized as an indicator of planning priorities. But investment in public health in the country as a whole – and in Meghalaya – does not show that health care has been given due importance.

The central resources to the overall public health funding have been limited to about 15 percent only. There is also inherent problem of absorption of programmatic fund due to various factors. The current annual per capita public health expenditure is no more than Rs 200. But with the launching of NRHM by the Government of India, it is expected that things will greatly improve. It remains to be seen how well the entire health sector absorbs the fund and the managers in the state leverage and perform under NRHM.

### 11.8.2. Education

The literacy rate of Meghalaya in 2001 is slightly lower than the national literacy rate. Rural literacy rates continue to be low. The total literacy rate in Meghalaya mainly is a reflection of the situation prevailing in the rural sector. The urban literacy rate in Meghalaya is in fact about 7 percentage points higher than the national literacy rate.

**Table 11.8.3: District Wise Literacy Rates in Meghalaya by Place of Residence**

Districts	1981			1991			2001		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
Jaintia Hills	20.77	66.01	24.51	30.35	81.37	35.32	48.97	91.14	52.79
East Khasi Hills	31.95	65.25	43.73	46.36	83.68	60.04	63.72	88.65	74.74
West Khasi Hills	31.47	52.35	31.97	49.06	71.82	50.52	63.13	83.83	65.50
East Garo Hills	33.05	47.41	33.51	46.99	68.79	48.38	57.97	82.15	61.57
West Garo Hills	21.69	61.25	25.91	34.34	78.29	39.32	46.09	85.17	50.78
South Garo Hills	NA	NA	NA	NA	NA	NA	62.66	77.10	63.67
Ri Bhoi	NA	NA	NA	NA	NA	NA	52.28	83.96	55.21
Meghalaya	27.45	64.12	34.08	41.05	81.74	49.10	57.00	87.12	63.31
All India	29.65	57.40	36.23	44.70	73.10	52.20	59.40	80.30	65.38

Source: Census of India, 1981, 1991, 2001

There are wide intra state variations in educational achievement. West Garo Hills has the lowest literacy rate followed by Jaintia Hills District. In the state as a whole, we note that the female literacy rate is lower than male literacy rates in all the three years. This is more like what can be seen at the all India level except that the quantum of gender gap is much smaller (about 7 percentage points) in Meghalaya than all India (more than 20 percentage points). We observe a similar gender gap in the literacy between males and females among the districts in Meghalaya except for the Jaintia Hills District where the female literacy rate is higher than their male counterparts.

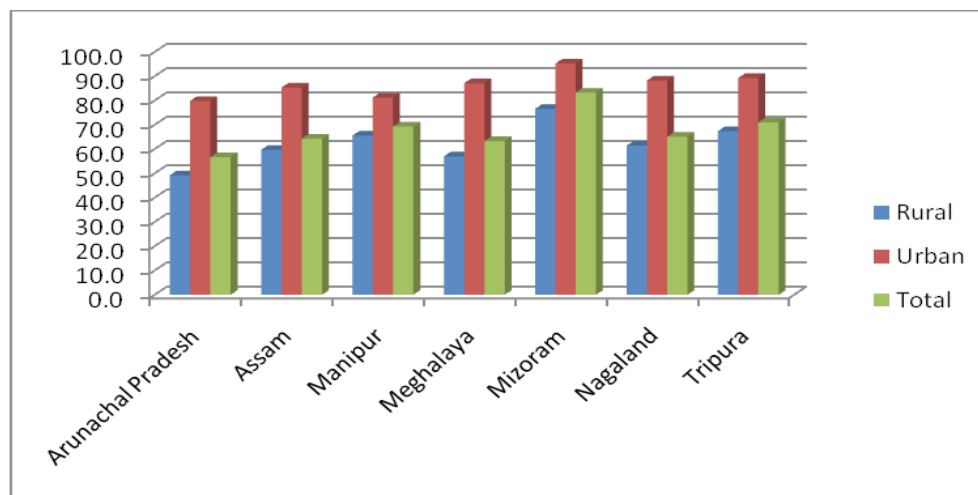
**Table 11.8.4: District Wise Literacy Rates in Meghalaya by Sex**

Districts	1981			1991			2001		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Jaintia Hills	24.63	24.38	24.51	34.37	36.31	35.32	50.52	55.54	53.00
East Khasi Hills	46.96	40.30	43.73	62.86	57.04	60.04	78.12	75.82	76.98
West Khasi Hills	34.08	29.75	31.97	52.98	47.94	50.52	67.02	64.21	65.64
East Garo Hills	39.01	27.66	33.51	54.70	41.70	48.38	67.39	55.74	61.70
West Garo Hills	32.04	19.55	25.91	46.93	31.32	39.32	57.51	44.51	51.03
South Garo Hills	NA	NA	NA	NA	NA	NA	62.60	48.61	55.82
Ri Bhoi	NA	NA	NA	NA	NA	NA	69.22	62.67	66.07
Meghalaya	37.89	30.08	34.08	53.12	44.88	49.10	66.14	60.41	63.31
All India	46.89	24.82	36.23	64.13	39.29	52.21	75.85	54.16	65.38

Source: Census of India, 1981, 1991 and 2001.

Meghalaya is located in the northeastern region in arguably the most backward region of India. Here we have compared the literacy rates in other six states, namely, Arunachal Pradesh, Assam, Manipur, Mizoram, Nagaland and Tripura with that of Meghalaya. Meghalaya ranks second from the bottom after Arunachal Pradesh as per 2001 Census, though the literacy rate has increased considerably over the years. However, the situation in the rural sector of the state appears to be worse compared to the other states in the Northeastern Region. In 1981 about 28 percent of the rural population of Meghalaya was literate. This is the second lowest literacy rate in the region after Arunachal Pradesh (19 percent). Rural Meghalaya continued to be second ranked from bottom in 1991 as well as in 2001. The Urban sector of the state has done relatively better than the rural sector within the state though in terms of ranking, Meghalaya ranks fourth out of seven states in the region.

Figure 11.8.4: Literacy Rate in NE State (2001 Census)

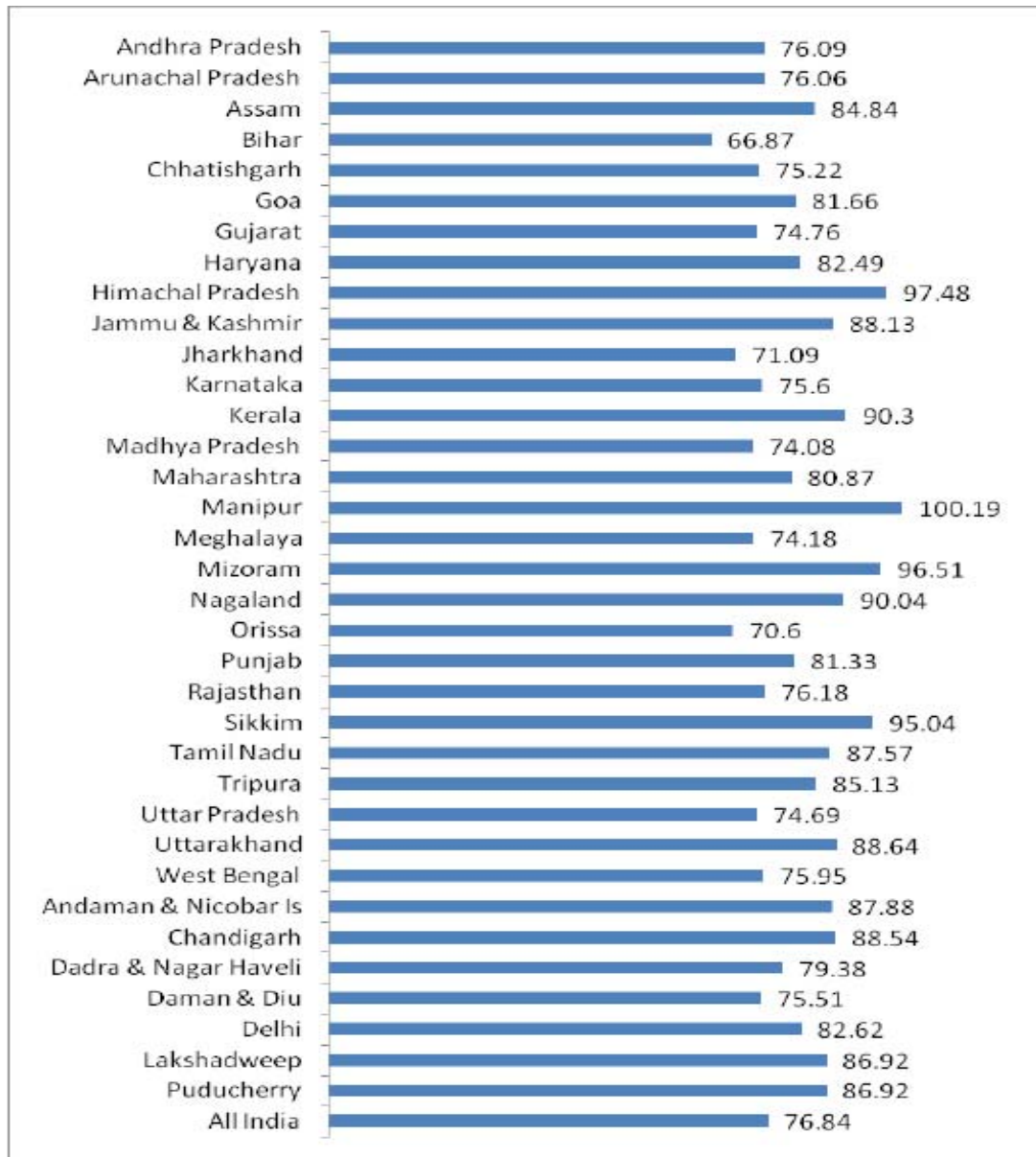


The combined enrolment ratios of Meghalaya indicate that the state is at a low level of achievement in this respect. A combined GER of 74.18 percent in 2004-05 as per NSSO estimates (see Figure 11.5) is lower than the all India average of 76.84 percent. The state ranks fifth from the bottom in enrolment among the 35 states and Union Territories in the country. Meghalaya is ahead of only Bihar (66.87 percent), Orissa (70.60 percent), Jharkhand (71.09 percent) and Madhya Pradesh (74.08 percent) in the combined gross enrolment of Classes I – XII in 2004-05.

There are significant intra state variations in enrolment as seen in Figure 11.6. Highest enrolment rate is observed in South Garo Hills with 85.5 percent and the lowest in Jaintia Hills with 43.31 percent. Female enrolment rates are higher in East Khasi Hills, Ri Bhoi, Jaintia Hills and West Khasi Hills. It appears that the notion that education for boys is not considered important since they will leave their parental homes for their wives' homes is still prevalent to some extent in the matrilineal societies of Khasi-Jaintia Hills. The gender gap in enrolment in the three districts of Garo Hills is negligible.

The GDI for Meghalaya is higher than most states in India. The reverse or negligible gender gap in enrolment in the mentioned districts is one of the main factors that lead to higher GDI.

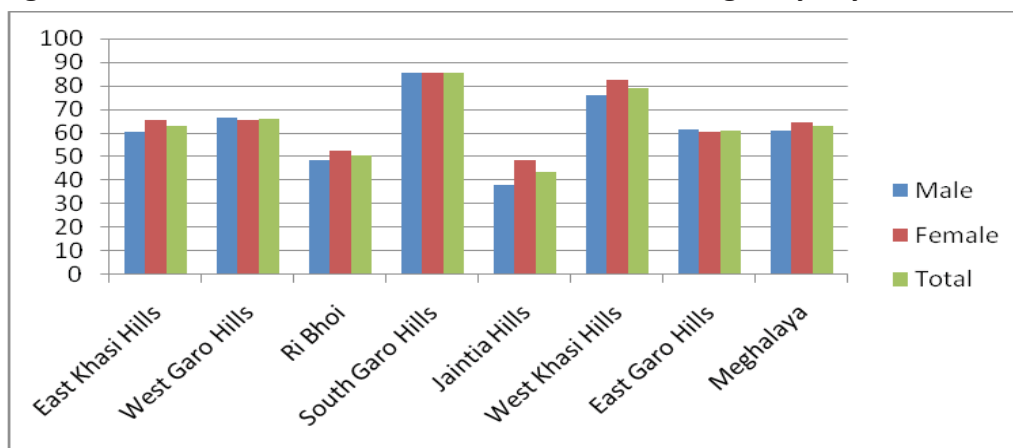
Figure 11.8.5: Combined Gross Enrolment Ratios of the States/UTs in 2004-05



Note: Gross Enrolment in Classes I – XII in the age group of 6 - 18 years is taken into consideration.

Source: Special tabulation by Veronica Pala using unit record data of the National Sample Survey on Employment and Unemployment, 61st round.

Figure 11.8.6: Gross Enrolment Rates in Districts of Meghalaya by Sex in 2002



Note & Source: (a) The gross enrolment ratio is obtained by dividing the combined enrolment numbers by the population aged 5 - 19 years in 2001. The combined enrolment numbers are for Classes I - XII as per the All India Seventh Educational Survey, 2002.

Table 11.8.5: Gross Enrolment Ratio by Place of Residence and Sex (2004-05)  
(in %)

Standard	Rural			Urban		
	Boys	Girls	All	Boys	Girls	All
<b>Meghalaya</b>						
Primary	117.22	118.12	117.63	105.97	96.62	101.58
Middle	51.96	66.69	58.87	110.17	72.42	88.52
Secondary/Higher Secondary	44.29	48.46	46.28	91.47	93.76	92.66
Graduate and Above	1.29	3.32	2.36	16.91	12.67	14.53
<b>All India</b>						
Primary	112.05	106.86	109.63	105.92	100.10	103.09
Middle	80.96	69.44	75.57	85.35	82.71	84.07
Secondary/Higher Secondary	57.30	41.52	50.05	72.19	72.54	72.35
Graduate and Above	7.73	4.49	6.08	18.42	15.99	17.29

Source: Special Tabulation by Veronica Pala using NSS 61st round Employment and Unemployment Data.

The educational infrastructure leaves much to be desired especially in the rural areas. Indicator of 'quality school' is much more than just construction of **pucca** building. Other infrastructural facilities like drinking water facilities, proper toilet facilities including the provisioning of separate toilets for girls, etc. are very important to assess the quality of educational infrastructure.

Table 11.8.6 reveals that 18.3 percent of Lower Primary (LP) schools and 24 percent of Upper Primary (UP) schools do not have buildings of their own. 25 percent of LP schools and 20 percent of UP schools are in dilapidated condition. 60 percent of LP schools and 91 percent of UP

schools need additional classrooms. Only 22 percent of LP schools have drinking water facility. 57 percent of LP schools and 73 percent of UP schools are without toilet facilities and only 5 percent and 11 percent of LP and UP schools respectively have separate toilet for girls. Only about a quarter of the schools have playgrounds and 99 percent do not have kitchens for midday meals.

**Table 11.8.6: Educational Infrastructure Gaps in Primary Schools of Meghalaya, 2005-06**

Stage	Total Schools	Schools without Own Building	Schools in dilapidated Condition	Schools requiring Additional Classrooms	Schools without drinking water facility	Schools without Toilet facilities	Schools with Girls' Toilet	Schools with play-ground	Schools without kitchen for midday meals
<b>Number</b>									
<b>LP</b>	5851	1070	1488	3532	1336	3363	298	1354	5820
<b>UP</b>	1759	423	347	1599	NA	1286	190	492	1742
<b>Total</b>	7610	1493	1835	5131	1336	4649	488	1846	7562
<b>Percentage</b>									
<b>LP</b>	100.00	18.29	25.43	60.37	22.83	57.48	5.09	23.14	99.47
<b>UP</b>	100.00	24.05	19.73	90.90	NA	73.11	10.80	27.97	99.03
<b>Total</b>	100.00	19.62	24.11	67.42	NA	61.09	6.41	24.26	99.37

Source: Directorate of Elementary and Mass Education, Government of Meghalaya, Shillong.

Thus educational infrastructure gaps in Meghalaya gravely indicate the sorry state in which many of the schools are provision, extension and maintenance of the school buildings along with the basic facilities like drinking water and toilets should be given utmost importance and priority.

Over the years Meghalaya has made considerable progress as far as literacy and education is concerned. Besides, literates in Meghalaya are more evenly distributed across households in both rural and urban sector than all India. Further, though there are some indications of gender gap and rural-urban gap prevailing in the state it is much lower than that for the country as a whole. However, there exists intra-state disparity in literacy rates and distribution of schooling facilities in Meghalaya. There is also a lack of access to schools beyond primary level and higher educational institutions especially in the rural areas that adversely affects school participation and literacy in the state.

A lot needs to be done to improve the access to basic infrastructure including increasing the number of teachers especially trained teachers thereby improving the quality of teaching. In addition, there is a need to construct more schools and higher educational institutions, evenly distributed across the state. This will contribute positively towards school attendance and enrolment.

### 11.8.3 Poverty

The official poverty ratios (as reported by the Planning Commission) are reported separately only for Assam from among the states in the NER. For remaining seven states in the region, i.e. including Meghalaya, the poverty ratios of Assam have been assigned. Since the poverty ratios



used by the Planning Commission, GOI for Meghalaya are those of Assam, we have no reliable data on the incidence of poverty in Meghalaya.

The Ministry of Rural Development, GOI advised all the States and Union Territories to conduct the BPL Census for identifying the households living below the poverty line at the beginning of every Five Year Plan. The Government of Meghalaya conducted the BPL Census in 1997 and 2002.

**Table 11.8.7: Poverty Incidence in C&RD Blocks of Meghalaya as per BPL Census, 2002**

<b>C&amp;RD Block/ District/State</b>	<b>Total Households</b>	<b>BPL Households</b>	<b>Percentage of BPL Households</b>
Jirang	5078	3551	69.93
Umling	11065	4390	39.67
Umsning	16447	8335	50.68
<b>Ri Bhoi District</b>	<b>32590</b>	<b>16276</b>	<b>49.94</b>
Amlarem	7185	3735	51.98
Khliehriat	10759	3390	31.51
Laskein	10931	3364	30.77
Saipung	5155	2780	53.93
Thadlaskein	15741	6394	40.62
<b>Jaintia Hills District</b>	<b>49771</b>	<b>19663</b>	<b>39.51</b>
Mairang	15533	7089	45.64
Mawkyrwat	10203	5046	49.46
Mawshynrut	9623	4968	51.63
Mawthadraishan	8532	3698	43.34
Nongstoin	10279	4672	45.45
Ranikor	9781	5007	51.19
<b>West Khasi Hills District</b>	<b>63951</b>	<b>30480</b>	<b>47.66</b>
Khadarshnong Laitkroh	6307	3355	53.19
Mawkynew	8594	3976	46.26
Mawphlang	14492	9594	66.20
Mawryngkneng	10960	5236	47.77
Mawsynram	11941	6615	55.40
Mylliem	35540	10936	30.77
Pynursla	12278	6986	56.90
Shella Bholaganj	9003	4299	47.75
<b>East Khasi Hills District</b>	<b>109115</b>	<b>50997</b>	<b>46.74</b>
Betasing	13094	7391	56.45
Dadenggre	7893	4354	55.16
Dalu	8827	4417	50.04

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C&RD Block/ District/State	Total Households	BPL Households	Percentage of BPL Households
Gambegre	7469	4208	56.34
Rongram	9628	5370	55.77
Selsella	23355	12252	52.46
Tikrikilla	10544	5790	54.91
Zikzak	14889	7618	51.17
<b>West Garo Hills District</b>	<b>95699</b>	<b>51400</b>	<b>53.71</b>
Dambo Rongjeng	8830	4208	47.66
Kharkutta	9229	5201	56.35
Resubelpara	15400	10582	68.71
Samanda	6151	3566	57.97
Songsak	10788	4635	42.96
<b>East Garo Hills District</b>	<b>50398</b>	<b>28192</b>	<b>55.94</b>
Baghmara	5428	1931	35.57
Chokpot	5286	2778	52.55
Gasuapara	4136	2481	59.99
Ronggara	3298	1036	31.41
<b>South Garo Hills District</b>	<b>18148</b>	<b>8226</b>	<b>45.33</b>
<i>Total State</i>	<i>419672</i>	<i>205234</i>	<i>48.90</i>

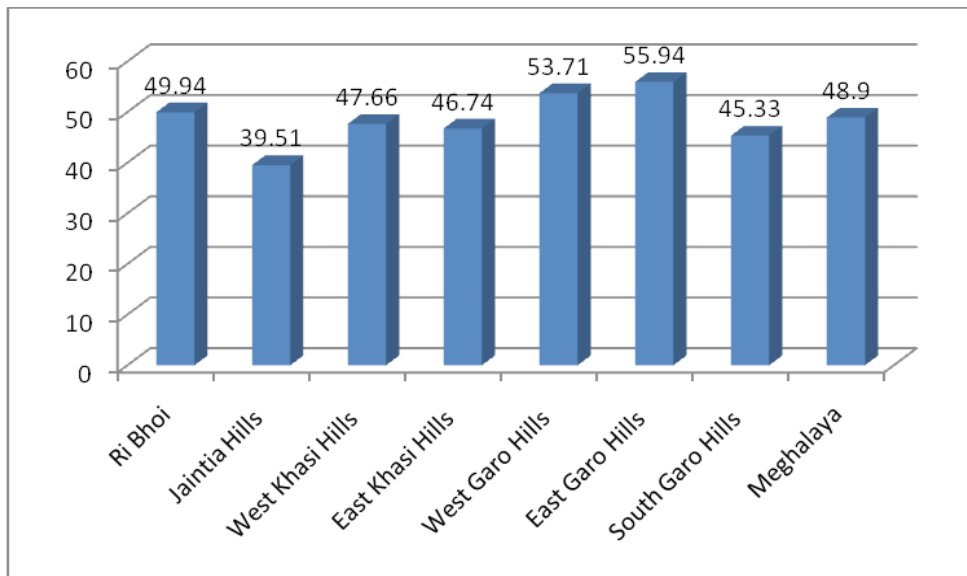
Source: Community & Rural Development Department, Government of Meghalaya.

Table 11.8.7 shows that the proportion of households living below the poverty line is a staggeringly huge figure at 48.9 percent. East Garo Hills district has the highest incidence of poverty at 56 percent followed by West Garo Hills district at 54 percent. Jaintia Hills district has the lowest proportion of households below the poverty line at a little less than 40 percent. The incidence of poverty in the other districts is in the range of 45 – 50 percent.

However, the use of different score limits for different Blocks makes comparison impossible across the Blocks and districts except in cases where the poverty line (score limits) are the same. That is, two households which have more or less the same standard of living may be classified as poor in case of one household and non poor in case of another if they happen to be in two different Blocks with different score limits.

Estimation of the incidence of poverty as measured by the proportion of people living below the poverty line hinges crucially on the poverty line and how it is defined. There are several problems associated with the concept of poverty line, especially in Meghalaya and the other NE states as highlighted in this chapter. Nevertheless, poverty is pervasive and is evident to anyone who takes a look at the living conditions of the people of Meghalaya, especially those who reside in the remote rural areas of the state.

**Figure 11.8.7: Proportion of Households Living Below the Poverty Line in Districts of Meghalaya in 2002**



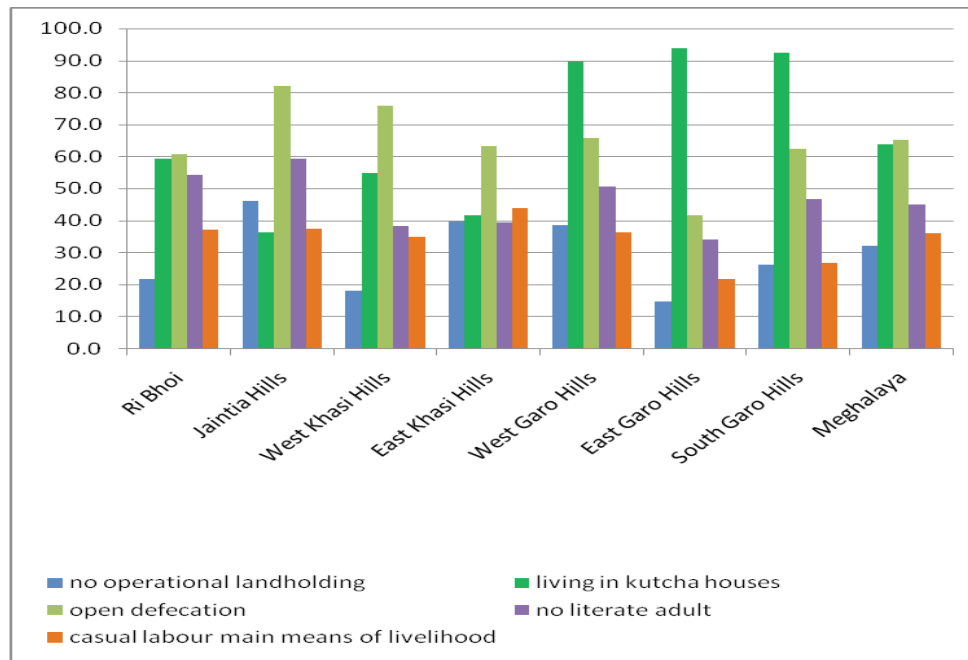
Source: BPL Census, 2002

The BPL Census, by using the score based ranking method, provides us with very important insights into the living conditions of the people of Meghalaya. The 13 indicators shed light, among others, on the adequacy of food, clothing and shelter; educational status and the assets that the people possess; the important means of livelihood and the type of assistance that the people prefer.

In the entire state of Meghalaya, 31.9 percent of households score 0 in indicator 1. In effect, this gives the percentage of households with no operational size of landholding, while 44.3 percent have less than 1 hectare of un-irrigated land or less than half a hectare of irrigated land. 63.7 percent live in kutchha houses and 22 percent live in semi-pucca houses. More than half, i.e. 58.2 percent have only 2-3 pieces of clothing per person. In respect of food, we note that 50 percent of households have two square meals a day with occasional shortage (score 3) and 18 percent of households have adequate food throughout the year. 5 percent of households suffer from acute hunger getting less than one square meal a day for major part of the year. 65 percent score 0 in sanitation. In other words, 65 percent of households resort to open defecation. 45 percent of households score 0 in literacy status of the highest literate adult. This means that 45 percent of households had no literate adult in 2002. A large proportion of households (39.4 percent) reported that their highest literate adult studied upto primary level only.

Rural indebtedness is a problem for many households of Meghalaya. 35.7 percent reported that they borrowed for daily consumption purposes from informal sources, i.e. friends, relatives and moneylenders. 16 percent borrowed for production purposes but from informal sources. We note that institutional credit is not significant at all in the rural areas. Only 2.5 percent of households borrowed from institutional sources. 32 percent of households reported no indebtedness.

Figure 11.8.8: Selected Indicators of Poverty, 2002



Note: The figure shows percentages of households in each category out of the total households in each district.

Source: BPL Census, 2002.

Coming to the status of households in labour force, we observe that 54.4 percent reported that only adult males work, while 11.7 percent reported that only adult females work and there is no child labour. 8 percent of households had to send their females and children to work. Most of the households derive their livelihood from vulnerable sources. We observe that 41.9 percent reported subsistence cultivation as their means of livelihood while 36 percent of households get their livelihood from casual labour. 3.5 percent of households were artisan households. Child labour is common in Meghalaya. 26.8 percent of households have at least one child who works and does not go to school at all. 25 percent of households have at least one child who goes to school and works at the same time. Only 27.6 percent of households send all their children to school.

Most of the rural households (63.6 percent) were non-migrant households. 14.3 percent migrated for casual work, 10.9 percent migrated for seasonal employment and 6.1 percent migrated for other forms of livelihood. Coming to preference for assistance from the Government, 44 percent of households would like to get help in starting their own enterprises. 20.4 percent would like to get wage employment or Targeted Public Distribution system and 20.1 percent would like assistance for housing. Only 4.1 percent wished to have training or skill upgradation assistance. Ownership of consumer durables is another important indicator of the standard of living. 77.6 percent of households did not own any consumer durables like TV, radio or modern kitchen appliances.

Measurement of poverty critically depends on the poverty line definitions which should be current or access to goods and services besides assets on the score card or other socio-economic parameters that captures real situation and proper survey. The chapter suggests appointing a panel

of experts to assess and devise a proper methodology and course of action to define and determine the people below poverty line at current level for Meghalaya. To address the multifaceted face and challenge of poverty and deprivation we require a multifaceted approach involving policy and action.

Stagnant agriculture, low productivity, and lack of backward and forward linkages need to be addressed upfront. Helping small farmers and to increase productivity through investment, subsidy and appropriate linkages should be our focus. Stress on non-farm activity that bolster traditional and private sector activities, with special attention to micro enterprises would also be needed in the rural areas.

Many well-conceived poverty alleviation programmes seeking to empower rural poor through group efforts supplemented by agriculture and allied activities and social services like education, health and social welfare, water and sanitation, and labour welfare measures already exist. All that is required is effective delivery mechanisms and instruments so that these reach the intended beneficiaries.

#### **11.8.4 Gender Related Issues**

Gender issues assume special significance since the major tribes of Meghalaya follow a unique system of matriliney. As far as the Gender-related Development Index (GDI) is concerned, Meghalaya is in a better position compared to most of the states in India. The GDI rank of Meghalaya was 12<sup>th</sup> in 1981 and improved to 7<sup>th</sup> in 1991<sup>5</sup>. However, the GDI could not be calculated in 2005 due to lack of data.

**Table 11.8.8: Gender Related Development Index of Districts of Meghalaya**

District	Sex	Population	IMR	Literacy	Combined gross enrolment ratio	Share in economically active population	Ratio of female to male rural labour wage	NSDP at current prices (Rs in lakh)	GDI	GDI Rank
East Khasi Hills	M	333187	27.26	78.12	60.67	63.03	0.679	171616	0.640	1
	F	327807	41.43	75.82	65.55	36.95				
West Garo Hills	M	259440	18.96	57.51	66.42	59.82	0.825	74764	0.550	2
	F	256373	17.32	44.51	65.54	39.99				
Ri Bhoi	M	99315	53.09	69.22	48.64	57.52	0.729	29769	0.478	3
	F	93480	68.28	62.67	52.39	42.47				
South Garo Hills	M	51051	88.08	62.60	85.74	55.38	0.813	24796	0.477	4
	F	48054	114.99	48.61	85.30	44.63				
Jaintia Hills	M	149376	97.64	50.52	37.94	57.10	0.683	63756	0.437	5
	F	146316	55.80	55.54	48.71	43.00				
East Garo Hills	M	126312	96.75	67.39	61.46	54.77	0.846	31630	0.392	6
	F	121243	84.83	55.74	60.36	45.26				

<sup>5</sup> Please refer the National Human Development Report, 2001

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West Khasi Hills	M	149159	91.51	67.02	75.91	53.91	0.544	30692	0.321	7
	F	144956	81.14	64.21	82.53	46.06				
Meghalaya	M	1167840	51.55	66.14	61.12	58.51	0.742	427024	0.534	
	F	1138229	52.99	60.41	64.67	41.47				

Notes and data sources: As in Table 11.2

The gender-related development index (GDI), measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is simply the HDI adjusted downward for gender inequality. The ranking of the districts by GDI is exactly the same as the ranking by HDI with one exception. West Khasi Hills replaces East Garo Hills at the bottom of the GDI ranking.

The GDI values show the existence of gender inequality in all districts. However, it may be said that in the spheres of health (as captured by the Infant Mortality rate), education (as captured by the literacy rate and enrolment rate) and income, gender imbalance in Meghalaya is prevalent at a lower degree compared with most other states in India. This is because of lower gender gap in literacy and enrolment as well as higher female labour force participation. In four districts of East and West Khasi Hills, Ri Bhoi and Jaintia Hills, we observe a reverse gender gap in enrolment, i.e. female enrolment rates are higher than male enrolment rates. In the three districts of Garo Hills, on the other hand, the gender gap in enrolment is negligible.

West Khasi Hills has the lowest GDI among all the districts. The reason lies in the disparity of wages between men and women. As per the data on Rural Labour Wages collected by the Directorate of Economics and Statistics, Government of Meghalaya in 2005, the ratio of female to male wages is 54 percent in West Khasi Hills. The ratio is 68 percent in East Khasi Hills and Jaintia Hills, 81 percent in South Garo Hills, 83 percent in West Garo Hills, 85 percent in East Garo Hills and 73 percent in Ri Bhoi.

The GDI of Meghalaya, as discussed earlier, is higher than most of the states in India. This is because of high workforce participation of women and negligible gender gap in school enrolment. Female literacy rates in Meghalaya are lower compared to males, although with a significantly lower gender gap. However, the indicators of women's health show that there are serious inadequacies in maternal health care, use of family planning methods and nutrition.

It may be noted here that higher participation of women in the labour force may be looked at from two aspects and the work participation rate itself will not convey whether women's welfare is improved or not with high participation. For poor and uneducated women, working or not working is not a choice. They have to work to support their families and their burden is actually more, since generally they have to attend to domestic chores as well. With high level of fertility, this burden is compounded along with the psychological burden of seeing their children work and not attending schools. On the other hand, being a worker increases the independence and decision making power of the women within their respective households. For educated women who can command higher wages in the labour market, higher participation in the labour force definitely increases their welfare and has a direct relation with women empowerment.

Women in Meghalaya have a higher status compared to their counterparts in the patrilineal societies. Women inherit the parents' property - acquired and ancestral. Women get the better share as the custodian of the property and the keeper of the home and hearth. For women coming from poor or landless families these property rights are meaningless. However, their responsibilities are no less than their landed counterparts.

When it comes to public life, the mindset and long-held views and attitude against women still pose a major obstacle for women to enter electoral politics. Authority in its real sense is the exclusive preserves of men. Local administration is completely under the domain of men.

Women in Meghalaya suffer from problems of illiteracy, poverty and malnutrition, male drunkenness and family discord. Cases of domestic violence and sexual crimes also are not unheard of. These problems are universal and the prevalence of matrilineal system does not guarantee gender equality and absence of gender related discrimination.

Chapter 8 of the Meghalaya State Human Development Report also outlines some of the programmes undertaken to promote women's empowerment in the state. The achievement of these programmes has been minimal in terms of the number of beneficiaries. Much more needs to be done for upliftment of women, especially women belonging to the poor and vulnerable sections of the society.

### **11.9 Conclusion**

Meghalaya may be considered to be a case of unfulfilled potential in many ways. The rich natural resource base of the state has been sub-optimally utilised. Therefore, the challenge ahead is to harness the resources to the full potential and more importantly, to bring the fruits of development to the people, especially the poor and the powerless.

Achievements in the sphere of human development have been mainly urban centric. The rural and remote areas remain under developed and large numbers of people in these areas still do not have access to basic health care facilities and proper schools. Lack of rural infrastructure development limits the opportunities for better livelihood. Further the existing system of governance needs reforms to improve the delivery mechanism.

In the struggle for enhancement of human welfare the challenges ahead are many. Provision of social services like education, health, water supply and nutrition should be given topmost priority. The state should strive for enhancement of the level of human well being through creation of essential infrastructures, provision of educational avenues including diversified training for skill development, generation of employment opportunities, extensive health care, adequate attention for women and children welfare, improvement of environment, and provision of safe drinking water supply and sanitation.

Generation of employment, particularly in the rural areas should be one of the state's top priorities. For Meghalaya, we see great potential for creation of jobs in the rural areas in the field of post harvest management, agro processing and tourism. There is a need to increase

employment in non-agricultural sector and rural non-farm sector with development of clusters around towns/market centres. Learning from experiences gained from the implementation of the Self Help Groups (SHGs) and watershed based approach on livelihoods under North Eastern Region Community Resource Management Programme and Livelihoods Improvement Programme assisted by International Fund for Agriculture Development (IFAD), it is important to cover all areas of the State under livelihood improvement programme with adequate investment and appropriate institutional mechanisms. Reforms of planning and development structure by converging programmes may see better outcomes. There is an urgent need to upgrade skills of our youth to enable them to stand on their own feet. A skill development mission for the rural areas may be evolved and supported.

Participation of the people at the grassroot level in planning process has made a beginning through the implementation of the National Rural Employment Guarantee Act (NREGA) in the state. The government of Meghalaya has evolved a system of village employment councils consisting of both elected representatives at the village level and the traditional heads of village and tribal institutions in these councils. This will ensure the participation of village people in the formulation, execution and monitoring of plans locally, in a democratic manner. The government may plan to expand the concept for people's participation in planning and development as envisaged in this Report. Both for addressing the issue of poverty and for addressing the demand side of agriculture, all districts of Meghalaya have been now covered under National Rural Employment Guarantee Act (NREGA).

The augmentation of the standards of public services like education, healthcare, water supply, sanitation, housing, etc. requires significant commitment of additional resources by the government. Branches of good quality schools should spread to our blocks and villages. Good quality model schools need to be established in each Block of Meghalaya. One Central school/ Navodaya Vidyalaya or equivalent with hostel facilities should be set up in each Block for tapping and promoting available rural talent in Meghalaya. Further, we need more specialized seats for our in-service doctors who will provide better health service.

Summing up, improvement of health care services; increasing the number of quality schools and skill development centres; developing alternative and sustainable models and means of livelihood; and participatory development strategy are major areas that should be given top priority and utmost importance for promoting human development in Meghalaya. The real challenge, however, is to bring the benefits of development to the backward and poor sections of the society, especially in the remote rural areas. Reforms in governance are a must to enable and ensure the participation of the poor to enhance quality of life and to derive the fruits of development in the State.



# **CHAPTER - XII**

## **LABOUR & EMPLOYMENT**

## CHAPTER XII

### LABOUR AND EMPLOYMENT

12.0. Labour being a primary factor of production, the size of the labour force is of great importance in determining the level of economic activity in any country. The level of employment, its composition and the growth in employment opportunities is a critical indicator of the process of development in any economy. It is also an indicator that, in most cases, directly captures the economic attainments and hence the level of well being of individuals (National Human Development Report, 2001).

Economic backwardness is the leading problem of the state as majority of the population is below the poverty line. Although the state is rich in mineral resources, the industrial linkages are virtually absent and government is the major source of employment in the organized sector. Activities like animal husbandry, fishery, poultry and horticulture have not been targeted as a major source of employment. Therefore, agriculture forms the only option for the people to seek gainful employment. This too is influenced by impediments such as shifting agriculture, poor productivity, land tenure system and traditional methods of cultivation. All these factors have resulted in poor land and labour productivity.

As unemployment and poverty are correlated, it becomes necessary to understand the occupational pattern of labour force and status of employment to analyse the development in the state. The data pertaining to social, economic, demographic, and labour force conditions helps in understanding the demand and supply of labour in the market.

#### **12.1 Work Force participation Rate**

The 1981 census defined worker as a person whose main activity is participation in any economically productive work by his physical or mental activity. Work involves not only actual work but also effective supervision and direction of work. The census classifies workers into main and marginal workers. Main workers are those who work for major part of the year, i.e. 6 months or more, while marginal workers are as those who do not work for major part of the year i.e. they work for less than 6 months. Here we have considered the total workers including main and marginal workers.

The term labour force or 'economically active' population refers to the population, which supplies or seeks to supply labour for production and therefore, includes both employed and unemployed. Work Participation rate refers to the number of persons usually employed. Unemployment rate on the other hand refers to the number of persons who are seeking or are available for work out of the total labour force.

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The adoption in 1991 and 2001 census of almost the same definition and concept of workers (main and marginal) of 1981 census has rendered the direct comparison of the results possible. Table 12.1 reports the work force participation rate in the different districts of Meghalaya in 1981, 1991 and 2001.

**Table 12.1: Work Force Participation Rate in the Different Districts of Meghalaya in 1981, 1991 and 2001**  
(in percent)

Year	Districts	Total			Rural			Urban		
		Persons	Males	Females	Persons	Males	Females	Persons	Males	Females
1981	Jaintia Hills	49.36	55.90	42.67	50.61	56.76	44.31	35.49	46.30	24.60
	East Khasi Hills	41.62	52.44	30.17	46.41	54.88	37.66	32.85	48.11	16.04
	West Khasi Hills	51.24	54.05	48.28	51.48	54.05	48.79	41.55	54.23	25.60
	East Garo Hills	45.59	52.36	38.40	45.94	52.50	39.02	34.76	48.37	17.12
	West Garo Hills	48.21	55.85	40.29	50.44	57.25	43.44	29.55	44.62	12.56
	Meghalaya	45.92	54.12	37.49	48.85	55.09	42.05	32.63	61.66	16.12
1991	Jaintia Hills	46.44	52.65	40.05	47.66	53.64	41.50	34.62	43.04	25.98
	East Khasi Hills	39.20	49.70	28.11	42.43	50.63	33.97	33.14	48.03	16.70
	West Khasi Hills	43.82	47.46	40.00	44.67	47.93	41.23	31.70	40.68	22.15
	East Garo Hills	44.09	48.66	39.32	44.97	49.19	40.60	31.17	41.32	19.57
	West Garo Hills	44.66	51.15	37.90	46.68	52.46	40.70	28.04	40.72	14.00
	Meghalaya	43.06	49.09	36.69	45.95	50.63	41.07	30.47	42.59	17.06
2001	Jaintia Hills	42.42	47.95	36.86	43.56	49.01	38.06	29.95	36.00	24.16
	East Khasi Hills	38.82	48.54	28.92	43.15	50.56	35.53	32.85	45.71	19.88
	West Khasi Hills	43.61	46.36	40.76	44.96	47.33	42.50	33.39	38.96	27.73
	East Garo Hills	44.69	47.97	41.30	46.19	48.74	43.55	35.77	43.44	27.73
	West Garo Hills	40.19	47.80	32.34	41.78	48.77	34.57	27.86	40.27	14.83
	South Garo Hills	47.38	50.94	43.61	48.27	51.07	45.32	37.90	49.57	24.58
	Ri Bhoi	46.38	51.79	40.62	47.12	52.31	41.60	36.21	44.63	27.35
Meghalaya	41.84	48.34	35.15	44.11	49.43	38.62	32.51	43.82	20.98	

Source: Census of India, 1981, 1991 and 2001.

In 1981 the total work force participation rate in the rural and urban areas was 54.12 percent for men and 37.49 percent for women, respectively. The female participation rate was relatively less than the male participation rate. Again, we observe that the rural work force participation was higher in relation to the urban work force participation. For instance the rural work force participation in Meghalaya in 1981 was 48.85 percent and urban work force participation was 32.63 percent. The female workers in the urban sector were lower than the female workers in the rural sector i.e. 16.12 percent of the women in the urban areas were in the workforce while 42.05 percent of the women in the rural areas were in the work force.

This picture is seen in all the districts of Meghalaya. West Khasi Hills with the highest rate of work force participation of about 51.24 percent also shows the similar difference in men and

women participation in the work force. The male work force participation in this district was 54.05 percent and female work force participation was 48.79 percent i.e. a difference of 3 percentage points. However, the difference is seen to be the least in West Khasi Hills. The other districts had a difference of about 14-15 percentage points in male and female participation in the work force.

We also observe here that the Work Force Participation Rates of the rural women were higher than that of the urban women. This gap is wider in East Khasi Hills, East Garo Hills and West Garo Hills. The difference in these districts in the women participation in the rural and urban areas was that of 29-30 percentage points. The difference exists in the other districts like Jaintia Hills and West Khasi Hills also but the urban participation in these two districts is marginally higher. In Jaintia Hills the difference in women participation in the rural and urban areas was that of 20-percentage points while in West Khasi Hills it was 23 percentage points.

In 1991 the work force participation rate in Meghalaya was 42.67 percent, with 50.07 percent of males and 34.93 percent of females being in the work force. Accordingly, the rural participation in the workforce was 45.04 percent and urban participation was 32.3 percent for both males and females taken together. A difference in male and female work participation as well as rural and urban work participation rate is apparent in this period as well. This difference between male and female participation in the work force is evident in all the districts of Meghalaya, which we have noticed in 1981 as well. The difference is, however, wider in districts like East Khasi Hills and West Garo Hills.

In 2001, 41.8 percent of the population was reported as workers, 48.3 percent being male workers and 35.1 percent being female workers, i.e., a difference of 13 percentage points. In 1981 there was a difference of 16 percentage points. This implies that the gender disparity continued even in 2001 but it narrowed down significantly. Similarly, the rural and urban difference that we have seen earlier has also narrowed down in 2001. For instance, 44.1 percent of the population in the rural areas and 32.5 percent of the population in the urban areas was in the work force, i.e., a difference of 11 percentage points as against a difference of 13 percentage points in 1981.

Among the districts, South Garo Hills had the largest work force participation rate with 47.4 percent workers. The male participation in the workforce was 50.9 percent and female participation in the workforce was 43.6 percent. The gender disparity and the difference in rural and urban participation in all the districts of Meghalaya are clearly evident.

Comparative analysis of the three census periods i.e., 1981, 1991 and 2001 shows a declining trend in the work force participation rate. The work force participation rate was 45.92 percent in 1981 and it declined to 41.8 percent in 2001. The decline in the work force participation rate is more perceptible in the rural areas where it declined from 48.85 percent in 1981 to 44.1 percent in 2001. The urban work force participation hovered around 32 percent. In case of male participation in the work force there has been a consistent decline from 54.35 percent in 1981 to 50.07 in 1991 and finally to 48.3 percent in 2001. The fall during this period is conspicuous both in the rural areas as well as in the urban areas. In the rural areas the male work force participation

declined from 55.65 percent in 1981 to 50.6 percent in 2001 while in the urban areas it declined from 49.14 percent in 1981 to 45.7 percent in 2001. The work force participation rate for females showed an increasing trend in the urban areas. During 1981-2001 the female work participation rate increased from 16.12 percent in 1981 to 21.2 percent in 2001 while in the rural areas there has been a slight decline from 42.05 percent to 38.6. This explains narrowing down the disparity among male and female participation in the work force.

Similar trend is pictured in all the districts of Meghalaya. The decline in work force participation is more obvious in the rural areas than in the urban areas. In Jaintia Hills there is a significant the decline in work force participation rate from 49.36 in 1981 to 42.4 percent in 2001. This decline in work participation rate is evident for both males and females. For example, there is a decline of 7 percentage points in case of males and 6 percentage points in case of females during the same period. Similarly, there is a decline of about 2 percentage points in rural and urban work participation.

In East Khasi Hills there is a decline in the work force participation rate of males by one percentage point but there is a significant increase in the female workforce participation rate by about 10 percentage points in the period 1981-2001. Again, in this district there has been a decline in the rural participation rate from 46.41 percent in 1981 to 43.1 percent in 2001. However the urban participation remained constant at around 32.85 percent in 1981 to 32.8 percent in 2001.

In West Khasi Hills the work force participation of both males and females declined by about 8-9 percentage points in the same period. The decline is evident in both the rural and urban sector. In the rural sector it declined from 51.48 in 1981 to 45 percent in 2001 and in the urban sector it declined from 41.55 in 1981 to 33.4 in 2001.

In East Garo Hills we find that the male work force participation rate declined by 4 percentage points. However, the female workforce participation rate increased by 2 percentage points. There has also been an increase in the work force participation in both the rural and urban sector from 45.59 and 34.76 percent respectively in 1981 to 46.2 and 35.8 in 2001. Similarly, in West Garo Hills the work force participation of both males and females declined by 4-5 percentage points. The work force participation in the rural and urban sector declined from 50.44 and 29.55 percent respectively in 1981 to 41.8 and 27.9 percent in 2001.

Thus, we find that the workforce participation rate declined for most of the districts. The decline in work force participation is more perceptible in case of males. The female participation rate has also declined barring few districts like East Khasi Hills and East Garo Hills. Therefore, the gender disparity in work participation, which we have noticed in all the three periods, has narrowed down gradually in 2001.

Table 12.2 reports the work force participation rate in all the northeastern states of India and the whole of India according to the 2001 census. Interestingly most of the northeastern states, barring Assam and Tripura have a much higher work force participation rate than the all India work force participation rate. Mizoram have the highest work force participation rate (52.57 percent) of all the northeastern states in India. About 57 percent of the men and 47 percent of the women are in the work force. Similarly Arunachal Pradesh and Nagaland also have a very high work force participation rate. The work force participation rate in Meghalaya is around 42 percent which is little lower than the above mentioned states but much higher than that of the all India work force participation rate (39.10 percent). **A noteworthy feature of the northeastern states is that the female work force participation in this region is very high.** Compared to 26 percent of the female work force participation rate in India most of the Northeastern States have higher than 35 percent female participation in the work force. However, Assam and Tripura stand much below the average where the work force participation rate is only 21 percent.

**Table 12.2: Work Force Participation Rate in the North Eastern States of India in 2001**

States	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	43.98	50.63	36.54	46.20	50.66	41.33	35.50	50.53	17.15
Assam	35.78	49.87	20.71	36.17	49.41	22.15	33.20	52.90	10.61
Manipur	43.62	48.12	39.02	45.45	49.25	41.53	38.57	44.94	32.25
<b>Meghalaya</b>	<b>41.84</b>	<b>48.34</b>	<b>35.15</b>	<b>44.11</b>	<b>49.43</b>	<b>38.62</b>	<b>32.51</b>	<b>43.82</b>	<b>20.98</b>
Mizoram	52.57	57.29	47.54	57.21	59.66	54.55	47.87	54.84	40.52
Nagaland	42.60	46.70	38.06	45.01	47.32	42.48	31.03	43.81	15.61
Sikkim	48.64	57.44	38.57	49.69	57.69	40.60	40.16	55.51	21.67
Tripura	36.25	50.62	21.08	37.03	50.42	22.87	32.45	51.64	12.45
All India	39.10	51.68	25.63	41.75	52.11	30.79	32.25	50.60	11.88

Source: Census of India, 2001

Sectoral classification of the workforce participation rate shows that the rural work force participation for both males and females is significantly higher. For instance, in Meghalaya, the rural work force participation rate is 44 percent as against 42 percent in rural India. All the tribal dominated NE states exhibit higher rural work participation rates. Further, the difference in the work force participation rate in these states compared to the all India figures is mainly evident in the female work force participation rate. For instance the female work force participation rate in the rural India is only 31 percent while in rural Meghalaya it is about 39 percent.

On the other hand, the urban work force participation rates are lower. Mizoram with 48 percent has the highest urban workforce participation rate. In Meghalaya it is 32.5, more or less at the same level with the all India rate. However, female participation in the workforce in the urban areas of Meghalaya is significantly higher than the all India level.

As already mentioned, the Census classified workers as main and marginal workers. Main workers are those who had worked for the major part of the year i.e. 6 months or more while marginal workers are those who had not worked for major part of the year i.e. less than 6 months. Table 12.3 reports the distribution of main and marginal workers in the different districts of Meghalaya by gender and place of residence for the year 2001.

In 2001, out of the total working population, 78.03 percent of the workers were main workers while 21.97 percent were marginal workers. The proportion of marginal workers in the rural and urban sector was 23.83 percent and 11.61 percent respectively. Also the female marginal workers were found to be more than the male marginal workers. For example, 34.21 and 19.22 percent females in the rural and urban sectors, respectively, were marginal workers while the corresponding proportion for male marginal workers was 15.96 and 8.03 percent, respectively. Interestingly, the percentage of main workers out of the total working population has declined significantly since 1981. In 1981, 94.58 and 5.42 percent of the workers were main and marginal workers respectively while in 2001 the proportion of main workers declined to 78.03 percent and the proportion of marginal workers increased to 21.97 percent. This is apparent in all the districts in Meghalaya. This implies that underemployment is on the rise.

**Table 12.3: Distribution of Total workers into Main and Marginal Workers in Different Districts of Meghalaya in 2001**

(in percent)

District	Sector	Main Workers			Marginal Workers		
		Person	Male	Female	Person	Male	Female
Jaintia Hills	Total	75.38	82.67	65.84	24.62	17.33	34.16
	Rural	74.16	81.89	64.12	25.84	18.11	35.88
	Urban	94.68	94.61	94.79	5.32	5.39	5.21
East Khasi Hills	Total	85.43	89.93	77.74	14.57	10.07	22.26
	Rural	80.77	86.45	72.47	19.23	13.55	27.53
	Urban	93.88	95.30	90.60	6.12	4.70	9.40
West Khasi Hills	Total	75.75	80.08	70.65	24.25	19.92	29.35
	Rural	76.47	80.40	71.93	23.53	19.60	28.07
	Urban	68.40	77.08	56.02	31.60	22.92	43.98
East Garo Hills	Total	70.37	82.09	56.26	29.63	17.91	43.74
	Rural	70.56	82.31	56.98	29.44	17.69	43.02
	Urban	68.83	80.64	49.41	31.17	19.36	50.59
West Garo Hills	Total	78.23	86.68	65.34	21.77	13.32	34.66
	Rural	77.21	86.02	64.39	22.79	13.98	35.61
	Urban	90.21	92.85	82.68	9.79	7.15	17.32
South Garo Hills	Total	65.52	77.21	51.03	34.48	22.79	48.97
	Rural	65.25	76.92	51.39	34.75	23.08	48.61
	Urban	69.17	80.30	43.55	30.83	19.70	56.45
Ri Bhoi	Total	79.68	87.57	68.99	20.32	12.43	31.01

District	Sector	Main Workers			Marginal Workers		
		Person	Male	Female	Person	Male	Female
	Rural	79.58	87.64	68.81	20.42	12.36	31.19
	Urban	81.33	86.40	72.62	18.67	13.60	27.38
<b>Meghalaya</b>	<b>Total</b>	<b>78.03</b>	<b>85.44</b>	<b>67.55</b>	<b>21.97</b>	<b>14.56</b>	<b>32.45</b>
	Rural	76.17	84.04	65.79	23.83	15.96	34.21
	Urban	88.39	91.97	80.78	11.61	8.03	19.22

Source: Census of India, 2001

## 12.2 Industrial classification of workers

The occupational structure of a country refers to the distribution or division of its population according to different occupations. Economic development is closely associated with the change in the occupational structure of a country.

The Census classified the main and marginal workers into four broad categories. For purposes of the census a person is classified as cultivator if he or she is engaged in cultivation of land owned or held from Government or held from private persons or institutions for payment in money, kind or share. A person who works on another person's land for wages in money or kind or share is regarded as agricultural labourers. Household Industry is defined as an industry conducted by one or more members of the household at home or within the village in rural areas and only within the precincts of the house where the household lives in urban areas. The type of workers that come under this category of 'OW' include all government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport banking, mining, construction, political or social work, priests, entertainment artists, etc.

Table 12.4 reports the industrial classification of the main workers into the above-mentioned four broad categories according to the 1981 census. Meghalaya being an agrarian economy majority of the main and marginal workers are seen to be cultivators. According to the 1981 census, 62.57 percent of the main workers in Meghalaya were cultivators. In the rural sector 71.8 percent of the workers were cultivators. In the urban areas the dominant group was 'other workers' where 9.7 percent of working population were categorized in this group. Women in the rural areas work mainly as cultivators and their proportion is higher than that of men. For instance in 1981, 76.34 percent of the females in the rural sector were cultivator as against 68.82 percent of males. The proportion of cultivators in the rural sector was highest in West Khasi Hills with 90.12 percent of the workers working as cultivators. East Garo Hills and West Garo Hills followed West Khasi Hills with 81.57 percent and 80.98 percent of the workers being cultivators. The proportion of agricultural labourers in East Khasi Hills was the highest (11.89 percent) followed by Jaintia Hills (11.47 percent). The proportion of workers in the household industry was very low for all the districts in Meghalaya. In the urban areas workers were mostly categorized as 'other workers'.



Table 12.5 pictures a similar industrial classification of main workers into four broad categories according to the 2001 census. In 2001 the proportion of cultivator declined to 50.24 percent from 62.57 percent in 1981. The shift has been mainly towards the 'other workers' where the proportion of workers has increased significantly from 26.62 percent in 1981 to 35.38 percent in 2001. In the rural areas a very high proportion of the workers are cultivators while in the urban areas the workers are mainly classified as 'other workers'. In the rural sector 60.03 percent of the workers were cultivators while in the urban sector 92.8 percent of the workers were categorized as 'other workers'. The proportion of cultivators has declined notably for all the districts in Meghalaya while the proportion of agricultural labourers has increased significantly.

**Table 12.4: Industrial classification of Main workers in 1981**

Districts	Sector	Cultivators			Agricultural Labourers			Household industry- manufacturing, processing, servicing & repairs			Other workers		
		Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	Total	66.33	64.15	69.32	11.47	9.28	14.47	0.62	0.56	0.71	21.57	26.01	15.50
	Rural	70.51	68.75	72.86	12.15	9.89	15.18	0.45	0.36	0.59	16.89	21.01	11.38
	Urban	1.00	1.13	0.76	0.89	1.00	0.70	3.25	3.33	3.10	94.85	94.53	95.45
East Khasi Hills	Total	35.85	31.55	44.11	11.89	11.04	13.51	1.36	0.99	2.07	50.90	56.41	40.31
	Rural	49.39	46.56	53.88	15.74	15.58	15.99	1.31	0.79	2.12	33.57	37.08	28.02
	Urban	1.45	1.29	2.00	2.12	1.90	2.85	1.51	1.40	1.85	94.92	95.40	93.30
West Khasi Hills	Total	88.92	85.54	93.03	5.22	5.75	4.57	0.15	0.16	0.14	5.71	8.55	2.26
	Rural	90.12	87.33	93.47	5.23	5.76	4.56	0.09	0.07	0.11	4.57	6.84	1.85
	Urban	29.96	20.05	56.52	4.91	4.78	5.26	3.23	3.58	2.29	61.90	71.59	35.93
East Garo Hills	Total	81.57	78.00	88.11	7.07	6.60	7.92	0.56	0.46	0.73	10.81	14.93	3.24
	Rural	83.39	80.33	88.90	6.82	6.45	7.48	0.51	0.39	0.72	9.28	12.83	2.89
	Urban	14.75	9.31	36.43	16.13	11.03	36.43	2.34	2.59	1.37	66.78	77.07	25.77
West Garo Hills	Total	75.65	71.24	83.47	10.19	9.88	10.73	0.70	0.82	0.51	13.46	18.07	5.29
	Rural	80.98	77.89	86.15	10.67	10.54	10.89	0.67	0.79	0.48	7.68	10.78	2.49
	Urban	6.43	4.44	15.16	3.95	3.31	6.81	1.08	1.04	1.26	88.53	91.21	76.77
Meghalaya	Total	62.57	57.83	70.49	9.98	9.42	10.91	0.84	0.74	1.01	26.62	32.01	17.59
	Rural	71.80	68.82	76.34	11.12	10.83	11.55	0.72	0.58	0.93	16.36	19.77	11.18
	Urban	3.00	2.29	5.36	2.64	2.31	3.74	1.60	1.51	1.89	92.77	93.89	89.02

Source: Census of India, 1981

The proportion of cultivators is highest in East Garo Hills with 66.79 percent of males and 77.52 percent of females being cultivators. West Khasi Hills is next in the row with 62.51 percent and 73.11 percent of males and females of the total workers being cultivators. The proportion of agricultural labourers is again higher in Jaintia Hills with 16.39 percent of the males and 20.23 percent of females being agricultural labourers. In the urban sector, in all the districts of Meghalaya, the major proportion of the workers is 'other workers'.

Table 12.6 shows the industrial classification of marginal workers into four broad categories according to the 2001 census. A significant proportion of the marginal workers are

seen as agricultural labourers and cultivators. In 2001, 40.67 percent of the marginal workers were cultivators and 36.01 percent of the workers are agricultural labourers. In all the districts majority of the marginal workers in the rural areas work as agricultural labourers while in the urban areas majority of them are 'other workers'. A very small proportion of the marginal workers are engaged in the household industry. However, the proportion of marginal workers in this category is higher than that of the main workers.

Thus, we see that a very large proportion of the marginal workers working as agricultural labourers indicates prevalence of large-scale under unemployment in agriculture and consequently of low per capita labour productivity and prevalence of widespread poverty. *There is no significant change in the occupational structure in the state since 1981.* The Cultivators continue to dominate the rural structure while in the urban sector the major proportions of the workers are classified as 'other workers'.

**Table 12.5: Industrial Classification of Main Workers (2001 census)**

District	Sector	Cultivators			Agricultural Labourers			Household industry- manufacturing, processing, servicing & repairs			Other workers		
		Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	T	54.62	56.41	51.69	17.85	16.39	20.23	1.99	1.82	2.27	25.54	25.37	25.81
	R	58.97	60.65	56.19	19.27	17.62	22.00	2.11	1.91	2.43	19.65	19.82	19.38
	U	0.42	0.38	0.48	0.14	0.14	0.14	0.56	0.60	0.51	98.87	98.87	98.87
East Khasi Hills	T	24.14	20.89	30.57	10.24	10.10	10.53	1.41	1.26	1.70	64.21	67.76	57.20
	R	39.44	35.66	46.02	16.53	17.06	15.62	1.44	1.14	1.96	42.59	46.15	36.40
	U	0.29	0.26	0.37	0.43	0.37	0.57	1.36	1.43	1.20	97.92	97.94	97.86
West Khasi Hills	T	67.06	62.51	73.11	15.49	16.02	14.79	1.42	1.44	1.39	16.03	20.03	10.70
	R	71.81	67.78	77.01	15.74	16.52	14.74	1.37	1.33	1.42	11.07	14.37	6.83
	U	12.97	11.57	15.72	12.63	11.12	15.60	1.99	2.52	0.94	72.41	74.79	67.74
South Garo Hills	T	63.07	56.03	76.27	9.17	9.06	9.39	1.81	1.94	1.58	25.95	32.97	12.76
	R	67.87	61.41	79.36	9.79	9.84	9.68	1.80	1.91	1.60	20.55	26.83	9.36
	U	1.41	1.42	1.39	1.32	1.09	2.31	1.99	2.18	1.16	95.28	95.31	95.14
Ri Bhoi	T	59.23	54.45	67.45	14.82	14.73	14.96	1.36	1.41	1.27	24.59	29.40	16.31
	R	61.17	56.38	69.33	14.40	14.33	14.53	1.37	1.41	1.30	23.06	27.88	14.83
	U	25.53	22.96	30.80	22.00	21.34	23.35	1.24	1.54	0.63	51.22	54.17	45.22
East Garo Hills	T	70.69	66.79	77.52	8.81	9.14	8.24	1.86	1.27	2.90	18.64	22.80	11.33
	R	77.29	74.33	82.23	8.65	9.18	7.77	1.78	1.18	2.79	12.28	15.31	7.21
	U	18.44	15.56	26.16	10.08	8.84	13.41	2.49	1.86	4.16	69.00	73.74	56.27
West Garo Hills	T	56.39	51.49	66.34	12.21	12.58	11.46	2.78	1.92	4.54	28.62	34.02	17.67
	R	61.86	57.25	70.83	13.33	13.94	12.14	2.92	2.03	4.65	21.89	26.78	12.38
	U	1.73	1.58	2.24	0.96	0.75	1.64	1.39	0.90	2.95	95.91	96.77	93.17
Meghalaya	T	50.24	46.23	57.41	12.54	12.39	12.81	1.84	1.54	2.37	35.38	39.84	27.41
	R	60.03	56.43	66.11	14.63	14.78	14.37	1.92	1.56	2.52	23.42	27.23	17.00
	U	3.23	2.80	4.27	2.52	2.21	3.28	1.44	1.44	1.46	92.80	93.55	90.99

Source: Census of India, 2001

**Table 12.6: Industrial Classification of Marginal Workers (2001 census)**

District	Sector	Cultivators			Agricultural Labourers			Household industry- manufacturing, processing, servicing & repairs			Other workers		
		Person	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	T	24.14	18.71	27.74	61.54	62.59	60.84	2.41	1.69	2.89	11.91	17.00	8.53
	R	24.45	19.07	27.98	62.31	63.76	61.36	2.39	1.64	2.88	10.85	15.53	7.78
	U	0.25	0.42	0.00	1.75	2.52	0.62	4.26	4.62	3.73	93.73	92.44	95.65
East Khasi Hills	T	19.59	16.58	21.91	33.71	33.43	33.93	2.98	1.40	4.20	43.72	48.59	39.95
	R	22.91	20.21	24.85	39.32	40.63	38.37	2.67	0.91	3.94	35.10	38.25	32.83
	U	0.66	0.47	0.89	1.77	1.47	2.13	4.73	3.57	6.08	92.83	94.49	90.91
West Khasi Hills	T	38.83	36.80	40.44	47.85	49.91	46.21	1.97	1.89	2.04	11.35	11.40	11.31
	R	41.95	40.22	43.34	46.46	47.55	45.59	2.12	2.04	2.19	9.46	10.19	8.88
	U	15.15	9.70	19.21	58.38	68.59	50.79	0.85	0.77	0.91	25.62	20.94	29.10
South Garo Hills	T	57.58	51.62	61.02	19.09	19.63	18.79	2.24	2.10	2.32	21.08	26.65	17.87
	R	61.10	55.31	64.36	20.28	21.05	19.84	2.34	2.22	2.41	16.28	21.42	13.39
	U	3.66	5.78	1.96	0.99	2.00	0.18	0.69	0.67	0.71	94.65	91.56	97.14
Ri Bhoi	T	46.55	45.37	47.20	32.48	32.49	32.48	3.63	3.08	3.93	17.33	19.06	16.39
	R	47.31	46.59	47.68	32.12	31.99	32.19	3.73	3.09	4.06	16.85	18.33	16.06
	U	31.99	27.56	35.76	39.51	39.76	39.29	1.80	2.93	0.83	26.71	29.76	24.12
East Garo Hills	T	61.27	60.23	61.78	20.01	21.43	19.31	5.22	2.95	6.34	13.50	15.39	12.57
	R	65.15	64.77	65.33	18.84	20.98	17.82	5.13	2.74	6.27	10.88	11.51	10.58
	U	32.94	32.60	33.16	28.55	24.19	31.29	5.89	4.20	6.96	32.62	39.00	28.60
West Garo Hills	T	47.13	45.96	47.83	31.43	29.30	32.68	4.54	3.18	5.34	16.90	21.57	14.16
	R	48.78	48.37	49.01	32.49	30.86	33.43	4.60	3.24	5.37	14.13	17.52	12.18
	U	2.36	1.72	3.11	2.49	0.80	4.47	2.86	1.95	3.92	92.29	95.52	88.50
Meghalaya													
	T	40.67	36.80	43.14	36.01	37.08	35.34	3.43	2.27	4.16	19.89	23.85	17.37
	R	43.07	39.67	45.17	37.23	38.84	36.24	3.41	2.21	4.15	16.28	19.27	14.44
	U	13.24	10.22	15.93	22.06	20.72	23.26	3.60	2.81	4.30	61.10	66.25	56.51

Source: Census of India, 2001

### 12.3 Child Labour

A child is classified as labourer if the child is in the age group 5-14 years and is 'economically active'. In India, despite acceptance of international standards and commitments on restricting the use of child labour, the existence of a national child labour policy, wide-spread national and state level laws and regulations, millions of children are engaged in work, often under hardship or hazardous conditions. It deprives them of their childhood and their dignity and is detrimental to their health, education, and more importantly, in developing capabilities and availing opportunities as normal individuals in the society.

The problem of child labour is also widespread in Meghalaya. The statistics on child labourers in Meghalaya shows that the problem of child labour in Meghalaya cannot be ignored. Table 12.7 reports the proportion of children working in Meghalaya as well as in the seven districts by gender and place of residence in 1991.

**Table 12.7: Percentage of Child Labourers in the Different Districts of Meghalaya in 1991**

Districts	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Jaintia Hills	10.48	12.88	8.12	11.21	13.92	8.53	2.89	2.00	3.77
East Khasi Hills	4.80	5.46	4.13	6.37	7.32	5.40	1.33	1.32	1.34
West Khasi Hills	8.36	9.12	7.59	8.84	9.63	8.02	1.66	1.65	1.67
East Garo Hills	8.52	9.15	7.90	9.03	9.69	8.37	0.84	0.91	0.76
West Garo Hills	8.52	9.00	8.02	9.33	9.84	8.81	1.59	1.69	1.50
Meghalaya	7.39	8.23	6.54	8.59	9.59	7.57	1.48	1.43	1.52

Source: Census of India, 1991

Clearly, the proportion of children working in the rural areas was more than that in the urban areas. According to the 1991 census 8.59 percent of the children in rural sector were working. The proportion of male child labourers was again higher than the female child labourers. This is because a significant proportion of the girl child is found to be ‘no-where’ child, i.e. they neither go to school nor seen in the labour market as they are more engaged in the household duty or in other words engaged in non-wage work.

The proportion of child labourers in Jaintia Hills was high in comparison to the other districts of Meghalaya. In 1991 the percentage of child labourers in Jaintia Hills was 10.48 percent with 12.88 percent being male children and 8.12 percent being female children. This is followed by West Garo Hills and East Garo Hills with 8.52 percent child labourers in both the district. The proportion of boy and girl child labourers in West Garo Hills was 9 and 8.02 percent, respectively. The corresponding proportion in East Garo Hills was 9.69 and 8.37 percent, respectively. In West Khasi Hills, 8.36 percent of the children were labourers with 9.12 percent being boys and 7.59 percent being girls. The proportion of child labourers is least in East Khasi Hills, i.e., 4.8 percent out of which 5.46 percent were boys and 4.13 percent were girls. The proportion of child labour was high in the rural sector in all the districts of Meghalaya. Jaintia Hills reports the largest proportion of child labour both in the rural as well as in the urban sector. In the rural sector 13.92 percent of boys and 8.53 percent of girls were reportedly child labourers. In the urban sector 2 percent and 3.77 percent of girls and boys respectively were workers in the district. East Khasi Hills reports the lowest proportion of child labourers in the rural sector. Similarly, in the urban sector the proportion of child labour was very low in East Garo Hills where only 0.84 percent of the children were workers, 0.91 percent of them being boys and 0.76 percent being girls.

The Institute of Applied Manpower Research (IAMR), New Delhi conducted a survey in the entire NE region in 2003. The study entitled “Benchmarking Human Development in North Eastern Region of India” aimed at building a database at the sub-state level related to employment and unemployment, human development and development options for the state. The survey found that 4 percent of workers in the rural areas of Meghalaya are below 15 years. The corresponding figure in the urban areas (Shillong and Nongstoin) is 1.1 percent. In rural areas, highest incidence of child labour is found in West Khasi Hills (9.14 percent) followed by Jaintia Hills (7.6 percent). The other districts of East Khasi Hills (2.9 percent), West Garo Hills (2.8 percent), Ri Bhoi (2.6 percent),

East Garo Hills (0.4 percent) and South Garo Hills (0.4 percent) show lower proportions of children among workers in 2003.

**Table 12.8: Proportion of Child Laborers in 2001 in the North Eastern States of India by Sex and Place of Residence**

States	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	6.06	5.22	6.94	6.80	5.95	7.69	3.04	2.19	3.90
Assam	5.07	6.03	4.06	5.30	6.37	4.17	3.03	3.00	3.06
Manipur	5.75	5.57	5.94	6.73	6.50	6.96	2.72	2.64	2.80
Meghalaya	8.22	8.64	7.79	9.36	9.86	8.84	2.75	2.68	2.82
Mizoram	12.34	11.86	12.83	16.52	15.63	17.45	7.42	7.37	7.47
Nagaland	8.48	8.25	8.73	9.44	9.14	9.76	3.58	3.68	3.47
Tripura	2.79	2.85	2.72	2.91	3.05	2.77	1.94	1.52	2.37
India	5.00	5.14	4.85	5.94	5.94	5.95	2.12	2.69	1.49

Source: Census of India, 2001

Table 12.8 reveals that among all the north eastern states Mizoram and Meghalaya have the highest proportion of child labourers. For instance in Meghalaya and Mizoram about 8 percent and 12 percent of the children respectively are in the work force. The proportion in these two states is also higher than that of the all India rate, which is only 5 percent. Again the proportion of both boys and girls in the labour force in Meghalaya is exceedingly high. The proportion of child labourers in the rural sector of Meghalaya is much higher than that of entire rural India. Among the north eastern states the proportion of child labourers in the urban sector of Meghalaya is the third lowest next to Tripura and Manipur, while in the rural sector it is second only to Mizoram.

#### 12.4 Unemployment

Unemployment refers to the unutilized labour force that is willing to or available for work. Unemployment arises when there is inadequate productive capacity to create enough jobs for all those able and willing to work. In this section we attempt to explain the magnitude of unemployment in Meghalaya and compare with the rest of the NE states and the all India level.

**Table 12.9: Unemployment Rate in the North Eastern States of India in 1991**

(in percent)

States	Total			Rural			Urban		
	Person	Male	Female	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	0.61	0.53	0.74	0.57	0.49	0.69	0.93	0.72	2.25
Assam	4.50	3.74	6.34	3.86	3.29	5.13	10.20	6.95	29.86
Manipur	2.03	1.84	2.26	1.60	1.50	1.72	3.49	2.90	4.36
Mizoram	0.80	0.69	0.95	0.58	0.50	0.68	1.08	0.92	1.32
Nagaland	1.53	1.58	1.47	1.15	1.13	1.18	3.97	3.44	6.71
Tripura	11.21	6.70	24.54	10.09	6.06	21.72	17.42	10.12	22.49
Meghalaya	0.54	0.39	0.76	0.43	0.32	0.56	1.21	0.67	2.75
India	3.24	2.43	5.22	2.46	1.87	3.66	6.14	4.08	16.80

Source: Census of India, 1991.

In 1991, among the northeastern states of India, Tripura has a very high unemployment

rate followed by Assam (Table 12.9). Meghalaya has the lowest unemployment rate among all the states in the northeast. The unemployment rate of Meghalaya in both rural and urban sector for both males and females is much lower compared to the other north eastern states. Further the unemployment rate of Meghalaya in the rural sector is less than 1 percent as against 2 percent in the rural India. Similarly in the urban sector the unemployment rate of Meghalaya is around 1 percent while in the urban India it is 6 percent.

**Table 12.10: Unemployment Rate in the North Eastern States of India in 2001**  
(in percent)

States	Unemployment Rate			Adjusted Unemployment Rate		
	Person	Male	Female	Person	Male	Female
Arunachal Pradesh	10.78	8.57	14.02	7.53	5.69	10.24
Assam	23.00	16.59	36.31	16.42	10.81	28.06
Manipur	22.20	18.94	26.16	14.15	12.57	16.06
Meghalaya	12.57	9.55	16.62	7.68	5.56	10.52
Mizoram	7.05	6.27	8.05	3.81	3.19	4.60
Nagaland	16.31	14.93	18.14	12.43	11.24	14.01
Sikkim	8.83	6.22	13.01	6.37	4.22	9.81
Tripura	30.15	19.02	49.62	23.08	13.34	40.13
India	15.86	12.64	22.12	10.22	7.32	15.86

Note: The unemployed are those who are seeking work or available for work. The unemployment rate is calculated by dividing the Number of Unemployed by the total Labour Force (i.e. working + unemployed). The adjusted unemployment rate excludes the marginal workers who are seeking/ available for work from the numerator.

Source: Calculated for the Report based on Census Reference Tables, B Series, Census of India, 2001.

Table 12.10 reveals that unemployment has increased substantially during the period 1991 to 2001 for all the NE states as well as for the country as a whole. Unemployment in Meghalaya is however, slightly lower than the all India level. Arunachal Pradesh, Mizoram and Sikkim exhibit unemployment rates that are lower than Meghalaya. The situation in Tripura is alarming, to say the least. The tremendous economic growth of India after 1991 seems to be a jobless growth. This is a matter of grave concern.

The NSSO uses four concepts to estimate the unemployment in the country. The Usual Status Approach measures chronic or long-term unemployment during the reference year. However, some people who are reported to be unemployed on the basis of the usual status might be working in a subsidiary capacity during the reference period. Therefore, in order to capture the exact degree of unemployment prevailing in the state, we have excluded those working in a subsidiary capacity from the usually unemployed. This approach is also called the Usual Status Adjusted Approach.

Table 12.11 shows the unemployment rate in Meghalaya in the most recent five rounds of NSS survey. We observe that the unemployment rate has decreased from 1.42 percent in 1983 to 0.18 percent in 1987-88. However, the unemployment rate increased marginally from

0.18 percent in 1987-88 to 0.21 percent in 1993-94 and further to 0.83 percent in 1999-00. The decline in unemployment rate was perceptible both in the rural and urban areas. In the urban sector the unemployment rate declined from 8.50 percent in 1983 to 1.42 percent in 1987-88 and then increased to 1.68 in 1993-94. It further increased to 4.35 percent in 1999-00. Similarly, in the rural sector there was a decline from 0.42 percent in 1983 to 0.01 percent in 1987-88. Thereafter, it increased to 0.06 percent in 1993-94 and further to 0.37 percent in 1999-00. The urban unemployment rate in all the rounds of survey was higher than the rural unemployment rate. A possible explanation for this might be the people migrating from rural areas to urban areas in search of work and also due to the presence of large-scale disguised unemployment in the rural areas. The prevalence of unemployment among the educated youth also leads to higher unemployment rate in the urban sector.

**Table 12.11: Unemployment Rate in Meghalaya (NSSO)**

(in percent)

Year	Sector	Male	Female	Person
1983	Rural	0.65	0.09	0.42
	Urban	8.32	8.98	8.50
	Total	1.83	0.81	1.42
1987-88	Rural	0.02	0.00	0.01
	Urban	1.63	1.09	1.42
	Total	0.23	0.11	0.18
1993-94	Rural	0.10	0.00	0.06
	Urban	1.05	3.37	1.68
	Total	0.21	0.20	0.21
1999-00	Rural	0.31	0.44	0.37
	Urban	3.60	5.86	4.35
	Total	0.76	0.93	0.83
2004-05	Rural	0.07	0.54	0.28
	Urban	3.53	3.43	3.49
	Total	0.45	0.84	0.62

Source: Special tabulation by Minakshi Chakraborty and Veronica Pala using unit record data on Employment and Unemployment conducted by the National Sample Survey Organisation.

Again, we find that in the rural as well as the urban sector the unemployment rate of the females was higher than that of the males. For instance in 1999-00, 5.86 percent of the females were unemployed as against 3.6 percent of males. In the rural sector, on the other hand, 0.44 percent of females were unemployed as against 0.31 percent of males.

Coming to youth unemployment, the unemployment rate in Meghalaya as per the 1991 census was relatively high at 4.4 percent in the age group 15-19 with 3.14 percent of males and 7.74 percent of females being unemployed. The unemployment rate of the female youth was also high in the age group 20-24 with 3.5 percent being unemployed. In Table 12.12 we report the unemployment rate of the youth as per estimates based on the NSS data in 1983, 1987-88, 1993-94, 1999-00 and 2004-05.

The NSSO figures also show high unemployment rate in the age group 15-19 and 20-24. In 1983 the unemployment rate in the age group 15-19 years and 20-24 years was 1.90 percent and 3.98 percent respectively. The unemployment rate was mainly high in the urban sector in this age group. During the same period 26.06 percent of the urban population in the age group 15-19 years was unemployed. The female unemployment rate was high in the age group 15-19 years with 43.13 percent of females being unemployed as against 18.97 percent males. The unemployment rate was also high in the age group 25-29 years with 20.38 percent of the urban population being unemployed. The proportion of unemployed males in this age group was 21.49 percent as against 16.97 percent of females. In 1987 the unemployment rate in the age group 15-19 years declined significantly to 2.49 percent in the urban sector. The female unemployment rate in the urban sector, which was very high in 1983, declined to 2.77 percent for the age group 15-19 years. Similarly, there was a decline in the unemployment rate of males in the age group 15-19 years from 18.97 percent in 1983 to 2.20 percent in 1987-88 in the urban sector. In 1993-94, the unemployment rate in the urban sector increased to 6.64 percent for the age group 15-19 years. We observe a similar increase in the unemployment rate in the urban sector in the age group 20-24 years from 6.18 percent in 1987-88 to 10.53 percent in 1999-93. In 1999-00 the urban unemployment rate further increased to 8.56 percent for the age group 15-19 years and 11.58 percent for the age group 20-24. The unemployment rates in the urban sector for the age group 25-29 years was also significant at 14.73 percent in 1999-00. This undoubtedly reflects the existence of youth unemployment in the urban sector of Meghalaya.



**Table 12.12: Unemployment Rate by Age Group in Meghalaya**

Age Group	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
<b>1983</b>									
15-19	0.00	0.00	0.00	18.97	43.13	26.06	1.64	2.29	1.90
20-24	1.32	0.61	0.96	0.00	0.00	0.00	5.92	1.89	3.98
25-29	1.38	0.00	0.77	21.49	16.97	20.38	2.81	0.89	2.01
<b>1987-88</b>									
15-19	0.04	0.00	0.02	2.20	2.77	2.49	0.26	0.28	0.27
20-24	0.00	0.00	0.00	11.49	1.42	6.18	1.12	0.16	0.66
25-29	0.00	0.00	0.00	1.21	4.19	2.42	0.17	0.39	0.28
<b>1993-94</b>									
15-19	0.05	0.00	0.03	9.71	0.00	6.64	0.53	0.00	0.33
20-24	0.65	0.00	0.30	6.70	16.10	10.53	0.98	0.50	0.72
25-29	0.00	0.00	0.00	0.84	11.41	3.66	0.08	0.56	0.28
<b>1999-00</b>									
15-19	1.23	0.00	0.69	3.25	16.19	8.56	1.34	0.76	1.09
20-24	1.00	2.30	1.62	13.28	8.83	11.58	2.87	3.00	2.93
25-29	0.00	0.53	0.26	11.40	18.75	14.73	1.17	2.20	1.67
<b>2004-05</b>									
15-19	0.00	0.00	0.00	29.41	3.01	14.33	1.55	0.35	1.10
20-24	0.42	2.49	1.48	2.56	14.86	8.08	0.61	3.38	2.02
25-29	0.06	1.08	0.53	11.12	10.36	10.75	1.27	2.14	1.68

Source: As in Table 12.11

Therefore, we find that the urban unemployment rate, which showed a decline in the period 1983 to 1987-88 reversed in the period 1993-94 to 1999-00. The rural unemployment rate has been insignificant, as we have observed in the four rounds of survey. The unemployment rate of the youth is increasing. Therefore the unemployment rate of the youth is a matter of serious concern.

Unemployment rate and Education: Tables 12.13 and 12.14 show the unemployment rate at different levels of educational attainment. In 1983 and 1987-88 we find that with the increase in the level of educational attainment the unemployment rate increases. The unemployment rate of the educated tends to be high. We observe that the unemployment rate of the illiterate is almost negligible while the unemployment rates of the graduates are relatively very high. In 1983 the unemployment rate of the illiterates was 0.06 percent while that of the graduates was 4.19 percent. Unemployment rate was observed to be very high among the people with secondary level of educational attainment with 12.15 percent of them being unemployed in 1983. In 1987-88 the unemployment rate of the graduates declined to 2.75 percent. The unemployment rate in this period was high for the graduates in professional subjects at 4.21 percent. In 1993-94 the unemployment rate of the graduates increased to 4.48 percent and in 1999-00 it increased further to 12.89 percent.

**Table 12.13: Unemployment Rate by Education in Meghalaya in 1983 and 1987-88**

Education Code	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
<b>1983</b>									
1	0.00	0.00	0.00	3.86	0.00	1.97	0.10	0.00	0.05
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.81	0.00	0.51	4.12	24.54	9.84	1.18	1.87	1.43
4	1.40	1.24	1.35	7.17	19.84	8.82	3.27	3.78	3.40
5	2.15	0.00	1.49	21.21	14.64	20.10	12.72	5.32	10.97
6	0.00	0.00	0.00	0.00	7.39	1.91	0.00	3.32	1.17
7	0.00	0.00	0.00	3.87	4.26	3.99	3.37	3.42	3.39
<b>Total</b>	<b>0.42</b>	<b>0.10</b>	<b>0.29</b>	<b>8.57</b>	<b>10.06</b>	<b>8.93</b>	<b>1.73</b>	<b>0.86</b>	<b>1.38</b>
<b>1987-88</b>									
1	0.01	0.00	0.00	2.55	0.00	1.28	0.06	0.00	0.03
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	2.64	3.81	3.02	0.63	0.90	0.72
5	0.00	0.00	0.00	1.48	0.00	0.90	0.77	0.00	0.50
6	12.83	0.00	10.33	0.00	0.00	0.00	5.10	0.00	3.65
7	0.00	0.00	0.00	2.77	3.58	3.00	2.47	2.72	2.55
<b>Total</b>	<b>0.03</b>	<b>0.00</b>	<b>0.01</b>	<b>1.75</b>	<b>1.23</b>	<b>1.55</b>	<b>0.27</b>	<b>0.13</b>	<b>0.21</b>

Note: (i) 1-illiterate, 2-literate below primary, 3-primary, 4-middle, 5-secondary, 6-graduate and above in professional subjects, 7- graduate and above in general subjects

(ii) The Unemployment rate is calculated for the age group 15 and above.

Source: As in Table 12.11

**Table 12.14: Unemployment Rate by Education in Meghalaya in 1993-94, 1999-00 and 2004-05**

Education Code	Rural			Urban			Total		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
<b>1993-94</b>									
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.00	0.02	0.00	0.00	0.00	0.03	0.00	0.02
3	0.00	0.00	0.00	1.47	0.00	1.06	0.12	0.00	0.08
4	0.00	0.00	0.00	1.01	0.00	0.79	0.22	0.00	0.16
5	0.00	0.00	0.00	0.00	14.46	4.95	0.00	5.85	1.60
6	0.00	0.00	0.00	0.73	0.00	0.57	0.43	0.00	0.33
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	12.00	0.00	7.15	2.27	6.72	3.39	4.66	4.05	4.48
<b>Total</b>	<b>0.10</b>	<b>0.00</b>	<b>0.06</b>	<b>1.05</b>	<b>3.38</b>	<b>1.68</b>	<b>0.21</b>	<b>0.20</b>	<b>0.21</b>
<b>1999-00</b>									
1	0.11	0.00	0.06	0.00	0.00	0.00	0.10	0.00	0.06
2	0.65	0.00	0.38	0.00	2.11	0.94	0.63	0.08	0.40
3	0.00	0.00	0.00	4.09	3.15	3.80	0.21	0.10	0.16

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4	0.00	0.00	0.00	2.32	1.06	1.93	0.70	0.21	0.50
5	0.00	8.84	5.00	0.00	0.00	0.00	0.00	7.39	2.75
6	4.03	0.00	2.86	3.46	8.04	4.79	3.68	4.94	4.05
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	5.29	32.29	16.31	11.16	13.86	12.33	10.31	16.33	12.89
Total	0.32	0.44	0.37	3.60	5.95	4.37	0.78	0.94	0.85
2004-05									
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.28	4.45	1.72	0.01	0.09	0.05
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	1.75	0.62	5.32	6.10	5.54	0.71	2.18	1.22
5*	0.78	1.36	0.96	3.97	0.00	2.42	2.00	0.73	1.56
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	1.87	22.26	13.86	4.34	7.43	6.06	3.76	11.29	8.01
Total	0.07	0.55	0.29	3.57	3.62	3.59	0.46	0.85	0.64

Note: (i) 1-illiterate, 2-literate below primary, 3-primary, 4-middle, 5-secondary, 6-higher secondary, 7-graduate and above in professional subjects, 8- graduate and above in general subjects

\* includes higher secondary

(ii) The Unemployment rate is calculated for the age group 15 and above

Source: As in Table 12.11

This shows the prevalence of unemployment of the educated in the urban sector of Meghalaya. With the growing number of educated people in the labour force there is a need to increase the employment opportunities in the state so that the human capital can be utilized. This will be possible by increasing the growth rate of the economy, which will in turn increase the employment opportunities of the state.

The prevailing employment market scenario and the relative status of various occupations in the society greatly influence the job aspirations of the persons entering the active working life. The IAMR has found that regular salaried job in government is the most sought after work by the unemployed, followed by self employment in business or trade.

**Table 12.15: Desired Type of Work by the Unemployed in Meghalaya, 2003**

Type of work desired	Rural			Urban		
	Male	Female	Total	Male	Female	Total
Self-employment in business/trade	30.1	14.0	22.6	11.8	7.7	9.5
Self-employment in agriculture	8.3	12.5	10.2	0.8	0.7	0.7
Regular salaried job in govt sector	46.3	63.2	54.2	71.4	77.4	74.8
Regular salaried job in pvt sector	4.6	2.6	3.7	4.2	7.1	5.8
Agricultural wage labour	3.8	3.8	3.8	NA	NA	NA
Non-agricultural wage labour	4.6	2.6	3.7	0.8	0.0	0.4
Any other	2.3	1.3	1.8	10.9	7.1	8.8
Total	100	100	100	100	100	100

Source: Institute of Applied Manpower Research, New Delhi, IAMR Report No. 8/2006.

### 12.5 Summary and Some Suggestions for Employment Generation

- The work participation rate in the three census period i.e.1981, 1991 and 2001 shows a declining trend in both the rural and urban sector. The male work participation rate declined while that of the female participation rate increased in some of the districts in Meghalaya.
- Work Participation Rate of females in Meghalaya is much higher than the all India level.
- The proportion of marginal workers increased in the period 1981 to 2001 while the proportion of main workers declined. This implies that underemployment is on the rise.
- The occupational structure of the labour force shows that in the rural sector majority of the main workers were cultivators while in the urban sector major proportion of the workers are categorized as 'other workers'. The marginal workers in the rural areas mainly work as agricultural labourers.
- There has not been a significant change in the occupational structure of the labour force since 1981 to 2001 as the agriculture is the dominant group in the rural sector and in the urban sector the 'other workers' constitute the dominant group.
- We observe a high incidence of child labour in the rural sector in all the districts of Meghalaya. There is high prevalence of youth unemployment in the state. Unemployment of the educated in Meghalaya as a whole has increased in the recent years.
- Various economic activities in the service sector are urban based. One measure to increase economic growth and productivity is decentralized urbanization or rather Providing Urban amenities and services in the Rural Areas (PURA).
- The type of employment that is desired by most youth is in the government sector and the rate of unemployment is highest among general graduates. Therefore, there is a need to give high priority to vocational and technical education including professional courses in the state so that people have better scope and wider choices to exercise. This is an imperative since there is a serious shortage of skilled professionals amongst the people of Meghalaya working in different fields.
- A strategy for employment generation for the state has to be in line with the strengths of the state and its resource base. Majority of the population in the state is engaged in agriculture and allied activities. There is tremendous scope of improvement in these sectors. Training can be imparted in areas like Seed production technology, Plantation and management of crops, floriculture, crop cultivation, plant protection etc.
- Fisheries also have a huge potential in generating employment opportunities in the state. Fish processing, inland fisheries, fish seed production and fishing technology are some areas where greater employment opportunities can be explored.
- As most of the people are non-vegetarian there is a lot of scope in sheep, pig and goat rearing, dairying, poultry production, veterinary pharmacist-cum-Artificial insemination assistant, etc.

- Other than the above mentioned, agro-based industries, sericulture, apiculture, repair and maintenance of power driven farm machinery, medicinal and aromatic plant industry and soil conservation are some other areas that can be focused to generate employment opportunities in the state.
- Even though Meghalaya is not an industrial state, areas like travel, banking, marketing and salesmanship, export-import practices and documentation, and purchasing and store keeping can be focused and training can be provided to those seeking jobs but do not have the requisite skills.
- The institutes providing vocational training can include courses like civil construction and maintenance, mechanical servicing, audio-visual technician, maintenance and repair of Electrical Domestic Appliances and road construction. Candidates who pass out from these institutes can then be motivated to form groups like 'Dial-a-service'. This may help in addressing the problem of unemployment persisting in the state.
- People can be motivated to take up courses like Medical Laboratory/Technology Assistant, Health Worker, Nursing, Health Sanitary Inspector/Surveyor, Hospital Documentation, Hospital Housekeeping, X-ray Technician, Bio Medical Equipment and Technician, Multi Purpose Health Worker, Auxiliary Nurse and Mid Wives, Primary Health Worker. This will not only provide job opportunities to the needy but will also help in the development of better medical infrastructure in the state.
- A revolution has been brought about in the banking and telecom sectors by private sector participation in these sectors. Growth of these sectors has created a large demand for IT-Enabled services in the areas of back-office processing, collections, customer care and call services, etc. This is a major opportunity for Meghalaya to emerge as a hub for the delivery of these services to the entire region. This will however require the creation of necessary infrastructure and an enabling environment for encouraging private sector investment in the IT-Enabled Services.
- The state has immense tourism potential most of which is at present unexploited. There has been a tremendous spurt in the travel and tourism industry around the world. India is among the fastest growing travel and tourism economies in the world. The "Incredible India" campaign has brought a lot of recognition to the country among international holiday seekers. The state can capitalize on this recognition to promote itself as a favoured ecotourism destination. Tourism industry is also known to generate the highest employment per rupee of investment. As the state's effort to promote tourism bears fruit, a large number of jobs are expected to be created in the hospitality industry. This will however require the creation of requisite infrastructure for capacity building to serve the tourism industry.
- The state has very rich mineral resources, especially coal, limestone, granite, silimanite, clay, kaolin and uranium. However, coal and limestone are the only minerals that are being widely exploited. Even for these two minerals the mining practices are largely unscientific and sub-

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optimal. The mining operations are concentrated in a few hands preventing the benefits of the state's mineral resources to flow to the masses. Regularization and modernization of mining practices in the state can provide a large number of employment opportunities in the state. This is a must since the present mining practices are unattractive to the residents of the state leading to influx and change in the demographic pattern of the mining areas.

- As a conclusion, the above suggestions in creating employment opportunities can be implemented only if the infrastructure base of the state is strengthened. Therefore, *development of basic amenities and infrastructure* especially in the rural areas has to be accorded high priority.

# **CHAPTER - XIII**

## **REVIEW & LOOKING FORWARD**

## CHAPTER – XIII

### REVIEW AND LOOKING FORWARD

**13.1 Tenth Plan Review:-** During the Tenth Plan period, the State Plan investment was Rs. 2922.77 Crores as against the approved projected plan size of Rs. 3009.00 crores and cumulative approved annual plans of Rs. 3516.34 crores. The implementation of the Tenth Plan of Meghalaya faced serious handicaps due to a number of factors, particularly resource constraints. The poor resource-base compelled the State to be largely dependent on Central Assistance sanctioned by the Planning Commission and the decision of the Central Government to provide only 90 percent grant while asking the State Governments to raise the 10 percent loan component had put further strain on the financial resources of the State.

**13.2. Investment pattern during the Tenth Plan:-**

During the Tenth Plan, investment in respect of the State Plan are as indicated below:-

**Table 13.1 Investment Pattern during 10th Plan [Rs. crores]**

Year	Approved Outlay	Revised Outlay	Actual Expenditure
2002-03	545.00	480.43	400.04
2003-04	555.00	536.00	486.16
2004-05	716.34	679.00	590.17
2005-06	800.00	718.00	687.78
2006-07	900.00	810.50	758.62
<b>Total</b>	<b>3516.34</b>	<b>3223.93</b>	<b>2922.77</b>

The resources available during the Tenth Plan period for Meghalaya in respect of the State Plan as indicated in the table below indicates that the Plan resources suffered due to less availability of funds under EAP and Loans :-

**Table 13.2 Tenth Plan Resources [Rs. crores]**

Items	10th Plan approved	2002-03	2003-04	2004-05	2005-06	2006-07	Total	Excess (+)/ Shortfall (-)
1. Central Assistance	2323.15	414.14	483.99	494.59	433.72	553.96	2380.40	57.25
i. NCA	1505.52	290.28	324.02	296.90	328.62	400.42	1640.24	134.72
ii. Others	680.13	115.75	149.69	181.64	91.77	144.48	683.33	3.20
iii. EAP	137.50	8.11	10.28	16.05	13.33	9.06	56.83	- 80.67
2. Loans	594.78	67.56	53.00	41.79	31.03	26.25	219.63	- 375.15
<b>Total - CA &amp; Loans</b>	<b>2917.93</b>	<b>481.70</b>	<b>536.99</b>	<b>536.38</b>	<b>464.75</b>	<b>580.21</b>	<b>2600.03</b>	<b>- 317.90</b>

The broad sectoral distribution pattern of investment during the Tenth Plan period in the State of Meghalaya may be seen below :-



**Table 13.3 Tenth Plan distribution pattern (Rs. in lakhs)**

Sectoral Groups	10th Plan Approved Outlay	10th Plan Outlay based on Annual Plan allocations	10th Plan 2002-2007 Total Expenditure
I. Agriculture & Allied Services	29960.00	29272.00	24585.94
	[9.96]	[8.32]	[8.02]
II. Rural Development	19768.00	27141.00	28420.38
	[6.57]	[7.72]	[9.28]
III. Special Area Programme	4470.00	3984.00	4415.66
	[1.49]	[1.13]	[1.44]
IV. Irrigation & Flood Control	9740.00	5987.00	4776.08
	[3.24]	[1.70]	[1.56]
V. Energy	51627.00	86000.00	53725.33
	[17.16]	[24.46]	[17.53]
VI. Industry & Minerals	14400.00	11828.00	10903.56
	[4.79]	[3.36]	[3.56]
VII. Transport	54030.00	49181.00	50486.99
	[17.96]	[13.99]	[16.48]
VIII. S & T & Environment	790.00	770.00	732.17
	[0.26]	[0.22]	[0.24]
IX. General Economic Services	5970.00	9223.00	5104.02
	[1.98]	[2.62]	[1.67]
X. Social Services	103435.00	119073.00	104031.30
	[34.38]	[33.86]	[33.95]
XI. General Services	6710.00	9175.00	5086.38
	[2.23]	[2.61]	[1.66]
Total	300900.00	351634.00	292277.81
	[100.00]	[100.00]	[100.00]

**N.B.** Figures in brackets indicate percentage to total.

**13.3. Gross Domestic Product/ Net State Domestic Product :-**

The State has witnessed a steady increase in income during the Tenth Plan period. The table below indicates the level of Gross Domestic Product and Net State Domestic Product (at current and constant prices) including the per capita income in the first year and the last year of the Tenth Plan, i.e. 2002-03 and 2006-07 respectively :-

**Table 13.4 GDP/NSDP**

Sl. No.	Income	2002-03		2006-07	
		Total (Rs. Cr)	Per capita income (Rs)	Total (Rs. Cr)	Per capita income (Rs)
1.	GDP at current prices	4900.10	20702	7051.65	28343
2.	GDP at constant (1999-2000) prices	4240.26	17914	5396.04	21688
3.	NSDP at current prices	4439.58	18756	6254.96	25141
4.	NSDP at constant (1999-2000) prices	3829.08	16177	4713.33	18944

**13.4.** The growth rate for Meghalaya has been 6.33 percent in the Tenth Plan as compared to 7.8 percent in the Ninth Plan. This is mainly due to the inability of infrastructure, particularly

power, to sustain and support a high level of growth. There is need for accelerated investment in infrastructure. A graphical representation of the sectoral estimates of Gross Domestic Product and Net State Domestic Product at current prices and at constant prices during the Tenth Plan period is indicated below :-

**Sectoral estimates of Gross Domestic Product at Current Prices**



**Sectoral estimates of Gross Domestic Product at Constant (1999-2000) Prices**



**Sectoral estimates of Net State Domestic Product at Current Prices**



**Sectoral estimates of Net State Domestic Product at Constant (1999-2000) Prices**



Agriculture
  Industry
  Services

During the Tenth Plan, the growth rate achieved in agriculture was 4.43 percent, industry was 8.67 percent and services 6.02 percent as against the overall growth of 6.33 percent.

### 13.5. Socio Economic Indicators:-

Some of the socio economic indicators of Meghalaya are indicated in *the Appendix*. The table and the foregoing chapters clearly depicted the developmental lag, especially in the socio-economic sphere. These would require policy and reforms interventions.

### 13.6. A. The Status of Human Development in Meghalaya:

As per the National Human Development Report 2001, among the 32 states in India (data on the three newly created states of Chhattishgarh, Jharkhand and Uttarakhand were not available), Meghalaya ranks poorly in level of Human Development. Meghalaya ranked 24<sup>th</sup> in HDI in 1991. Its position has deteriorated from a rank of 21 in 1981. The HDI value of 0.365 is also lower than the all-India average of 0.381. This is the case when we take the combined HDI of rural and urban sectors. It reflects the situation in the rural areas due to the population weightage of the rural sector.

The picture in the urban sector, however, is different. The HDI has improved from a value of 0.442 in 1981, which incidentally is exactly equal to the All India average, to 0.624 in 1991, which is higher than the All India average of 0.511. The rank of urban Meghalaya in HDI over the same period improved from 21<sup>st</sup> to 10<sup>th</sup>. Obviously, this is a big leap forward.

Looking at the per capita income of the state, it emerges that in 1990-91 Meghalaya ranked 18<sup>th</sup> among all the states (Economic Survey 2000-01, p. S-12). The HDI rank of Meghalaya at 24<sup>th</sup> in 1991 raises questions that the resources have not been effectively put to use for the well-being of the people, especially the rural people.

Among the North Eastern States, Meghalaya fares better than Assam and Arunachal Pradesh. The other states of the region, namely, Manipur, Mizoram, Nagaland, Sikkim and Tripura show higher achievements in human development.

The situation in 2001 is almost the same. Although the HDI values are not directly comparable with those of the NHDR, 2001; the ranking of the states may be compared. Out of the 35 states and Union Territories, Meghalaya ranked 22<sup>nd</sup> in human development. The HDI rank for the rural areas of the state is 21<sup>st</sup> and for the urban areas, it is 15<sup>th</sup>. Thus it is apparent that human development in the three basic dimensions of health, education and income in Meghalaya during the 20 year period of 1981 to 2001 has been stagnant vis-à-vis most of the states in India. It also appears that the improvement in the spheres of human development has been achieved only in the urban areas.

As far as the Gender-related Development Index (GDI) is concerned, Meghalaya is in a better position compared to most of the states in India. The GDI rank of Meghalaya was 12<sup>th</sup> in 1981 and improved to 7<sup>th</sup> in 1991. However, the GDI could not be calculated in 2001 due to lack of data.

Details regarding the above aspects of socio-economic development, Gender - related issues and other aspects of human development are presented in the Meghalaya Human Development Report, 2008.

### 13.6. B. The Status of Human Development in Meghalaya: Inter District Variations

The district with the highest HDI is East Khasi Hills district followed by West Garo Hills district. The two major towns of the state namely, Shillong and Tura, are in these two districts and the relatively higher HDIs of these districts seem to reiterate that human development in Meghalaya has been urban-centric. The other five districts exhibit HDIs that are lower than the state average.

Economic development measured in terms of Domestic Product does not necessarily reflect the actual well-being of the people. It is observed that the ranking of the seven districts by the Per Capita Net State Domestic Product (NSDP) does not have a one-to-one correspondence with the ranking by HDI. The most backward district of the state as per calculations is East Garo Hills. However, five districts out of seven have HDIs value that are lower than 0.5. The HDI scale is a 0 to 1 scale and if we take 0.5 as the half way mark of development, then all districts of Meghalaya except East Khasi Hills and West Garo Hills fall short of that mark. Put another way, they have not achieved even half of what is supposed to be done in the basic areas of human development.

The gender-related development index (GDI), measures achievements in the same dimensions using the same indicators as the HDI but captures inequalities in achievement between women and men. It is simply the HDI adjusted downward for gender inequality.

MHDR 2008 reported the GDI for each district. The GDI values show the existence of gender inequality in all districts. The ranking of the districts by GDI is exactly the same as the ranking by HDI with two exceptions. West Khasi Hills replaces East Garo Hills at the bottom of the GDI ranking, although the GDI values of the two districts are more or less the same; and South Garo Hills replaces Ri Bhoi at No. 3.

**Table 13.5: Human Development Index of Districts of Meghalaya**

District	Infant Mortality Rate	Literacy	Combined Gross Enrolment Ratio	NSDP Per Capita at current prices (Rs.)	HDI	HDI Rank
East Khasi Hills	34.51	76.98	63.10	17264	0.684	1
West Garo Hills	18.13	51.03	65.99	10654	0.597	2
Ri Bhoi	60.63	66.07	50.47	9798	0.499	3
South Garo Hills	102.01	55.82	85.52	16847	0.498	4
Jaintia Hills	77.34	53.00	43.31	15095	0.487	5
West Khasi Hills	86.17	65.64	79.13	9345	0.462	6
East Garo Hills	90.60	61.70	60.91	9928	0.432	7
Meghalaya	52.28	63.31	62.87	13082	0.570	

Notes and data sources: MHDR 2008 (under print)

- (i) Infant Mortality Rates are as per the estimates obtained from the Birth & Mortality Survey, 2007.
- (ii) Literacy rates are as per the Census of India, 2001
- (iii) The gross enrolment ratio is obtained by dividing the combined enrolment numbers by the population aged 5 - 19 years in 2001. The combined enrolment numbers are for Classes I - XII as per the All India Seventh Educational Survey, 2002.
- (iv) Net State Domestic Product Per Capita at current prices are for the year 1999-2000 as per the Meghalaya District Gross Domestic Product 1993-94 to 1999-2000, Directorate of Economics & Statistics, Government of Meghalaya.

**Table 13.6: Gender Related Development Index of Districts of Meghalaya**

District	Sex	Population	IMR	Literacy	Combined gross enrolment ratio	Share in economically active population	Ratio of female to male rural labour wage	NSDP at current prices (Rs in lakh)	GDI	GDI Rank
East Khasi Hills	M	333187	27.26	78.12	60.67	63.03	0.679	125313	0.659	1
	F		41.43	75.82	65.55	36.95				
West Garo Hills	M	259440	18.96	57.51	66.42	59.82	0.825	57479	0.580	2
	F	256373	17.32	44.51	65.54	39.99				
South Garo Hills	M	51051	88.08	62.60	85.74	55.38	0.813	18717	0.498	3
	F	48054	114.99	48.61	85.30	44.63				
Ri Bhoi	M	99315	53.09	69.22	48.64	57.52	0.729	20840	0.491	4
	F	93480	68.28	62.67	52.39	42.47				
Jaintia Hills	M	149376	97.64	50.52	37.94	57.10	0.683	52227	0.474	5
	F	146316	55.80	55.54	48.71	43.00				
East Garo Hills	M	126312	96.75	67.39	61.46	54.77	0.846	25743	0.428	6
	F	121243	84.83	55.74	60.36	45.26				
West Khasi Hills	M	149159	91.51	67.02	75.91	53.91	0.544	28817	0.426	7
	F	144956	81.14	64.21	82.53	46.06				
Meghalaya	M	1167840	51.55	66.14	61.12	58.51	0.742	329136	0.562	
	F	1138229	52.99	60.41	64.67	41.47				

Notes and data sources: As in Table 2.4: MHDR 2008 (under print)

Meghalaya exhibits lower achievement in the sphere of human development compared to most of the states in India. Further, there seems to be no substantial improvement especially in the rural areas. There are wide variations across the districts within Meghalaya with five out of seven districts showing lower HDI values than the state average. Three districts have HDIs that are below the half-way mark of 0.5.

The concept of human development is much broader and more complex than any summary measure can capture. The HDI is not a comprehensive measure. It does not include important aspects of human development, notably the ability to participate in the decisions that affect one's life and to enjoy the respect of others in the community. The indices give an overview of some basic dimensions of human development, but they must be complemented by looking at the underlying data and other indicators.

**13.7. Infrastructure** - There exists a substantial gap between the infrastructure required and that in place at present. Some of the gaps in critical infrastructure are:

**Table 13.7 Critical Infrastructure Gaps.**

Sl.No.	Development Sectors	Unit of Development	Infrastructure Dev. Required	Present Status	Infrastructure Gap
1.	Power	Total demand of power (MW)	610	185.20 (30%)	424.80 (70%)
	-Do-	Villages electrified(Nos.)	5782	4217 (73%)	1565 (27%)
	-Do-	Households electrified(Nos.)	365989	135416 (37%)	230573 (63%)
2.	Roads Communication	Road density (Kms./Sq.Kms.)	75/100(All India)	36/100 (48%)	39/100 (52%)
	-Do-	Village connectivity (Nos.)	5782	2857 (49%)	2925 (51%)
3.	Health & Family Welfare	Sub-Centres (Nos. as per G.O.I. norm)	773	401 (52%)	372 (48%)
	-Do-	P.H.Cs (Nos. as per G.O.I. norm)	116	102 (88%)	14 (12%)
	-Do-	C.H.Cs(Nos. as per G.O.I. norm)	29	24 (83%)	5 (17%)
4.	Education	Training of teachers (Nos.)	21152	9294 (45%)	11558 (55%)
	-Do-	Literacy rate (%)	100%	62.6%	37.4%
5.	Irrigation	Potential (Lakh hectares)	2.18	0.26 (12%)	1.92 (88%)
7.	Water Supply	Number of habitations	8636	8389 (97%)	247 (3%)+ Slipped-back habitations
8.	Infrastructure	CMIE Index of infrastructure (92-93)	100	65 (100)	35
		10th Finance Commission index of Economic & Social Infrastructure	100	70 (100)	30 [Massive investment in infrastructure required]

A calculation of the infrastructure Index for all the North Eastern States in a scale of 0-1 indicate that within the region itself Meghalaya stands at the lower rung of the ladder.

*(Source: MHDR 2008– Paper by Dr. S. Umdor & Dr. B. Panda, NEHU)*

**Table 13.8 Infrastructure index and States Ranking**

States	Index Value	Rank
Nagaland	0.39	1
Tripura	0.37	2
Manipur	0.35	3
Mizoram	0.33	4
Assam	0.30	5
Meghalaya	0.23	6
Arunachal Pradesh	0.22	7

**Table 13.9 Bottom 10 States in Descending Order**

1971-72	1981-82	1991-92	1994-95
Arunachal Pradesh	Arunachal Pradesh	Arunachal Pradesh	Arunachal Pradesh
Mizoram	Tripura	Tripura	Tripura
Tripura	Mizoram	Mizoram	Mizoram
Nagaland	Sikkim	Nagaland	Nagaland
Sikkim	<b>Meghalaya</b>	Sikkim	<b>Meghalaya</b>
<b>Meghalaya</b>	Nagaland	<b>Meghalaya</b>	Sikkim
Assam	Manipur	Assam	Assam
Manipur	Assam	Manipur	Manipur
Uttar Pradesh	Uttar Pradesh	Orissa	Orissa
Orissa	Orissa	Uttar Pradesh	Uttar Pradesh

Source: Strategic Analysis: What Ails The Northeast: An Enquiry Into The Economic Factors By Sreeradha Datta \* A  
 Monthly Journal of the IDSA April 2001 (Vol. XXV No. 1)

From the above it is clear that infrastructure deficiency is in acute form in the state and the region. Hence, there is a need for adequate investment in infrastructure. Further, since the scope of PPP mode is limited in the North Eastern Region, such investment is largely dependent from agencies of the Government of India.

**13.8. Eleventh Five Year Plan (2007-2012):-**

**Priorities of the 11th Plan :-** While taking into consideration the approach and the national priorities as decided by the Government of India, the State Government has accorded the following priorities during the Eleventh Five Year Plan :-

- Power generation, transmission, grid connectivity and rural electrification.
- Agriculture and allied sectors with strong emphasis on horticulture including post harvesting management and processing.
- Roads and Bridges for ensuring better connectivity.
- Sericulture & Weaving for generation of income and employment to the women folk.
- Tourism infrastructure and tourism services.
- Trade with Bangladesh and creation of infrastructure for the same.
- Decentralization of planning and involvement of the people in the development process.
- Social Services like education, health, water supply and nutrition.
- Poverty alleviation and employment generation in rural areas through Rural Development Programmes.

During the deliberations in the planning Board in January 2009, Human Resource Development, Crop Husbandry, Horticulture, Industries, Minerals, Tourism, Health Care, Water Supply and Sanitation was taken as focus area.

(b). Meghalaya had proposed a Plan allocation of Rs. 8695.00 Crore for the Eleventh Plan period as against the approved allocation of Rs. 3009.00 crore during the Tenth Plan period which was a step up of over 188 percent. However, the Plan size during the Eleventh Plan for Meghalaya was approved at Rs. 9185.00 crore and the broad sector-wise allocations are indicated below:-

**Table 13.10 11<sup>th</sup> Plan Approved Outlay**

Sl. No.	Sectoral Groups	Eleventh Plan (2007-2012)	
		Proposed outlay [Rs. lakhs]	%age to total
I.	Agriculture & Allied Services (excluding Forestry & Wildlife)	73,522.00	8.00
II.	Rural Development	80,230.00	8.73
III.	Special Area Programme	18,909.00	2.06
IV.	Irrigation & Flood Control	21,972.00	2.40
V.	Energy	1,08,488.00	11.81
VI.	Industry & Minerals	29,050.00	3.16
VII.	Transport	1,62,362.00	17.68
VIII.	Science, Technology & Environment (including Forestry & Wildlife)	24,507.00	2.67
IX.	General Economic Services	25,300.00	2.75
X.	Social Services (including Education)	3,48,174.00	37.91
XI.	General Services	25,986.00	2.83
Total		9,18,500.00	100.00

There have been suggestions that allocation for Energy, Road is most consuming of plan resources. The normal individualized priority to a sector should be between 10-15% as a cap, and this may go up to a maximum of 20%. However, given the lopsided emphasis and wastage of resources and allocations in the past, the desired shift and focus appeared timely and needs further fine tuning. Also total investment in Public sector should be seen holistically taking into account Plan, Non Plan, all find flow from Government of India. If taken comprehensively, the picture would be different and sometimes revealing.

**13.9. Performance in physical terms during the Tenth Plan and targets for the Eleventh Plan:-**

The table below indicates the physical performance during the Tenth Plan period as well as the targets for the Eleventh Plan.



**Table 13.11. 10<sup>th</sup> Plan Physical Performance & 11<sup>th</sup> Plan targets**

Items	Units	10 <sup>th</sup> Plan Achievement	11 <sup>th</sup> Plan Target	Annual Plan 2007-08 Target
Food Grains	'000 tonnes	269.93	379.00	291.00
Oil Seeds	'000 tonnes	14.53	26.18	22.17
Potatoes	'000 tonnes	203.04	246.69	225.10
Horticulture	'000 tonnes	245.57	291.98	288.64
Crop Area:				
Cross area	'000 ha	320.00	330.00	325.00
Net sown area	'000 ha	250.00	265.00	260.50
Area covered under Irrigation	'000 ha (cum)	28.69	45.19	30.69
Production of Eggs	Million Nos.	98.00	110.00	100.00
Production of Meat	'000 tonnes	37.00	42.00	38.00
Milk	'000 tonnes	76.00	95.00	77.20
Fish Production	'000 tonnes	5.50	6.50	5.50
Fish Seed Production	Million Nos.	1.15	3.00	2.00
SGSY	SHG's Assisted	4313	7000 (cum)	1200
SGRY employment	Lakh mandays	175.41 (cum)	251.50 (cum)	29.62
IAY	No.	19736 (cum)	45222 (cum)	5352
Installed Capacity	MW (cum)	185.20	313.00	185.20
Rural Electrification	No. of villages	5062	Complete full electrification	5951
Road Length	Kms. (Cum)	8254.00	9013.00	8354.00
Surface Roads	Kms. (Cum)	5073.00	6567.00	5253.00
Road Density	Kms./ 100 sq. Km.	36.79	40.18	37.25
Primary Enrolment	'000 nos.	444.4	500	480
Upper Primary Enrolment	'000 nos.	178.4	250	200
Secondary Enrolment	'000 nos.	115	120	116
Higher Secondary Enrolment	'000 nos.	6	7	6.2
College Enrolment	'000 nos.	40	45	41
Training of elementary school teachers	Nos. (cum)	13962	21152	4799
Sub Centres	Nos. (cum)	419	431	425
PHCs	Nos. (cum)	110	115	112

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Items	Units	10 <sup>th</sup> Plan Achievement	11 <sup>th</sup> Plan Target	Annual Plan 2007-08 Target
CHCs	Nos. (cum)	32	36	34
Doctors	Nos. (cum)	542	804	584
Nurses	Nos. (addl)	1655	1847	1735

### 13.10. Monitorable targets during the Eleventh Plan :-

During the 11<sup>th</sup> Plan period, the **target growth rate fixed** for the State is 7.2 percent, comprising of growth rates of 4.7 percent in agriculture, 8.0 percent in industry and 7.9 percent in services sectors. Besides the above, **the monitorable targets** as agreed and projected by the State Government are as indicated below:-

**Table 13.12 Monitorable Indicators**

Monitorable indicators	India		Meghalaya	
	Current level	11 <sup>th</sup> Plan Goal	Current level	11 <sup>th</sup> Plan Goal
Infant Mortality Rate (IMR)	58.0	28.0	54.0	26.0
Maternal Mortality Rate (MMR)	301.0*	100.0	450.0\$	100.0
Total Fertility Rate (TFR)	3.0	2.1	4.6#	2.6
Malnutrition amongst children (0-3 years)	47.0	23.5	37.9	19.0
Anemia among women (15-49 years)	56.5	28.3	63.3	31.7
Sex ratio (0-6 years)	927.0	935.0	973.0	981.0
Drop out rates in Elementary Education	42.69^	20.00^	62.26	31.63
Literacy Rate :-				
Male	75.26	89.80	65.43	87.87
Female	53.67	79.80	59.61	87.35
Total	64.59	85.00	62.56	87.61
Gender gap in literacy rate	21.6	10.0	5.8	0.5

**N.B.** \* 2001-03 figures

\$ State report survey

# National Family Health Survey (1998-99)

^ Projected for 2006-07

It was agreed to bring down the level of poverty by 10% from the Household Survey 2002 level which stands at 48.9 percent. It was also planned to generate additional work opportunities to 1.50 lakh people and facilitate employment generation.

**13.11. Annual Plan allocations** – The Annual Plan allocations during the 11<sup>th</sup> Plan are indicated as below:-

**Table 13.13 Annual Plan Allocations**

[Rs. crores]

Annual Plan	Approved Outlay	Expenditure
2007-08	1120.00	984.06
2008-09	1500.00	1450.00(Anti)
<b>Total</b>	<b>2620.00</b>	<b>2484.06</b>

Further, in order to achieve the 11<sup>th</sup> Plan approved outlay of Rs. 9185.00 crores, the Annual Plan allocations for the next three years, i.e. 2009-2012 should increase at the annual rate of about 20 percent, as indicated below :-

**Table 13.14 11<sup>th</sup> Plan Projected Outlay [Rs. crores]**

Annual Plan	Projected Outlay
2007-2008	984.06 (Actual)
2008-2009	1400.00 - 1500.00
2009-2010	2000.00 -2050.00
2010-2011	2400.00 -2600.00
2011-2012	3000.00 -3100.00
<b>Objective : To achieve/overachieve allocation of Rs. 9185.00 Crore</b>	

**13. 12. Leveraging funds from other sources :-** The State Government also receives substantial funds from other sources like the Centrally Sponsored & Central Sector Schemes, funds under the Non Lapsable Central Pool of Resources (NLCPR), North Eastern Council (NEC) and also from 10 percent Gross Budgetary support of Ministries.

The table below indicates the funds leveraged from such sources during the last few years:-

**Table 13.15 Leveraging funds from other sources [Rs. crore]**

Year	NEC	NLCPR	Centrally Sponsored Schemes	Central Sector Schemes
2004-05	19.59	21.70		
2005-06	26.76	27.50		
2006-07	56.41	38.58	239.12*	32.02*
2007-08	75.73	60.86	405.69*	29.94*

*\* Direct funds to DRDAs/ SRRDA (PMGSY), RGGVY, MNREDA and other agencies are not included here as it would require some research in the matter.*

**13.13. Flagship Programmes & Bharat Nirman –** The State Government is giving due importance to the implementation of the Flagship Programmes including Bharat Nirman. These programmes includes the National Rural Employment Guarantee Act (NREGA), Indira Awaas Yojana (IAY), Sarva Shiksha Abhiyan (SSA), Mid Day Meal, National Rural Health Mission (NRHM), etc. and Bharat Nirman Programmes.

**The implementation of some programmes like the IAY, PMGSY, NRHM, Total Sanitation Programme (TSP), Minor Irrigation, JNNURM, etc. have been below par.** *The implementation of the ICDS, NREGA, Mid Day Meal, Accelerated Rural Water Supply Programme (ARWSP), RGGVY, etc. have been slightly better but issues of quality and better performance remains. Monitoring mechanism has been put in place which requires the rigour of analysis, proper monitoring and documentation.*

In most of these programmes the failure is largely of the delivery machinery which requires restructuring, reform and resurrection.

**13.14. The Vision 2020 document of the NEC has identified five basic deficits** confronting the **North Eastern Region** which includes **(i)** a basic needs deficit; **(ii)** an infrastructure deficit; **(iii)** a resource deficit; **(iv)** a two-way deficit of understanding with the rest of the country; and **(v)** a governance deficit. To overcome these deficits, the document stressed on the need for a complete change in the planning process and has suggested the following strategies – (i) **participatory development** strategy; (ii) **capacity development** strategy; (iii) **augmentation of infrastructure**, particularly connectivity and transport infrastructure including intra-region connectivity; (iv) significant increase in the Central Government’s allocation for infrastructure in the region including efficient use of funds; (v) **transforming of governance** by providing a secure, responsive and market friendly environment.

Besides the above, **the issue of ‘knowledge deficit’** which should address the aspects of information, technologies and expertise availability which would bring the Human development aspects, in particular in the service sector to enhance capabilities are also palpable.

These aspects beg for mission mode financial, technical and administrative support to ameliorate and address these deficits during the 11<sup>th</sup> Plan.

**13.15. According to Dutta, S. (2001), over the years, three main features of national policy relating to the northeast have crystallized:**

1. A higher allocation of resources is made to the states and union territories,
2. The infrastructural development in the region has been accorded high priority with major changes in railways, roads, power generation, and telephone services in the next two decades or so.
3. The central government, the NEC and the respective state governments are moving in the direction of expanding industry and a network of industries connected with oil refineries, petro chemicals, fertilisers, cement, pulp and paper, have been planned and are being set up in the region. But such policies, evolved at three different levels, should be integrated with each other and have a clear-cut focus to make any worthwhile impact on the society and politics in the northeast.

**13.16. Various study of IFIs projects in the NER indicate following concerns** (which are generic to developmental constraints as indicated/ reflected in **chapter I**):

1. little or no participation of local people; disempowerment in the process;
2. lack of accountability mechanisms, transparency and disclosure policies;
3. pathetic commitment to public participation;
4. imposition of WTO rules by IFIs as framework of development; emphasis on privatization, poverty reduction and private participation;
5. adverse impact on local and tribal people;
6. violation of IFIs internal policies;
7. environmental and social concerns not guiding the decision making;
8. compartmentalization of the development process;
9. failure to adhere with human rights and environmental legislations;
10. centrality of natural resources exploitation for development;

**13.17. The 11<sup>th</sup> Plan document of the Planning Commission highlights the following critical parameters for growth of the North Eastern Region:-**

- Two pronged growth strategy: creation of critical infrastructure and creation of employment opportunities;
- Improvement in the security, law & order and governance.
- Capacity building of implementing machinery (Government functionary) – Technical assistance programmes for capacity building.
- Thrust on major sectors of connectivity (Road, Rail, Air, Inland Waterways, telecommunication) and Power with major step-up in investment in these sectors;
- Thrust on major social infrastructure- Health, Education (upgradation of quality), and Tourism, clearly identifying gaps therein and Skill development.
- Emphasis on Primary Sector of economy to substantially step up productivity in food grains within a period of five years. Emphasis on agriculture extension services, irrigation.
- Farm based economic activities – Horticulture, Animal Husbandry, Fisheries, Poultry, etc.
- Post harvest management and marketing infrastructure.
- Synergy and dovetailing of programmes/ schemes between Central Ministries and the State Governments for filling up gaps in infrastructure.
- Building capacity and bringing professionalism in NEC as Regional Planning Body.
- Active Involvement of Autonomous District Councils, Panchayati Raj and local Self Government institutions, Communities and Self Help Groups in various development welfare schemes.
- Making the region attractive destination for private sector investment and PPP.
- State-specific approach for creation of opportunities for employment generation.
- Development of the region linked to look east policy of the government and development of relationship with the neighbouring countries of the entire region
- Development of LCS to make international trade attractive through North East
- Systematic approach to infrastructure development (road/rail/power/IWT/Airports) in the Region. Resources requirement for development is huge. Many of these roads or airports cannot be justified on economic viability basis. But these are vital for opening up the region and better integration.
- Maintenance of roads is an important aspect and needs a separate financial arrangement.
- Setting up of an interdisciplinary body for overseeing the planning and timely execution of communication projects undertaken, including inter alia the absorption capabilities and their augmentation.

**13.18. A participatory approach for Winds of change, hope for renewal** (through Listening, learning and implementing):

A large survey by the Centre for North East Studies and Policy Research, Guwahati, which reached out to some 40,000 households in eight states as preparatory to NER Vision 2020 (Peoples Plan) indicates the concerns and priorities of people at the grass roots and reflects desire for changes.

**A. *The following recommendations are across-the-board views which are relevant for a regional approach to planning and development and are generic for the region:***

**1. Agriculture (including horticulture, animal husbandry etc.)**

- A land use policy to enable conservation of biodiversity and adequate forest cover
- Establish Agriculture Universities where there are none and agricultural colleges in different districts to upgrade farmers' training, knowledge and livelihoods using best and most appropriate technologies
- Chains of cold storage networks in every block which could store vegetables, fruits and meats; these to be linked to processing and packaging units for value addition and then connected through good roads and a network of trucks/transportation to nearby and distant markets thus ensuring quick market access and longer shelf life for the products.
- Horticulture and floriculture to become major export earners
- Jhum farmers, who are among the most marginal of agriculturists, to receive access to micro-credit and improved seeds and other farm technologies which will strength incomes and broaden livelihood options
- Dairying to be seen as an option to on-land farming: milk products to meet local needs and also for export
- Competent and relevant extension programs
- Better veterinary facilities and training of educated rural youth as para-vets, to take knowledge and skills across the countryside
- Encourage fisheries, especially in upland areas
- Increased, better bamboo production and products for national and international competition;
- Organic farming to drive agriculture: value addition, export oriented;
- Support to traditional medicinal plant users, giving them access to technology

**Education**

- A fully literate society by 2020
- All children to complete primary and elementary levels
- Proper infrastructure for schools including permanent buildings, computers, libraries, desks and chairs for students
- Teacher: student ratio to be less than the recommended norm of 1:40
- Separate toilets for boys and girls
- Qualified teachers on staff and regular retraining
- Gender sensitization and Health counseling (including sex education)
- More scholarships for higher education outside of the state
- Well-staffed and equipped vocational training centres, for basic skills but also for new livelihoods such as tourism

- Privatization of primary schools where possible and under norms
- Networks of training Centres in every state to learn languages, cultures and issues of South-east Asia and China and also to teach languages of the region to scholars and visitors from other countries

### Health

- Piped drinking water to all homesteads by 2020
- Management of distribution of water and effective control of its quality by local communities.
- Pit toilet and sewage pit for every household (to avoid worm infestation etc.)
- PHCs to have adequate medicine stocks (including life-saving drugs), to be staffed regularly and provide infrastructure support (e.g. adequate housing and communications facilities) for medical personnel
- Ambulances at every PHC and basic lab testing equipment
- Functional dispensary in every village
- HIV/AIDS awareness campaign and medicines to ensure public understanding, monitoring and treatment
- Traditional health system to become part of overall health process, including dais and traditional knowledge systems (forest based) strengthened as also herbal/indigenous systems of treatment
- Coverage of health care and especially reproductive health care for all
- Super specialization institutions (cardiac etc.) which would give top of the line treatment to patients
- Improved infrastructure facilities, schooling, training and health care for the physically and mentally challenged, including access to buildings and public transport

### Communications

- Transformation of the North-east into a major gateway between South Asia and South-east Asia/South-west China, in pursuit of the 'Look East' policy
- Upgrade and integrate existing networks into the Asian Highway and East-West Corridor
- Good road connectivity to all villages located off highways
- Open up Inland Waterways and railway transit routes into Bangladesh, Myanmar and to West Bengal, connecting to Sitwel port on the Arakan and Chittagong as well as to Haldia
- Flood-resistant technology for roads in valley regions of Brahmaputra and Barak and skyways where possible in hill areas.
- CICs/CSCS and ICT will develop the routes for the future, e.choupals etc. to transfer information, technology etc. to farmers and rural communities on markets, products, prices and weather conditions
- Telephone connectivity and functioning post office for every village
- Air connectivity to improve local travel, tourism and business: small airports for small aircraft in as many districts as possible

### Development Programs

- villagers and communities to be involved in design, review and implementation of rural development plans through SHGs and other representative groups in addition to PRIs and district council/village councils
- Tap hydro-power potential in addition to promotion of wind and solar energy
- Include Northeast in projected supply of gas from Rakhine coast (Myanmar) by ONGC and GAIL via pipeline
- Improved Bamboo technology and products to compete in international market with China and South-east Asia
- Bamboo plantations to be major employer and livelihoods generator but these also to be not mono-species but also species endemic to the region

### Governance

- Downsized governments
- Better coordination between government departments and end to program duplication by different departments
- PRIs and local elected institutions to be core planning and delivery mechanisms for projects with local review committees to keep a watch for transparency
- Also the Right to Information Act, 2005 will ensure transparency, better governance and improved public participation
- Better trained panchayat members (read grassroot planning and development organization) to enable them to break free of control of political bosses; training esp. in use of funds
- Need to
- NEC, M. Doner and Planning Commission to make it mandatory to involve the public, stakeholders and beneficiaries apprised through a public process and review of projects involving them
- Strengthening Traditional Institutions (TIs) in resource management and finance
- Better co-ordination with district and block level officers
- Recognition to TIs which reflect gender representation as well as other ethnic groups
- Codification of TIs, customary laws and usages
- Key to good governance is quality of delivery

### Peace

Peace is seen in the region as the key to change and progress. Development work must continue but for it to be truly effective, there must be a sustainable and stable peace in the region, which involves ethnic groups and peoples, going beyond dialogue to negotiated settlements, the cessation of bloodshed and the reduction of suspicion as well as the growth of trust.

#### **B. *The needs expressed/ as revealed specific to Meghalaya:***

##### **(i) Tura (Garo Hills):**

##### **Education**

- Better trained Teachers
- Bigger Class Rooms



- Fundamental science studies in schools and science streams in Colleges
- Knowledge of Basic Computer Operations

## Communications

- Sub-Surfaced Roads from villages to nearest market place to be surfaced
- Power towers to be installed for uninterrupted power supply
- Extensive tapping of solar and non-convention energy sources

## Health

- life saving medicines to be available free of cost at PHCs/CHCs and dispensaries
- Health Camps at regular intervals with specialized doctors
- R&D to set up infrastructure for processing of medicinal plants

## Agriculture, horticulture and allied activities

- Cooperatives in place to purchase Dairy Products at the Village level
- Horticulture Centers at Village level
- Incentives and funds to establish village and cottage industries, e.g. Bamboo and Pulp based Industries

## Governance

- Stronger traditional forms of governance including Garo Hills Autonomous District Council
- Poverty alleviation with special focus on rural poverty

## (ii) Shillong (Khasi and Jaintia Hills)

### Education

- More high schools and colleges at Block level with hostel facilities
- Curriculum to be need based and to be reviewed regularly for relevance
- School management committees to be accountable and transparent and to be registered
- Appointment of teachers to be based on merit (not political, religion, gender)
- Subsidy to purchase of school books to continue
- Strengthen and promote AWCs (anganwadi centres for informal education) in interior villages
- Performance-based assessment of teachers for promotion
- Trained counselors in communities and educational institutions addressing substance abuse and sex health issues

### Communications

- Community participation in identifying and preparing plans for roads, ropeways and other communication facilities with assistance of technical experts
- Continue installation of community TV and radio sets in villages
- Network of community radio stations for rural connectivity

### Health

- Improved transportation links between health centres and villages
- Medical Advisory Council at District level comprising of members from Dorbar, social organizations, health activists and professionals

- Recognition of and strengthening of traditional herbal healing systems and inclusion of the same in the AYUSH system of GOI
- Rotation of tenures for doctors in rural areas
- Trained teams of rural paramedics
- Regular review of health status in every district by District Medical Advisory Board
- In-service training for medical staff
- ANMs to be trained regularly and provided with delivery kits
- Emergency services to be available at all PHC and CHCs

### **Agriculture etc.**

- Organic farming to drive agriculture: value addition, export oriented
- Horticulture and floriculture to become major export earners
- Network of women markets as at Ima Market in Imphal (Manipur) and Iewduh in Shillong
- NEC to link funding to research institutions to adaptive research linked to peoples needs and livelihoods

### **Development**

- Network of micro-hydel projects for cheap energy
- Completion of rural electrification
- No smoke-stack industries and energy-guzzling industries which have adverse impact on the environment
- Rural land, where possible, to be made available for investment in developmental projects
- Information about flexibility in Land Transfer Act to be disseminated to industrial centres of India e.g. Mumbai and Pune to attract investment
- NEC to supplement capital investment of the State to help Meghalaya complete the “last mile” with regard to projects implementation

### **Governance**

- Strengthening Traditional Institutions (TIs) in resource management and finance
- Better co-ordination with district and block level officers
- Official recognition to TIs which reflect gender representation and other ethnic groups
- Direct funds to TIs with ADC as nodal agency (?)
- Codification of TIs, customary laws and usages

### **13.19. Challenges, Strategies and Way Forward for Development :-**

The Salubrious climate with rich biodiversity and unique socio-economic and tribal culture of Meghalaya is striking. However, its geographical location with poor accessibility to major markets; hilly terrain, small geographical area and ubiquitous poverty; poor or absent rail, air connectivity and inadequate road infrastructure; weak power infrastructure; limited voice, data and video network and unregulated exploitation of natural resources sans value based action and value addition are major concerns for backwardness.

There is high dependency on Central government resources and at the same time there is limited ability or will to generate local resources. The perception of both local people and from outside perspective is that the impact on people's lives is not commensurate to the investments made with implicit concerns on proper utilization of central assistance. There is a sense of getting a raw deal from the rest the country by the local communities, while the outside perception is that there is antipathy, lethargy and cornering of benefits by vested interests within and without. Low levels of industrialization along with limited attraction to outside investors demand an innovative and enterprising means of achieving the goals. **Lack of effective decentralization begs for strategic shift in existing development planning and execution.**

In the light of descriptions above and in the previous chapters, various suggestions in reiteration or addition are flagged or detailed below:

(a) The State must focus on the '**outcome oriented' approach** and move away from the 'expenditure incurred' approach which is expected to lead to improvement in the quality of implementation of plans and programmes. The Government should support the training of the cadre of statisticians and officials of PIED for effective monitoring and building up proper statistical data base. *A task force for this has been constituted which requires meaningful carry forward.*

(b) Priority should be given to **completion of ongoing projects**. Rationalisation of existing shelf of schemes particularly in works sector must be undertaken to ensure proper and productive deployment of resources.

**(c) Development of basic Infrastructure particularly in the road and power sectors:**

- Road connectivity needs to be augmented to support development. Suggestions in the chapter are quite in detail and those should be resorted to.
- Innovative solutions like ropeways will need to be planned and executed to support traditional transportation schemes
- Power is critical infrastructure for E society based programs; environment friendly power infrastructure- (gas, nuclear and hydel) will be required to be built
- Quantum of additional funds required for this infrastructure will need to be estimated by experts and Enhanced state/national funding is highly recommended for this sector with time bound action with multi agency involvement.

**(d) Catching up with the rest of the country :-**

(i) The Shukla Commission (1997) estimated Rs. 27000 crore for immediate infrastructure development and as a measure suggested earmarking 10 % GBS by Ministries of the Government of India and the creation of the **Non Lapsable Central Pool of Resources** (NLCPR) out of the failure of the different Central Ministries to achieve the same for investment in infrastructure.

(ii) The **Task Force for Accelerated Development of the North Eastern States** of the Planning Commission headed by Shri B.N. Yugandhar, Member, Planning Commission had recommended increased investment and *estimated about Rs. 42000 crore as the required additional investment during the 11<sup>th</sup> Plan for the region.*

(iii) In order to catch up with the per capita GDP of the country by the year 2020, the **Vision NER 2020** prepared by NIPFP, New Delhi estimated that the region needs to grow at an average of 10 percent in terms of its GSDP and 9 percent in terms of its per capita GSDP during the period from 2007 to 2020. In the case of Meghalaya, the State has to grow at 10.96 percent in terms of its GSDP and 9.72 percent in terms of **per capita GSDP during 2007-2020**. It has been assessed by the

NIPFP, New Delhi in the Vision document for NER that to achieve the aforesaid level of growth, **an investment of about Rs. 13.29 lakh crore over the next 12 years is required** for the purpose from both public and private sources. With the economic slow down efforts are requires fiscal, other policy and implementation level to keep the economy going ahead.

(iv) While rapid growth is essential, it needs to be ensured that it does not lead to further deepening of the divide that exists between States. Meghalaya's economy is projected to grow at 7.2 percent while its population has been increasing at a higher rate than the national average. The national target to double the real income of the average citizen in ten years is achievable for Meghalaya with proper strategies towards much higher public and private sector investment in the region and the state during the Eleventh Plan and Twelfth Plan.

(v) If the above calculation is taken in consideration and taking approximately 10-12 percent of share of above assessed investment for the growth as indicated at (iii) above, **Meghalaya would require an investment of Rs. 1.33 lakh crore to Rs. 1.60 lakh crore by 2020. The state's own resources are very limited.** The State's Own Resources excluding Central Assistance as per preliminary assessment of the State Finance Department is Rs. 1118.94 lakh for the Annual Plan 2008-09. Since the NER in general and hill States in particular have less possibility of PPP, the resources must come largely from public sources.

(vi) Presently, the State is able to achieve an annual level of investment of about Rs. 1495 to Rs. 2500 crores consisting of Rs. 1500 crore of State Plan, Rs. 65 crore under Non Lapsable Central Pool of Resources, Rs. 60 crore under North Eastern Council and Rs. 500 crore under Centrally Sponsored & Central Sector Schemes. At present rate of annual growth in investment from public sources will be about Rs. 25000 to Rs. 30000 crores over the next 12 years. Approximately, similar amount may be invested by private sector locally. This still leaves requirement of about Rs 70000 -1.0 lakh crore.

(vii) Possible PPP if critical policy, land tenure and investment climate is invigorated in :Power-likelihood of Rs 20000 crore (3000 MW); Health- Rs 10000 crore ; Education- Rs 15000 crore; Tourism- Rs 15000 crore; IT - Rs 10000 crore; others Rs 15000 crore. Additional Public sources required is Rs.15000 crore. **This requires to be detailed out and concerted action plans initiated by respective sectors.**

**(d) Inclusive growth & intra State disparity :-**The State Government would have to aim for a more broad based and inclusive growth that addresses intra State disparity in infrastructure and human development index across districts and communities. Selected data are provided as appendix. Details are also available in MHDR 2008.

**(e) Agriculture & Horticulture -** Meghalaya is rich in the production of certain horticulture crops like potato, ginger, pineapples, banana, oranges and turmeric besides being a substantial producer of cashew nut, arecanut, tea and rubber. Certain high-value low-volume non traditional crops such as strawberry, rose and anthurium are fast establishing themselves as revenue spinners. The State would be adopting a cluster approach to achieve the desired results and also focus on post harvest management like cold chains for perishables, marketing and fruit processing.

- Amongst other things related to improvement of farm incomes, the importance of **organic farming** in Meghalaya cannot be over emphasized. Because of lack of technological guidance, poor knowledge of and access to affordable certification facilities and effective market support, organizing organic farming also requires greater scientific and technical inputs than chemical

farming calling for a high level of multidisciplinary attention. Post harvest management and other forward linkages such as processing, value addition and marketing requires to be given emphasis. The RKVY and BRGF schemes should be focusing on these issues.

- There is need for an **integrated and intensive development of agriculture and allied activities through a cluster approach**. This will ensure the creation of jobs and employment especially in the farm sector by increased investment in irrigation, watershed development, wasteland development, land reclamation, etc. Further, there is a need to increase employment in non-agricultural sector and rural non-farm sector with development of clusters around towns/ market centres.
- Understanding the vulnerabilities of farmers a social security system for the farmer is necessary. The **Co-operative Credit structure** will have to be revived with a sense of urgency after the Vaidyanathan Committee report as applicable for the North Eastern States and other tribal areas.
- **SHG movement** needs to be given prime place in all development strategies. Micro Finance Institutions, micro insurance and other financial services needs to be expanded. A specialized and focused external support programme need to be worked upon for related aspects. (A Survey Report and Directory of SHG is now available on the website <http://megselfhelp.gov.in>)

**(f) Poverty Alleviation** -. A survey conducted by the State Government in 2002 and approved by the Cabinet after due process finds that 48.09 percent of the households are BPL families (The full report is available at <http://megcnrd.gov.in>)

Much more involvement for livelihoods and poverty alleviation programmes would be required with multifaceted approach in designing the plans, programmes, strategies, policy implementation shifts, and institutional arrangements.

The State Government should tackle the problem of poverty in the following ways – (i) a more focused, grass root driven, crop and altitude specific holistic cluster approach to agricultural & horticultural development with total integration of all required components and packages of practices from the primary production level to the points of sale is now being attempted; (ii) Helping small farmers increase productivity through investment, subsidy and appropriate linkages and a programme to include asset distribution and asset creation ; (iii) Stress on non –farm activity that bolster traditional as well as non-traditional and private sector activities, with special attention to micro enterprises in the rural areas; (iv) More investment and Government’s involvement for livelihoods improvement, micro-enterprise and poverty alleviation programmes; (v) Effective delivery mechanism and instrument in respect of poverty alleviation programmes like SGSY, IWEP, IWDP, etc. including National Social Assistance Programme (NSAP), National Rural Employment Guarantee Scheme (NREGS) and Backward Region Grant Fund (BRGF) to ensure the benefits of such programmes reaches the intended beneficiaries in time; (vi) Empowerment of the people with capabilities to ensure adequate food, clothing, shelter so that every family gains freedom from hunger and lead a healthy life and participate productively in the growth process should be our major commitment.

To **address the multifaceted challenge of poverty and deprivation**, the State Government should **adopt a multi pronged approach** which calls for the **following ‘policy and action cluster’ considered crucial in the context of Meghalaya:**

- i.* **Pro-poor Growth** that stimulates labour intensive works through actions such as NREGA and expanding it to cover all districts; launching rural works programmes and food for works programme that focuses on locations and sectors that have the maximum impact on poverty.
- ii.* **More investment in human development** such as nutrition, health (including reproductive health), education, water and sanitation etc. which foster a productive labour force and addressing the gaps that exists in these sectors.
- iii.* **Investing in rural infrastructure** such as roads, communications, energy, with institutional arrangements for attending to the critical inter-sectoral gaps and linkages for establishing input supply infrastructure, processing, post harvest and market centres.
- iv.* **Employment generation programmes:** Employment and improved livelihoods programmes such as Livelihoods Improvement Programme (LIPH) or **proposed NERLP of ministry of DoNER should cover poor people in all areas of my state.** There is need to expand successful experiments done in the past under the North Eastern Community resources management (NERCORMP) as well as other employment generation programs to consolidate micro credit and micro enterprise efforts.
- v.* Ensuring a **better targeting of programmes** such as NREGA, IAY, SGSY, nutrition programs and subsidized access to PDS, TPDS, old age, widow pension schemes, accident and maternity benefits and mid day meal programmes.
- vi.* Rural resource centre and Skill development mission: Skills, Assets and Opportunities for Remunerative Jobs/Livelihoods can **ABOLISH Poverty and Hunger.** There is an urgent need for ICT-SHG led programme - **Rural resource centre** initiated with the help of NABARD, NEISAC, and under NEGP or BRGF. The National Alliance for Rural Knowledge Centres and the North Eastern Space Applications Centre should work out a strategy for establishing Rural Knowledge Centres. Simultaneously job-led growth strategies and for a paradigm shift from unskilled to skilled work with **Launching of Skill development Mission** is necessary for the region. A skill development mission for the rural areas and particularly for the North East may be evolved and supported. The ‘Rural Business Hubs’ approach recommended by the National Commission on Farmers should be implemented to improve livelihood opportunities in rural areas. Micro-credit programme and Self Help Groups to be made the key instrument of poverty eradication and Social Empowerment programmes for the poor.
- vii.* **Social Security programmes:** There is need to understand the vulnerabilities of farmers and a social security system for the farmer needs to be evolved. **User-friendly insurance instruments**

covering production and marketing for all crops as suggested in the 5th Report of the National Commission on farmers is important and should be launched. **There is a need to bring all kind of insurance schemes for rural areas under one umbrella scheme, where all tribals in rural areas be covered for health, life , assets and emergencies and accidents. An expert group could work out the modalities of its implementation in the NER by redesigning and scrutinizing existing programmes with additional help if required from the Government of India. A mission for this may be launched** for the tribal areas of NER and others.

- viii. Governance and institutional framework:** Creation of an appropriate governance and institutional framework for participation in poverty reduction and human development efforts has to be a significant area in which building Capacities at various levels should be focussed. ***A framework for integrated planning and development by refashioning the existing governmental set up, traditional hierarchical and non-hierarchical institutions towards making them partners in governance and delivery of development should be seriously attempted and facilitated.***
- ix. Regional and state level Consultative, Convergence and Monitoring bodies:** a. Council for ensuring Sustainable Food Security b. Council for Entitlements, Convergence for elimination of Hunger and Poverty comprising representatives of governments, civil society organizations, women’s associations, farmers’ associations, youth organizations, business and industry, academia and mass media. This would ensure proper targeting and reaching the entitlements of the poor till the door step.
- x. Foster a decentralized, pro-nature, pro-poor, pro-women and pro-livelihood pattern of enhancing human well being:** Supporting the poor to use and improve existing village institutions in ways that they make decisions and choices are critical. Capacity building of village institutions and individuals; capacity building and outcome linked assistance to traditional institutions. Gradually bringing full democratic spirit and under developmental structure and governance fold. Bringing the Village council under NREGA and block council etc. in governance fold in gradual manner And evolve effective delivery system.

Many of the Suggestions above and suggestions such as: **Improving Agriculture** (accelerated progress in enhancing the productivity, profitability, stability, and sustainability of the major farming systems is the best safety net against hunger and poverty); **Improve Rural connectivity and infrastructure** - road, energy (renewable energy) essential for enhancing livelihood security in utilizing the funds provided by Govt. of India and **more fund for Power; water and sanitation, health and education with vocationalisation** would find popping up in generic terms everywhere when we talk of development in the region and the state.

**(g) NREGA** - All districts of Meghalaya are now covered under NREGA. Besides the above, the entitlement of the poor under various programmes needs to be well directed and strictly monitored.

**(h) An integrated approach to livelihood development in the villages** in the State is essential. As such, a suitable mechanism needs to be established to integrate the activities of

various agencies, both Central and State, concerned with the development of agriculture, animal husbandry, fishery, sericulture and weaving, plantation crops, forestry, medicinal herbs, etc. so that optimum utilisation of available resources can be achieved through **convergence and cluster approach**. Karki, M.(2001 ) mentioned that in order to reduce the poverty and underdevelopment in the Northeastern States, the goal of sustainably managing NTFPs may need to be changed to give a strategically balanced focus on both livelihood improvement and biodiversity conservation. **The robust model of involvement of SHGs such as in NERCORMP and MLIPH (MRDS) projects of IFAD needs to be mainstreamed in various developmental sector programmes.**

- (i) Further, the norms under TPDS need to be liberalised and pulses should be added to the basket of commodities supplied through TPDS. The Mid-day Meal Programme should be extended to cover private schools in tribal areas and be extended up to secondary level given a very high drop-out situation.
- (j) In spite of heavy rainfall, Meghalaya still faces scarcity of water especially in dry seasons. The State had experienced a near drought situation during 2005 and 2006 which had affected power generation, agriculture, etc. Further, deforestation has also added to the problem of water scarcity. In view of the above, the State Government decision to create a **Water Harvesting Mission** and **authority** with the necessary technological support to harvest the available water through ponds, check dams and other water harvesting structures with the direct involvement of the communities on a large scale is timely. The Mission needs to work fast to cover most of the villages in the State for drinking water, irrigation and other purposes. The State Government should also seek the assistance from the Government of India in this endeavor, besides leveraging the National Rural Employment Guarantee Programme.
- (k) **Forest and Environment:** In the North East, land, water and forest are the three basic productive resources which have been indiscriminately utilized to meet the increasing requirement of diverse demand. Degradation of natural resources especially land, water and forest are mutually reinforcing factor hence, it becomes necessary that the development programmes are to be designed and implemented in such a manner that can minimize the process of natural resources degradation and also help in improving their production capacity. Besides, development programme should create sufficient employment opportunities in the agriculture and allied sector for the rural masses, as it has not been able to generate adequate employment in rural areas. This will require state funding to help them shift to sedentary environmentally sustainable agro-forestry practices and strengthening existing forest department to enable it to provide adequate forest management support to ADC controlled forests.

Technology and entrepreneurship for quality application of bamboo needs to be leveraged from the National Mission on Bamboo Application (DST) and Cane & Bamboo Technology Centre, Guwahati.

Increased biotic pressure on forests and other natural resources; Ecosystem destruction by Jhum cultivation; Large chunks of forests under ADC management which are under inadequate scientific management support; unchecked, unscientific and unsafe coal mining etc. requires an **environmentally conscious mining policy** keeping the sustainability and labour safety in mind.



(l) The State should have a multi-sectoral strategy for conservation and environmental restoration in **Cherrapunjee** through soil and water conservation and developmental programmes for protection of environment. Initiation of a project under National Lake Conservation Plan (NLCP) for **preventing pollution of the Umiam Lake** may also be considered.

(m) The State is endowed with rich **natural resources** with large reserves of coal, limestone, industrial clay, kaolin, feldspar, glass and uranium. During the 11th Plan, the rapid growth of the manufacturing sector is essential to ensure that the State far exceeds the targeted growth rate of 7.2 percent. In fact, it can go up to 12 percent. **The state Industrial policy needs to be reformulated** with evaluation of past policy impact and current and future requirements.

There is considerable scope for the **development of the manufacturing sector** in Meghalaya, based on the State's mineral and horticultural resources. However, power is a crucial constraint. Large investment from Central Govt. would be required in power generation, transmission and grid connectivity to improve the prospects of manufacturing in Meghalaya.

(n) **Trade with Bangladesh**, both formal and informal, has traditionally been an important component of the State's economy. The State Government requires the assistance of the Government of India in the form of policy initiative and infrastructure building to develop trade with Bangladesh which has been stagnating for many years. With the erection of fence on the Indo-Bangla border in Meghalaya, informal trade will dry up causing distress to people living in more than 1500 villages. The Government of India will have to help the State Government relieve the anticipated distress in the border areas of the State. An integrated Border Area Development Plan is necessary from BAD Department as required by the Planning Commission and Government of India.

(o) **Generation of employment**, particularly in the rural areas is one of the State's top priorities. In Meghalaya, there is great potential for creation of jobs in the rural areas in the field of post harvest management, agro processing, industry, tourism and other services.

(p) **Educational hub of the NE Region** - One of the aims of the State is to once again make Shillong the educational hub of the N.E. Region. To this end, the State has taken various initiatives as enunciated in the Chapter VI on Infrastructure. The state has given clearances for universities and institutions also.

(q) **Skill Development & Vocational training** to make the people employable is also being given adequate importance during the 11th Plan. The trades selected would be based on the demand for such skills in the local markets. The other important factor in this regard is that adequate institutions should be built to provide training to the trainers of various trades, so that the trainers are equipped with the latest knowledge and the latest equipments should be provided to the vocational training centres. Same will apply to polytechnics also.

(r) There is a good prospect in **IT and IT enabled services** which can transform the State given its salubrious weather and the availability of English educated youths by appropriate strategies

such as inviting investment in the State, establishing of I.T. Estate and implementation of SWAN, Data Centre, Common Services Centre, etc. under NEGAP. There is land of 100 acres available in the New Shillong Township for the I.T. Estate for which suitable promoters are required.

### ICT based development planning:

- The challenge of geographical isolation can be also be largely overcome by building a strong voice, data and video infrastructure in the State.
- Introduce ICT supported social development program planning, information extension and management. Focus sectors- education, health, and agriculture group, besides, the non-farm sector.
- Appoint credible/class professional institutions to develop E-society transformation plans, design networks, institutional changes and estimating costs
- E-Society social development planning will require bringing in professional management run and managed on business lines; at the same time locally based resource and technology centers would be necessary requirement.
- Content creation should be an integral part of the E-society plan
- This will require a massive re-skilling and change management of existing development institutions;
- Will require professional support from Indian technology sector, education, social sector research and management institutions ;
- Will require highest level active supervision, guidance and support.
- The E-society development planning will need special additional government funds.

### **ITES based industrial development**

- Meghalaya is at a major location disadvantage for manufacturing based industrial development till the access to the nearest port through Bangladesh is allowed to operate;
- Current incentive regime is not giving adequate dividends and need to be innovatively built to generate local employment and revenue
- Voice, video and data network based business services are alternate good option for Meghalaya.
- Serious e-business players are facing land and space constraints in the country. If land tenure regulation is given legal sanction and single window hassle free clearances provided some pioneering groups could try Meghalaya as a production destination for their services.
- Professional marketing agencies can help run a focused campaign to attract entrepreneurs. However success will need to be backed by demonstrated government commitment
- A serious E society social development plan should help convince industry of genuineness of Meghalaya as a good place for business

- Backend Voice, video and data infrastructure built for social development can double up for industry. No additional fund package for this segment recommended.

s.) **Improving delivery** – There is a felt need to restructure and reform Government delivery system and manpower strength in development departments **for which a separate commission may be set up.**

t.) **Decentralised & Participatory Planning and Development –**

**Governance conflicts between tribal self governance institutions, Autonomous District Councils and national style governance institutions at the state level need resolution** taking the grassroots and the people at the core and nucleus of governance, planning and development. The implementation of development programs is largely through government departments which are hardly accountable to the grass root communities whom they are (theoretically) required to serve. Strong public perception that there has, over a period of time, emerged an unholy nexus of the powerful leading to usurpation and corruption mainly in government programs needs urgent redressal and attention.

Since the 73rd Amendment of the Constitution does not apply to Meghalaya, the State Government will evolving a model of development which will be a combination of the traditional tribal institutions and elected representatives at the village level for ensuring the participation of the people at the grassroot level in planning process. This model would address the issue of poverty and the demand side of agriculture and other sectors. A concept of Village Employment Council becoming Village planning and Development Council should be worked out.

Building political consensus to introduce institutionalized grass root governance in a defined time frame **as a framework of Decentralizing governance would be a definite pre-requisite of change.** In doing so official institutions need to be made directly accountable to grass root institutions. The options could be:

1. Institutionalize and legalize traditional Syiems / Sirdars, Rangbahshnong, Nokma and Doloi based system and strengthen these by encouraging reforms that will make them more inclusive e.g. institutionalize women's participation; documenting land and tenure rights,
2. Strengthen, empower, build administrative and development capability by assigning increased roles, responsibilities, making govt. departments accountable and channeling development assistance through DPDCs. This will call for re-aligning roles, responsibilities and mechanisms of interaction between various elected institutions including the ADCs.
3. Institutionalize and legalize the NREGA's Village Employment Council(VEC) as village planning and development councils and have a mix of higher traditional authorities and representatives of Villages and areas in the Block and District planning and development councils.
4. Segregate the customary functions and codify the same within the ambit of the ADCs; while the modern three tier of governance, planning and development structure be kept separate with democratically elected representatives at three tier basis.

Thus, the National style development planning and execution system which may be unsuited to Meghalaya's unique settings, calls for a more decentralizing grassroots governance model. In this connection, a beginning has been made with the implementation of the National Rural Employment Guarantee Act (NREGA). Similar models of decentralization will be used for other developmental programmes of the State. Further, the involvement of traditional institutions, community based organizations, self help groups in various developmental and welfare programmes would be ensured. The State Government will undertake capacity building programmes of stakeholders to achieve the above.

### Two approaches as core:

1. One is, the acceptance, relevance and validation of traditional institutions in the policy framework itself in order that it becomes possible to think in terms of traditional institutions as representative bodies, able and competent to undertake various planned developmental activities. The policy goal or expectation in this approach would be a gradual move by the traditional institutions themselves, over a period of time, towards adopting modern electoral systems, under pressure generated from the forces released as the benefits of development create public awareness and demand for public accountability, democratization and participation.
2. Two, a more direct approach, insisting upon holding of elections to urban local bodies and rural analogous panchayats, and some basic reforms, as preconditions for release of funds for the various developmental programmes and schemes such as the JNNURM. This would have to rely on the ability to generate public awareness of the benefits of joining the mainstream, in the face of opposition from a traditional society that is at first likely to intensify.

*A mix of two approaches may be the most preferred path if only because it would have perhaps the best chance of achieving the policy goal of attaining basis reforms without posing the "all or nothing" kind of choice upon a traditional society. The underlying theme in each of the approaches enunciated above is that Government has to Act with far more understanding and patience, in the same spirit in which it is espousing the cause of local Governments and decentralized governance. Tribal and traditional societies are in any case, likely to change gradually, in a natural evolution mode in response to the demonstrable fruits of modern social and economic systems. Attempts to impose reforms from the top may not succeed. (Excerpts from the Chief Minister's speech).*

For instance, funds under JNNURM may flow on the assurance given by the Government of Meghalaya that it is committed to holding civic elections but at a time deemed appropriate by it. This may or may not coincide with the time frame set by the Government of India. The expectation in this approach would be that while the State Government would undertake all that is necessary to achieve the policy goal, it would not operate under the threat of Damocles's sword hanging over its developmental aspirations. As the benefits of major projects begin to flow, the promise of even more such projects would positively influence minds and souls and steer public opinion towards modern institutions, without threatening the existence and rationale of the traditional institutions.

The underlying theme in each of the approaches enunciated above is common viz. the Centre has to act with far more understanding and patience than has been the case *hitherto*, in the same spirit in which it is espousing the cause of local governments and decentralized governance. Tribal and traditional societies are likely to change gradually, in a natural evolution mode in response to the demonstrable fruits of modern social and economic systems. Any attempt to impose reforms from top is not likely to succeed.

With the onset of NREGA under which Village Employment Council (VEC); Block Employment Council has been formed and in Districts like West Garo Hills has matured with convergence, a window opportunity awaits the State to convert the VEC (as Gram Sabha) as village Planning & Development Council and work upon representative council at the area (Gram Sevak Circle Level) and Block Level Planning & Development Council.

The function of such representation of Block at District Level Planning & Development Council be aligned with DPO & DRDA brought under its umbrella under the executive leadership of the Deputy Commissioner and Participatory ambit of the people representative for development.

The history of this Hill State has received scholarly attention in the recent decade that it is time to take stock of what has been established, in order to discern aspects of Planning and development. To date, the main lines of planning have been dedicated to the origins, culture, growth, and topography, of Meghalaya, as well as to newer topics such as the gendered nature of the tribes in Meghalaya. At the inception of the State the new plans proposed a new perspective on the study of the new State, one which began to investigate the transformations of Meghalaya after it was established. Taking the entire era from the mid-nineteenth century through to the late twentieth century as a whole, it was proposed that investigation of these ‘transitions’ should be undertaken in parallel with the changes that occur in the life-cycles of the tribes that inhabit these hills.

**u) Reforms in the Land tenure system:** Traditional Tribal land tenure system structured largely as common property resources is misunderstood as confusing to outside planners and entrepreneurs resulting in lack of outside entrepreneur interest; but it remains an area which requires serious policy attention. Absence of legally accepted common property resource management framework and absence of community based projects are reasons of failures of grass root institutions impacting development projects needing common property land. There is an urgent need for documentation, demarcation of ownership and tenure rights coupled with land reforms. The issue of Land survey, settlement based on allocation and usage, defining stakes and entitlements; defining the common property based land management systems that empowers communities and gives them combined bargaining power and Providing legal structure and clear operating guidelines to existing land tenure system with reforms to address landlessness and to bring in uniformity in structure are a desired necessity.

**v) Resource mobilization –** To realise shortfall in Plan resources, the following steps are suggested :-

- The suggestion to set up Todi Committee and its recommendations given in 2006 may be quickly put in action as there is a commitment for Additional Resource Mobilisation of Rs. 20.00 crores in 2008-09 and the State Plan would require substantial improvement in resource mopping and generation.

- Emphasis on Centrally Sponsored/ Central Sector schemes/ Flagship programmes and funds from different Ministries and Agencies must be given and leveraged by development departments.
- Environment and policy facilitation for private investment safeguarding local interests and cross funding the socially important programmes are needed.
- The growth of Meghalaya's tax revenue as a percentage of the State's Gross State Domestic Product (GSDP) is about 4.4%, which should be around 7-8%. Thereby possibility of collecting taxes much more than presently being done does exist.

In the preceding year 2008-2009, grants from the centre accounted for almost 60% of the State's receipts. The State's own sources of income include tax revenue (from sales tax, VAT and excise duties) and non-tax revenue (cess and royalty on minerals such as coal, limestone etc.). The revenue expenditure of the State is very high accounting for almost 80% while capital expenditure accounts for only 20%. Moreover, the State has not spent much on infrastructure development and this need to be corrected. Following suggestions emanated from the **Planning Board in January 2009:**

- Increasing the productivity of the State's work force, and the austerity measures already being undertaken have to be reinforced by plugging the leakages of funds which occurs in various ways
- Innovative funding process needs to be undertaken. Setting up of integrated check gates could be considered to increase revenues,
- Increase VAT revenues by plugging loopholes and leakage of funds,
- Proper screening and computerization of operating systems, and integration of various departments,
- Raising of bonds and similar funding patterns to finance projects,
- Citizens' contributions in some form could be considered to meet shortfall in revenue generation.

The deliberations in the Planning Board in January, 2009, further indicated that:

- There is need to look at plan revenue expenditure *vis-à-vis* capital revenue expenditure. The cost of delivery is extremely on the higher end where in 2006-2007 the State was spending Rs. 2.35 to implement a plan scheme of Re. 1. Measures need to be found to reduce the cost of delivery at about 50% of the scheme. As we add more and more plan schemes we need to divert existing manpower and machinery from plans which have been completed to new plans.
- The revenue expenditure of the State has grown at an alarming rate of almost 100%. The two major components of revenue expenditure are salaries and interest payments. Efforts must be made to bring down the increase in revenue expenditure. We need to take a look at our manpower and services in the field as we proliferate into new areas.

- The tempo of the 11th Plan may suffer and this shortfall in tax revenues may continue for a year or so. The State may face problems in harnessing these revenues next year when the kind of tax revenue growth experienced by the centre (which amply helps Meghalaya) may not be there. There is need to reduce revenue expenditure on the non-plan segment which is currently very high.
  - Utilization of plan funds in the region and in the State is abysmally low. There were also suggestions in the Planning Board to address this concern by setting up an agency/ mechanism such as a State Development Consortium. Such an agency can overcome many of the hurdles presently faced, tap institutional funding into it and make funds available for cost effective investment insuring that investments will give greater returns. Such an initiative will enable the government to pay back the consortium and the consortium to service the loans. The stipulation is our plan efforts will be in a better position tomorrow than they are today if implemented as above. However, given the non-accountable and non-transparent systems that furthers vested interest, this would require serious examination.
  - We can look at institutional funding and to other means outside the Plan for meeting the shortfall in the two sectors.
- w) Based on **issues raised by the State Planning Board and Planning Commission** during the Working Group discussions and the meetings between the Deputy Chairman, Planning Commission and the Chief Minister while finalization of Annual Plans in recent past and Gist from the **Public Hearing vision 2020** in Shillong following **concerns and recommendation** has emanated in **reiteration or in addition**:

### Agriculture

The problem of stagnation in agriculture needs urgent attention.

- The State Government needs to come up with a clear road map for increasing productivity and production. It is necessary for the State Government to work out area wise production and productivity of paddy in order to finalise the strategy by identification of areas where potential is higher.
- Attention on the production of quality seeds needs to be taken.
- Focus on enhancing the productivity of food grains
- Research work to-i)develop specialized varieties of HYV seeds and ii)develop modern farm implements
- To find out the deficiency of micro nutrients in the soil, detailed micro mapping of the soil should be adopted.
- Retention of traditional cropping system and promotion of eco-friendly regime.
- Provision for micro or field level irrigation projects.
  - Vigorous implementation of *Rashtriya Krishi Vikash Yojna* (RKVY)
  - Protection of indigenous crops.
  - Micro propagation facility- to allocate more funds for food processing.

- Sensitize and enlighten farmers about seed banks.
- Adopt System of Rice Intensification (SRI) especially in rice production as these systems require less water.
- The State does not have a seed certification agency. There is only one seed farm in the State which is inadequate.
- Wasteland and not fertile cultivable land should be allotted for the brick industry.
- Loss of cultivable land due to coal mining should be checked.
- Addressing food security issue is mandatory.
- Need for a systematic study on the loss of paddy due to climate change and untimely rainfall.
- Irrigation facility for winter paddy.
- Bio diversity of the area should be kept in mind for long gestation plantations.
- stress on high-value crops which can have 2 or 3 croppings based on organic farming in a year
- The traditional Jhum cultivation of the tribes should not be ignored and productivity of traditional methods of agricultural farming system be improved.
- Agricultural marketing strategy should benefit the farmers.
- The farmers needs to be made self sufficient in seeds, seedlings, nurturing and packaging.
- Development and production of citrus and other horticulture crops should be supported.
- Lab-to-land transfer by the ICAR has not been very successful and needs further development.
- There should be proper authority for certification of organic products.

### Horticulture

- Floriculture is a promising area.
- Efforts of PPP will need to be intensified, especially in horticulture.
- Appropriate use of wastelands for growing horticultural crops
- Developing a robust processing, storage and marketing infrastructure
- Extensive use of ICT supported systems
- Need for additional funding for horticulture.
- Extensive use of Information Communication Technology based systems.
- Creation of adequate market especially for horticulture.
- Need for an independent audit.
- Food processing and storage facilities should be provided.
- The proposals for contract farming should be examined in the light of distributive income and employment; internalizing the technology leading to maximizing the benefits locally. Initial pilots in collaboration with SHG groups in cluster/ SHG federation etc .
- Boost cultivation of Valencia orange.
- Road networks to be made feasible for transportation of produce.
- Horticulture should be brought under Agriculture Crop Insurance.
- Creation of nursery hubs in each district to facilitate marketing and training of farmers.



## Minor irrigation

- A Minor Irrigation Master Plan needs to be prepared with the aim of tapping the vast irrigation potential in the State.
- The completed MI schemes should be handed over to the WUA's.

## Fisheries

- Large scale Capacity Building
- Better extension services
- Better infrastructure for fish seed production and distribution

## Animal Husbandry

- Better extension services
- Capacity building and community/grassroots involvement
- Robust animal nutrition and health infrastructure
- Efforts of PPP will need to be intensified, especially in horticulture and animal husbandry.
- There is need for strengthening of veterinary aid services for training of community veterinary workers and provision of veterinary first aid kits to each worker along with a motorcycle and mobile set. The State Government may also procure a mobile veterinary dispensary van for emergency calls and attending treatment in rural market places.

## Rural Development, Poverty Alleviation, Housing, Labour and Employment

- Since only 37% of the households in the State have access to electricity, there is need to concentrate on building micro hydro power projects to meet the requirement.
- The State Government needs to identify viable diverse economic activities taking into consideration the local resource base and to encourage SHGs to take up such programmes, particularly for upliftment of the economic status of women.
- Poverty alleviation strategy on creating self employment opportunities in the medicinal plant development, agriculture, animal husbandry, fisheries and other allied activities
- Rural-urban migration should be addressed by creating opportunities for rural people such as road linkages, health care in the rural areas, and so on.
- Diversification of agriculture into horticulture
- Robust market infrastructure
- Non-farm activities
- Livelihoods based approach

## Housing:

- Provision of credit, interest subsidy, etc. need to form part of construction of new houses or upgradation/ reconstruction with emphasis on EWS.LIG.

## Labour, Employment & Manpower:

- Conduct of survey in all districts of the State to collect data on working and living conditions of different categories of workers as also implementation of various labour laws and child labour. Technical guidance of Labour Bureau, Ministry of Labour & Employment may be taken.
- State should encourage the development of manufacturing and the services sector to generate higher rate of employment.

- Computerisation of all employment exchanges in the State with facility of net working and development of website to facilitate job seekers.
- Reorientation of schemes by merging of schemes with similar objectives for better monitoring and flexibility in expenditure, etc.
- Convergence with different central programmes to tackle problems of child labour.
- The vocational training system should be improved qualitatively by including more region specific, market driven trades in the syllabus and for multi-skilling of the candidates.

### Education and culture

- Reduction of drop out rates of children in elementary schools
- Develop minimum standards of education attainment and elementary schools and regular monitoring, effectiveness of education to ensure quality.
- Increase literacy rate for persons of age 7 years or more to 85%.
- Lower gender gap in literacy to 10%.
- Increase the percentage of each cohort going to higher education from the present 10% to 15% by the end of the 11th Plan.
- During the 11th Plan, the State should strive to achieve 45% trained teachers at the primary level and 36% in the middle/ higher secondary level.
- It is recommended that there should be 3 teachers per subject in each college while striving to achieve the UGC norm of 5 teachers per subject.
- Promotion of literacy in the rural areas
- Teachers' training and infrastructure development should get due emphasis in the education system.
- Conversion of Meghalaya into an e-society
- A common schooling system as highlighted in the National Policy for Education needs to be translated into action.
- increase in opportunities for imparting professional education in the state to stop the outflow of meritorious students from the region.
- The education system should compulsorily include vocational training courses.
- Development should not deal only with materialistic development. Simultaneously, human values related to peace, etc., should be discussed. Value education to be addressed right at the school level. The issue of development of children should be addressed.
- The need for a proper development of culture and literature of the state should be addressed.
- The linguistic and cultural heritage of the tribes of the region may be documented. The Central Board of Languages may be invited to prepare a document highlighting the linguistic and cultural heritage of people of the region.
- The total number of communities and their names should be mentioned. Vernaculars should also be taught.

### Health & Family Welfare

- Focus on Women and child health Women's health has not been taken into consideration at all. MMR (the Maternal Mortality Rate) is very high amongst the tribes.

- Massive and coordinated awareness programmes on sanitation and health need to be undertaken.
- As far as health is concerned data could be collected family wise.
- Greater sensitivity to be shown to women when addressing health issues.
- There is need to gather correct information on the MMR in the State.
- Recognition of the traditional system of medicine
- Physically challenged persons need to be given proper health care, support.
- Potability and availability of water used in CHCs and PHCs needs to be addressed.
- Increase the number of maternity beds in health institutions/ centres.
- Health is to be identified as the primary concern.
- The shortage of manpower especially of specialist needs to be addressed.
- The State should arrange vibrant and dynamic training of ASHAs under NRHM.
- The State has to prepare innovative and location specific Integrated District Action under NRHM.
- There is need to address the problems of under weight children and increase of anemia among children between the age of 6 to 35 months.

### **Water and sanitation**

- There is need for formulation of a Water Policy in the State.
- GIS mapping of all water sources including catchment areas should be undertaken.
- It is need to make flood control measures like construction of embankments more comprehensive and effective.
- Ground water schemes are more cost effective as compared to surface water schemes. The State Government should undertake schemes for tapping of the ground water potential and to revive defunct schemes. However, contamination such as arsenic and others be checked before action.
- People/community based organization to be trained in water treatment and quality monitoring in the state, district and village level.
- Rational user charges to be adopted and revised for households
- Capacity building in the Department for leak detection starting for Shillong and Tura.
- Sewerage of Shillong city needs to be taken care of on warfooting and sewerage schemes for other towns of the State should be taken up with central support.
- Sustainability of water sources is a major challenge which needs to be accorded highest priority. Social agreement with the villages for protection of source, catchment and pollution control measures. Villagers should be encouraged to come forward and take over the responsibility of maintaining these schemes.
- Polluters to pay principle to be adopted particularly in coal mining and along highways where the orblem is acute.
- There is a need to construct rain water harvesting structures at both the community and individual household level. A Rain Water Harvesting Mission has been launched in the State with the Chief Secretary as the Chairman.

- Therefore, there is a need for a proper study of the geology of the State, particularly Cherrapunjee.
- Pumping water supply schemes should be discouraged and gravity feed schemes should be promoted.
- Involve local community from the initial stages of water supply scheme. In this aspect Cherrapunjee should be taken up as a challenge.
- Coverage of school buildings and anganwadis should be taken up on priority basis.
- There is need to accelerate the implementation of projects under ARWSP, Swajaldhara and Total Sanitation Campaign.

### **Infrastructure**

- The East West Corridor and all roads programme be developed urgently and linked with other important roads of the region.
- There is a need to take up new generating units to meet the shortfall in demand for power which is estimated at about 200 MW.
- There is need to reduce T&D losses.
- Meghalaya has the capacity to develop micro hydel of about 4,000 to 5,000 MW of power but only 4 to 5 MW is generated. The NE should announce an active programme in this regard. Power so developed may be contributed to the National Grid and a National Highway for Power formed.
- Rural electrification needs priority.
- A horticultural link road may also be developed.

### **Industries and Border trade**

- The State Government needs to take effective steps for reduction of losses in State PSEs such as the MCCL, MESEB etc.
- A self sustaining model for maintenance of existing infrastructure in the EPIP needs to be formulated so as to reduce on dependence on Plan funds.
- In view of the shortage of power, there is need to promote on setting up of units where requirement of power is lesser such as agricultural processing units.
- For promotion of handlooms, there is need to focus on product design diversification, providing credit facilities, enhancing weavers' productivity through skill upgradation, replacement/ upgradation of traditional looms, etc. The State Government may avail the benefits of central schemes.
- The State Government should make efforts to dovetail with programmes of other Departments like Rural Development, Social Welfare, Backward Classes Welfare, Minority Development, etc. and also programmes like SGRY, RSVY, etc.
- Educated youth are not getting gainful employment. A regional training institute may be established by a reputed autonomous body to equip unemployed youth. A training institute could be set up to train unemployed youth in different industrial activities till they establish their own enterprises. During the training period they would receive a stipend for sustenance. This type of institute exists in the University of Pune and youths have benefited from this.
- Since the state has substantial reserve of natural resources, relevant industries should be

set up in the state itself and instead of exporting raw materials; finished products should be exported.

- The problems of manufacturing industry and small village enterprises have not been addressed.
- The region possesses tremendous potential to earn foreign exchange – this should be harnessed.
- Border trade should be given due importance. To give a boost to trade and commerce, the Dawki LCS should be speedily implemented and more such LCSs be set up.
- For Meghalaya, the Look East should mean Look South as well.
- Meghalaya should develop SEZs to promote trade.
- Communication through Bangladesh for North East should be emphasized. International trade routes should be legalized and opened. The Chittagong port should be opened for trade.

### **Minerals and Mineral Based Industry**

- Development of minerals on a scientific bases with minimal impact on ecology
- Emphasis on environment regulation and scientific mining
- Plan for tapping the uranium reserves
- Focus on greater interaction with the private sector players
- Environmental pollution should be addressed.

### **Research and Development**

- Research on developing specially suited seed varieties of important crops
- Developing the capability for processing of medicine plants
- Research in animal husbandry
- Development of aquaculture and fisheries
- Downstream processing and value addition of minerals
- Development of non conventional resources of energy
- Research and development in promoting the use of Bamboo
- Research on development of bio-diesel from Jatropa.
- The research findings of Several central government research organizations in Shillong as relevant to the development of the state should be collated. Perhaps, a co-ordination committee of these research organisations should be constituted.

### **Planning**

- The procedure of a successful planning process should incorporate lessons from the past, understand the present and plan the future.
- An overview of all approved projects should be put on the website for public knowledge.
- A Human Development Index should be developed to indicate availability of manpower in different services and categories.
- Planning is important, but follow-up of approved and implemented projects is even more so. Ideas are good but implementation of the same has to be ensured.
- Communities are the real custodians of natural resources, and hence should be the direct beneficiaries of projects. The participatory role of the common people in implementation of projects has been effectively highlighted by the NERCRMP.
- Capacity building should get adequate importance.

- Planning should be done from the grassroots level. Communities are ill prepared to take part in the developing process, and they need some platform. Traditional vibrant institutions and active organisations should be involved in the planning process. Traditional institutes existing in Meghalaya should get the status of Village Panchayats and should be involved in the developmental process. Traditional platforms like local durbars in Meghalaya can perform the task. Women do not have any role in the village durbars in Meghalaya except in a few very special cases. The rights of women have to be ensured. People need dedication. There should be a mandatory social audit of all the projects for accountability.
- There should be a policy for women in the state. Problems of women could be solved only through imparting education. NEHU can start a department in the form of a Women's Study Centre and the NEC could provide financial support towards infrastructure development.
- The participation of females in the planning process. Gender inequality should not be promoted.
- To address the problem of poverty alleviation, instead of popularizing family planning, planned family should be the focus. That is, only those who can afford may go in for expanding family size.

### Tourism

- To develop tourism along circuits (say, from Cherrapunji to Tawang).
- Rural tourism to be stressed – the information and support to rural households and villages needs to be addressed. The sensibility of a community for developing rural tourism is very important and should be encouraged and developed.
- Different festivities of the state could be the nodal points for tourism promotion. Capacity development in tourism industry should be focused.
- The cluster development approach may be deployed for popularising rural tourism.
- For popularising tourism, the involvement of people's institutions is extremely important.
- Linkages and transport facilities between tourism destinations are extremely poor, and small aircrafts could help.
- While addressing eco-tourism, it is important to study mechanisms to restore eco-fragile environments to their original shape.
- Heritage sites in the state are not maintained properly, and this should be focused on.

### Conclusions

- Introduce decentralized governance and decision making through political consensus amongst various interest groups of the State.
- Shift focus of government machinery from implementation of government schemes to regulation, facilitation and governance.
- Simplify administrative procedures and creating an enabling environment where industry and private sector can flourish.
- Increased focus and development funding on social sector and transport infrastructure.

- Bridge geographical remoteness by innovatively using IT based tools and techniques.
- Transform Meghalaya society by adopting ICT in an extensive manner.

**x) The Indian Science Congress, 2009 has recommended** (from Meghalaya State Planning Board, January 2009): Establishment of a National Indigenous (or local) Knowledge Commission (NIKC) and in line a Meghalaya Indigenous (or local) Knowledge Commission (MIKC) may be established in the State. It strongly recommended restructuring, revamping and improvement of Science Education. In the case of Meghalaya it was suggested that:

1. Meghalaya should immediately set up a State Scientific Advisory Council.
2. Capacity building programmes in Science Education should be strengthened.
3. Strengthening the foundation of students in the core disciplines of Mathematics, Science and English comprehension is to receive priority in the Education Policy of the State Government.
4. Basic guidelines based on qualification and merit for recruitment of teachers, should be framed in the Education Policy.
5. Contract basis for recruitment of best available teachers should be implemented, especially in core disciplines where there is dearth of local man power.
6. In service training for all local teachers, to strengthen proficiency in core disciplines mentioned above, to be rigorously implemented.
7. Science Education Fund can be raised from government officials and employees according to their grade. Money will be deducted from the source with missionary funding.

**y) Application of space technology/NESAC inputs specific to Meghalaya state (inputs from Dr. Nageshwar Rao, Director NEISAC):**

- **Land use pattern:** Based on coarse resolution satellite image interpretation, the land use pattern of Meghalaya was studied. The state has about 45.54% of its geographical area under forests, 11% under crop land, 2.5% under grass lands, 15% under wastelands and rest under various other land use practices. Further refinement of the land use pattern is in progress using high resolution satellite imagery.
- **Water budget of Meghalaya:** NESAC made an assessment of water resources supply and demand components of entire Meghalaya at sub catchments level. It is found that approximately 45.7% of total rainfall i.e. 50,02,224 Ha-m water flows as surface run-off and 6% i.e. 650341 Ha-m water loss as evapo-transpiration per year. Out of 5002423 ha-m run-off, 1632786 ha-m flows to Brahmaputra basin and 3369438 ha-m flows to Surma basin (Bangladesh). The study indicates that of the eight sub-catchments in the state of Meghalaya, two sub-catchments 3B1C (covering partially the districts of west Khasi hills and Ri-Bhoi) & 3B1A (covering partially the district of west Garo Hills) have deficiency in soil moisture storage during month of November December, January, February, March and April. The sub-catchments 3B1C and 3B1A, therefore, require using the water resources judiciously. Except sub-catchment 3B1C

(part of West Khasi Hills and part of Ri-Bhoi district), all other sub-catchments have high percentage of run-off (45% to 49%). As the topography is hilly, most of the area of the state have higher slope. So, the surface run-off attains high kinetic energy during its course of flow. In such cases soil erosion is most expected without appropriate watershed management program.

- **Prioritization of Watersheds in Meghalaya:** NESAC developed an integrated approach of remote sensing and GIS, based on the surface factors mainly responsible for soil erosion. These factors include soil type, vegetation and slope. It is found that the state of Meghalaya has 35 watersheds which are further divided into 179 sub watersheds. Satellite data were used to evaluate the soil and vegetation condition, while a GIS was used to evaluate the slope conditions. The integrated effect of all the parameters was evaluated to find different areas vulnerable to soil erosion. **The GIS analysis show that 1427.31 sq.km areas are very highly and 8891.86 sq.km area highly vulnerable to soil erosion.** The state has 10993 sq.km areas which is moderately vulnerable to soil erosion. Based on vulnerability to soil erosion, a priority rating of sub watersheds for soil conservation planning is recommended. **The study shows that 30 sub watersheds have very high priority, 29 sub watersheds have high priority for conservation measures.** The state has 77 medium priority sub watersheds. 43 number of sub watersheds deserve low or very low priority for any conservation measure. Jaintia Hills, East Khasi Hills and West Khasi Hills districts have maximum number of sub watersheds which need very high priority. These maps could be utilized for formulation of proper watershed management programmes for sustainable development so that the limited financial resources are prudentially allocated.
- **Land degradation/wastelands:** The State of Meghalaya has 15.2% of its total geographical area, i.e., 3,41,141 ha of wastelands, of which 97% can be brought under vegetative cover with reasonable effort. This estimate was based on satellite-based inventory of 2003. These lands can be converted to productive horticulture, sericulture, agro-horticulture and silviculture. Integrated Farming Systems evolved by ICAR Regional Complex for North East Hill Areas could be adopted in these lands. The database and maps are available with NESAC and can be supplied on request by any development agency.
- **Infrastructure Planning:** NESAC has carried out a pilot study for RiBhoi district of Meghalaya which covers a total geographic area of 2448 Sq.Km using IRS PAN + LISS III merged data along with other existing PWD road maps, land record maps etc. Extensive field survey with GPS has been carried out. Query based services like rural road connectivity, distance and accessibility (of various amenities from a given place), information bank based on buffering and proximity analysis, information like shortest route, alternate route etc. in a given area during emergency situation have been incorporated. Such studies can be carried out for all the districts of Meghalaya and infrastructure planning can be done.
- **Health Care:** NESAC is implementing ISRO-NEC sponsored Telemedicine Project. The Telemedicine System consists of a video conferencing facility, medical soft ware and medical diagnostic instruments connected to a very small aperture terminal (VSAT). Currently this facility is available at Civil Hospital, Shillong, and similar facilities will be available at each district headquarter.



- **Education:** Under the EDUSAT utilization programme, NESAC is facilitating installation of a state of the art, studio with a hub at SCERT, Shillong and 50 satellite interactive terminals (SIT). The SITs are located at various higher secondary schools, high schools, teachers training institutions in the state. This network is ready for operational use and can be used for imparting quality education, teachers training and distance education. This network bridges the gap between urban and rural system of education.

**13.20. Road-map of Development:-** During his visit to Shillong on 16-03-2007 while he was the President of India, **Dr APJ Abdul Kalam presented a road map of development** for Meghalaya to the people of the State through the MLAs in the Legislative Assembly ( A full content of the address as available on the website is appended).

**A seven-point mission to transform the State into an economically prosperous State before 2017** was presented by Dr. Kalam. The seven priority areas are (i) agriculture, horticulture and floriculture, (ii) education and healthcare, (iii) water management, (iv) bamboo mission, (v) tourism, (vi) establishment of Providing Urban Amenities in Rural Areas (PURA) for rural prosperity and (vii) special economic zones. It was estimated that:

- The mission in agriculture, horticulture and floriculture can double the income of two lakh families and provide employment for 42,500 youths. It will also generate export revenue of Rs 500 crore.
- The second mission to improve education and healthcare should aim at achieving 85 per cent literacy by 2012, 100 per cent literacy by 2017, reduction of drop out rates before secondary school to less than 30 per cent and increase yearly enrolment in college to 32,000.
- To mission to improve health care should aim at providing quality healthcare to all the citizens of the State for a small fee of Rs. 10 per month per individual for people living above poverty line.
- The water management mission would provide 350 kms of waterways, irrigation for 35 lakh acres, generate 1500 megawatts of power and provide drinking water for 60 per cent people in the State. Water harvesting will ensure adequate availability of water during the non-rainy seasons for all the citizens for agriculture and drinking water.
- The bamboo mission should aim at creation of handicrafts and cottage industries to provide jobs for 40,000 youths and generate revenue of over Rs 100 crore.
- The tourism mission should aim at increasing the flow of domestic tourists from the present 3,75,000 to one million and foreign tourists from 5,000 to 50,000. This will create 2.5 lakh additional jobs for the youth.
- Creation of ten Providing Urban Amenities in Rural Areas (PURA) clusters spread throughout the State which will bridge the rural-urban divide and increase the economic prosperity of 80 per cent of rural Meghalaya.
- The establishment of three economic zones will enable additional revenue of Rs. 2,500 crore and employment for 25,000 people. The three economic zones may include one at Shillong for herbal, aromatic, ginger varieties farming, leading to production of drugs, aromatic and ginger products for export. Another economic zone can be located in such a way that

it attracts tourists in a place surrounded by waterfalls, with an open museum of all tribal cultures, something similar to what has been done in Chhattisgarh, orchid floriculture farms and also a science and technology park. The third economic zone can be centered around mining of special materials and associated products. To cater to the three Special Economic Zones suggested for Meghalaya, it was important to establish full-fledged airports for landing of modern jet aircraft in Meghalaya.

The State Planning Board under the chairmanship of Shri P.A. Sangma, taking note of the above, reiterated the same in October 2008 and mentioned that the State Development Road Map be marked, apart from all other areas covered in these recommendations (reflected earlier in para 20 and elsewhere), by the under mentioned important milestones to be achieved over the remaining years of the Eleventh Plan and the following Twelfth Plan periods :-

1. Launching a State Mission to double the overall productivity and production of the agricultural, horticultural and floricultural sectors, and in doing so to generate avenues for accelerated employment including self-employment of the Youth, besides causing exponential growth of the State's revenue resource's.
2. Launching a State Mission to generate and sustain a holistic tourism environment, particularly eco-tourism and adventure tourism, with a view to attract at least one million domestic tourists and fifty thousand foreign tourists, per year, to the State.
3. Launching a State Mission for exponential improvement in the quality of education to ensure reduction of secondary school drop out rates total to below national levels, and to obtain total literacy of the State population and to improve and amplify vocational and professional education to cater to the employment-needs of emerging sectors.
4. Launching a State Mission to improve accessibility to quality healthcare services to the common man, particularly to the BPL families. Health services may also need to be provided through a PPP mode to supplement the State initiative.
5. Launching a State Mission to upgrade Urban Amenities & Services in Rural Area Clusters so as to bridge the rural-urban divide and increase the prosperity of rural Meghalaya.
6. Launching a State Level Bamboo Mission to facilitate sustained production of raw materials for cottage level and handicraft industries, with a view to generate employment to fifty-thousand youth, besides resulting in One Hundred Crores rupees as State Revenue.
7. Launching a State Mission for Water Management in an integrated manner, for optimum exploitation of waterways, increased irrigation facilities, generation of hydel power and provision of potable drinking water to the population of the State.
8. Launching a State Mission for establishing Economic Zones specifically aimed at creation of accelerated employment, including self employment and optimum generation of internal revenue.

**13.21. Policy cluster for public action\*:**

Addressing the problem of equitable Development and access to opportunities remains a crucial issue in achieving the goals of inclusiveness of growth and Developmental Goals. The **policy challenge** is to facilitate access to improved livelihood opportunities closely associated with poverty eradication strategies catering to the context, needs and potentials of local communities in a sustainable manner. Breaking out of poverty traps and stagnant rural development would require **a multifaceted / Policy approach** revolving mainly upon **Nine policy clusters\*** as considered crucial in the context of Meghalaya:

- i. **Investing in human development** such as nutrition, health (including reproductive health), education, water and sanitation etc. which foster a productive labour force;
- ii. In order to break out of subsistence farming and chronic hunger **Helping small farmers increase productivity** through investment, especially in rural areas and providing adequate risk mitigative & social security measures;
- iii. **Investing in infrastructure** such as roads, communications, power, etc in order to attract new investments in non-traditional areas;
- iv. **Evolving industrial development and investment policies** that bolster non-traditional private sector activities, with **special attention to small and medium-size enterprises**. Such policies might include export processing zones, tax incentives and other initiatives to promote investment and public spending on research and development;
- v. **Building and Evolving development centric, accountable people's institutions towards effective participation and empowerment** : this may involve restructuring and refashioning the Governmental set up, Traditional hierarchical and non hierarchical institutions, refashioned District councils and making them partners in governance and delivery of development with accountability. This should address role-ambiguity, overlaps, confusion and disputes in functions and aim at decentralisation with empowerment;
- vi. **Building Capacities at various levels**: This may involve organizational and institutional capacities; skills and expertise for employment, livelihoods and entrepreneurship; building capacities for newer economy with freedom of choice;
- vii. **A framework for integrated planning and development** with institutional arrangements for spatial and location specific hill area perspective for Meghalaya and attending to the critical inter-sectoral gaps and linkages;
- viii. **Emphasizing human rights and social equity** to promote the well-being of all sections of people who have the freedom and voice to influence decisions that affect their lives;
- ix. **Promoting environmental sustainability** and improving urban management. There is a need to protect the biodiversity and ecosystems that support life (clean water and air, soil nutrients, forests, fisheries, other key ecosystems) and ensure that natural resources are well managed to provide livelihoods and safe environments.

**Underlying** all the above recommendations **five closely interrelated general guiding principles\*** with some additions, **can be followed as generic prescription:**

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\*Shreeranjana (2006)- Credit related Issue in Meghalaya, NEICSSR, Shillong.

- **Prioritise and reallocate public expenditures by making it pro-poor** and be more proactive to ensure that the resources are allocated to meet the diverse needs of the poor.
- **Evolve closer working among six group of institutions government [(central and state (including local/ traditional))], private sector, civil society, aid organisations and academic/ scientific institutions working for the poor to work on the demand and supply sides of asset and economy buildup.**
- **Improving the legal, regulatory and enforcement environment in general; making rule of law and governance effective and efficient.**
- **focus on building mechanisms and institutions at the local level** that can hold national/ state and local levels accountable through effective empowerment through decentralization and participation.
- **National/state level actions towards governance and Reforms**, including land reforms should be given priority.

### 13.22. Summary and Conclusion:

In the collapsed era of free market, the state of Meghalaya need to address, stress and assess **on the aspects which forms the basis of social, economic and human development**. Social development or real development encompasses the sum total of economic growth, human development and other aspects of social life which increase the welfare and happiness of people. This would also mean realization of full potential of its resources such as human and natural leading to capital formation.

The task of bridging the socio economic infrastructure gap in the North East in general and Meghalaya in particular is awesome. It is imperative that the following steps be taken into account to achieve this task:-

- (i) Promotional policies in various sectors to create enabling environment for investment.
- (ii) State and location specific Action Plan both by Central Ministries and State Government.
- (iii) A road map and action plan frame work for PPP in select sectors such as Power, Health, Education, Tourism, IT, etc. is required.
- (iv) Political will, supplemented by proactive delivery set up made accountable by people and their institutions.
- (v) Grass root institution building and accommodating traditional systems in governance and participatory development through restructuring the VIth Schedule.
- (vi) building capacities across sectors in government and local institutions.
- (vii) A large investment by central government with mission and task force/ dedicated **agencies based action and implementation frame work.**

The above should take on board\*:

- **More proactive actions to address inequalities** of assets, across gender, rural urban and ethnic groups, intrastate disparities etc. that impede poverty reduction and growth.
- Human Development with a focus on social equity and particularly gender Equity, Capacity & Institution Building and Research & Development.
- Poverty reduction and employment generation along with a focus on the goal of maximum social and economic growth by adopting strategies which are harmonious with ground situation and which are sensitive to the social requirements.
- Focus upon an all inclusive, participative and de-segregated gender approach.
- Holistic approach to development by converging efforts of various agencies and departments of the Government and efforts of voluntary agencies where existing.
- Realistic and implementable land reform programs.
- Removing gender bias in legislation and actions.
- Improving and Operationalisation of rule of law and legal systems.
- Accelerating skill acquisition process by the poor and unemployed youth with demand- and supply-side interventions.
- Support for making institutions of /in the state (both local and national) pro-poor and accountable to the poor.
- Support for capacity building of pro-poor membership-based organizations; scaling up CBO; building alliances/cooperative federations/ SHG federations; Promoting SHGs with the help of NGOs; strengthening SHG movement etc
- Taking risk and vulnerability of the poor for further detailed analysis for its impact on poverty, efficiency, and growth. Initiating creation of qualitative and quantitative information base detailing local- and household-level knowledge on the nature and coping mechanism of risks in the life cycle of people particularly the poorer section.
- Working on multi-pronged/-dimensional programmatic approach in development and credit interventions to cushion the poor/people against shocks/ different risks.
- Recognition of strong cross-sectoral linkages; of cross-cutting impacts on empowerment, security, and opportunity; and of the importance of holding service delivery accountable to the poor.
- Formulation of Perspective Block/District Plan and Annual Action Plan for infrastructure development and promotion of core activities; Linkage of the Perspective/Annual Plan with Programmes, schemes that facilitate creation of infrastructure and Capacity to improve efficiency of extension and delivery systems.
- Taking local realities that matter and catering to the contingent institution building. Strengthening and evolving decentralised village or cluster level institutions in the state for better participation, delivery and impact.
- Support for the provision of public goods from all over. Innovation and Proactive actions in development assistance, increasing the role of civil society and the private sector in implementations, and turning leadership more responsible and responsive, enhancing ownerships.

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\*Party form Shreerajan (2006) - Credit related Issue in Meghalaya, NEICSSR, Shillong.

- Intensive training of the Government Officials (DRDA, Block and Line Departments), Bank Officials and NGOs as well as capacity building of the functionaries of Grass root organizations / traditional organizations /Local Bodies and Community Based Organization etc are desirable; and
- There is a need for developing a strong net-work for effective monitoring of the development programmes in general and the Self-employment programmes, in particular. Use of and setting up of MIS-aided mechanisms to review and monitor implementation of schemes. In this process, social auditing by the grass root organisations would become necessary. Periodical auditing of the performance under major plan programmes preferably by neutral agencies, to enable timely mid-course correction, if necessary.
- Proper deployment and re-deployment of manpower, cost effective control of maintenance expenditure, management of the State's Plan loan portfolios and consequential debt service burden.
- Implementation of suitable innovative measures for adequate Additional Resource Mobilisation through power generation, optimum harnessing of minerals & other natural resources, holistic tourism programmes under PPP mode, Government and private sector and appropriate projects for Carbon Trading benefits.
- Comprehensive measures for human resource development through diversified institutions of higher, technical and professional education, with emphasis on the teaching of science and mathematics at the secondary and higher levels.
- Focused intensification of programmes for strengthening the agriculture sector and improving the overall sown area and productivity;
- Programmes for fullest exploitation of the horticultural potential of the State, particularly High-Value Horticulture;
- **Intensified macro and micro water-shed management programmes** to ensure the sustainability of tapped as well as untapped water-sheds. These measures will include afforestation of barren waste lands on the southern slopes of the State which are reported to be continuously losing over 22000 metric tonnes of surface soil, per square kilometer, per year;
- **Optimum exploitation of Hydel and Thermal Power potential**, inclusive of required level of transmission and distribution network with linkage to the Regional Grid, and their efficient utilization. In addition, intensified programmes for optimum harnessing of renewable energy sources to be taken.;
- Comprehensive Tourism (Eco-Tourism, Adventure Tourism, Ancillary Tourism based Activities);
- Optimum Utilization of Mineral Resources, particularly coal and limestone, including realistic assessment of the mineable reserves of the State as of now;
- Fullest exploitation of the potential of Information Technology in all areas of development activity and delivery of public services;
- Intensified programs for Empowerment of Women in all spheres of development activity;
- Proactive measures for harnessing and channelizing youth-energy for accelerated

- development, inclusive of qualitative and quantitative promotion of games and sports;
- Measures for addressing global warming and climate change concerns.
- Measures to facilitate execution of all programmes of the government in an open, informative, qualitative, accountable, time-bound and transparent manner.
- Promotion of the State's potential for indigenous and traditional knowledge.
- A well focused Vision with a clear Mission to enable Meghalaya to develop, progress and compete on an even footing with the rest of the country, and to imbibe the spirit of competition, an improved work culture (for there is no substitute to hard work), so as to confidently surge on the path of self-reliance.
- Launching of coordinated and institutionalized efforts by setting up missions where needed to\* – (i) double the overall productivity and production of the agricultural, horticultural and floricultural sectors, and in doing so to generate avenues for accelerated employment including self-employment of the Youth, besides causing exponential growth of the State's revenue resources; (ii) generate and sustain a holistic tourism environment, particularly eco-tourism and adventure tourism, with a view to attract at least one million domestic tourists and fifty thousand foreign tourists, per year, to the State; (iii) improve the quality of education to ensure reduction of secondary school drop out rates total to below national levels, and to obtain total literacy of the State population and to improve and amplify vocational and professional education to cater to the employment-needs of emerging sectors; (iv) improve accessibility to quality healthcare services to the common man, particularly to the BPL families. Health services may also need to be provided through a PPP mode to supplement the State initiative; (v) upgrade Urban Amenities & Services in Rural Area Clusters so as to bridge the rural-urban divide and increase the prosperity of rural Meghalaya; (vi) facilitate sustained production of raw materials for cottage level and handicraft industries, with a view to generate employment and improve State Revenues; (vii) bring about Water Management in an integrated manner, for optimum exploitation of waterways, increased irrigation facilities, generation of hydel power and provision of potable drinking water to the population of the State; (viii) establish Economic Zones specifically aimed at creation of accelerated employment, including self employment and optimum generation of internal revenue.

To overcome the constraints to development, the state must adopt the following strategies - (i) participatory development strategy; (ii) capacity development strategy; (iii) augmentation of infrastructure, particularly connectivity and transport infrastructure including intra-State connectivity; (iv) significant and increased leveraging of the Central Government's allocation for infrastructure in the region including efficient use of funds; (v) transforming of governance by providing a secure, responsive and market friendly environment; (vi) improving living conditions of the large concentration of people living in rural areas through increased agricultural productivity

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\*State Planning Board 2009 – Minutes

and diversified non-farm employment opportunities in the rural areas; (vii) focusing on sectors with comparative advantage based on value chain analysis and creating enabling conditions for investment promotion in these sectors.

The focus should be on agro-processing industries; modernization and development of sericulture; investments in manufacturing units based on the resources available in the State; harnessing the large hydroelectric power generation potential; developing services such as tourism; extensive use of ICT and on augmenting infrastructure, including rail and road. There is a need to increase employment in non-agricultural sector and rural non-farm sector with development of clusters round towns/ market centres. There is a great potential in Meghalaya for creation of jobs in the rural areas in the fields of post harvest management, agro processing and tourism.

Learning from the experiences gained from the implementation of the watershed based and Self Help Group (SHG) based approach on livelihoods under North Eastern Region Community Resource Management Programme and Livelihoods Improvement Programme assisted by International Fund for Agriculture Development (IFAD), the State Government should focus on integrated and convergence based programmatic implementation in Mission mode. Effective implementation of these missions as per former president, Dr. Kalam, will lead to the following societal transformation leading to: (a) increase the per-capita income of the State; (b) Improvement in the Human Development Index ranking of Meghalaya; (c) Realize the goal of total literacy before 2020 by giving highest thrust to women's education, particularly in the tribal population; (d) Progressively reduce the number of people living below the poverty line.

The state must think differently and innovatively towards such policy and action measures which remove the pain and sufferings and are seen as bold and imaginative measures to reach the un-reached. It must take recourse to courageous steps to combat the problems and overcome constraints in order to succeed with committed deeds of development so that its entire populace can have fullest joy of fruits of development and governance. Meghalaya would realize its full potential, marching as a confident member and a shining example of this great Nation by addressing issues flagged and suggested and taking actions for removing disparities, enhancing outreach and improving services and delivery.



## APPENDIX

Table 13.16 SELECTED SOCIO-ECONOMIC INDICATORS

Sl. No.	Items	Meghalaya	NER	India
1.	Area (Sq. Km)	22429	262179	3287263
2.	No. of Districts (2001)	7	80	595
3.	No. of C&RD Blocks (2001)	39	503	5537
4.	No. of Sub Divisions (2001)	8		
5.	No. of villages (2001)	5782	42462	638588
6.	No. of towns (2001)	16	254	5161
7.	Population ( in lakhs) (2001)	23.18	389.85	10287.37
8.	Population Density ( per Sq.Km) (2001)	103	134	313
9.	Sex Ratio ( per '000) (2001)	972	936	933
10.	Sex Ratio (0-6 yrs) (2001)	973		
11.	Literacy rate – Total (2001)	62.6		64.8
(i)	Male	65.4		75.3
(ii)	Female	59.6		53.7
	Gender gap in literacy rate (2001)	5.8		21.6
12.	P.C of Forest cover (2003-04)	75.08	66.10	20.64
13.	a) Production of Rice (Lakh Tonnes) (2006-07)	1.89	51.67 (2004-05)	831.32 (2004-05)
14.	b) Production of Food grain (Lakh Tonnes) (2006-07)	2.70	57.07 (2004-05)	1986.63 (2004-05)
15.	Installed Power Generating Capacity (MW) (2006-07)	185.20	11,41,000 (2004-05)	11,75,94,000 (2004-05)
16.	Percentage of Villages electrified (2005-06)	73	71	74.1
17.	Households electrified	37 %		
18.	Percentage of habitations provided with drinking water	97 %		
19.	C.D. Ratio (Commercial Banks) – March 2007	38.22	41.22	75.02
20.	C.D. Ratio (Regional Rural Banks) – March 2007	29.46	49.40	58.70
21.	Birth Rate (per '000) (2006)	24.7		23.5
22.	Death Rate (per '000) (2006)	8.0		7.5
23.	Infant Mortality rate (per '000) (2006)	53		57
24.	Maternal Mortality Rate (MMR)			
25.	Total Fertility Rate (TFR)			
26.	Malnutrition amongst children (0-3 yrs).			
27.	Anaemia among women (15-49 yrs)			
28.	Drop out rates in Elementary Education			
29.	Road Density (per'00 Sq.Km) [(2006-07)PWD Roads only]	36.66	66.09 (2002)	75.54 (2002)

### SELECTED INDICES IN RESPECT OF HDI

(Source : Draft Meghalaya Human Development Report)

Table 13.17: Human Development Index of Districts of Meghalaya

District	Infant Mortality Rate	Literacy	Combined Gross Enrolment Ratio	NSDP Per Capita at current prices (Rs.)	HDI	HDI Rank
East Khasi Hills	34.51	76.98	63.10	17264	0.684	1
West Garo Hills	18.13	51.03	65.99	10654	0.597	2
Ri Bhoi	60.63	66.07	50.47	9798	0.499	3
South Garo Hills	102.01	55.82	85.52	16847	0.498	4
Jaintia Hills	77.34	53.00	43.31	15095	0.487	5
West Khasi Hills	86.17	65.64	79.13	9345	0.462	6
East Garo Hills	90.60	61.70	60.91	9928	0.432	7
Meghalaya	52.28	63.31	62.87	13082	0.570	

Table 13.18: Sectoral Growth Rate of the Economy in Different Districts of Meghalaya for the Period 1993-94 to 1999-00 at Constant 1993-94 Prices

(in percent)

Industry	Jaintia Hills	East Khasi Hills	West Khasi Hills	Ri Bhoi	East Garo Hills	West Garo Hills	South Garo Hills	Meghalaya
Agriculture	7.12	5.79	6.25	12.47	10.32	7.82	9.32	7.80
Forestry & Logging	1.19	0.96	1.22	1.14	1.15	1.26	1.19	1.17
Fishing	32.95	-4.94	3.48	-1.56	3.55	3.46	3.58	3.45
Mining & Quarrying	11.32	-1.78	37.76	23.34	18.05	20.59	26.50	12.64
<b>Primary</b>	<b>8.73</b>	<b>4.87</b>	<b>7.47</b>	<b>10.43</b>	<b>9.41</b>	<b>7.42</b>	<b>13.32</b>	<b>7.92</b>
Manufacturing	5.04	3.80	4.75	10.03	8.24	4.01	4.69	4.42
Construction	10.33	13.65	12.09	8.73	10.40	10.73	10.05	11.65
Electricity, Gas & Water Supply	2.22	2.08	2.29	2.02	2.04	2.24	2.62	2.04
<b>Secondary</b>	<b>7.48</b>	<b>7.39</b>	<b>10.00</b>	<b>4.87</b>	<b>6.32</b>	<b>7.25</b>	<b>8.18</b>	<b>7.23</b>
Transport, Storage & Communication	7.08	3.86	11.31	24.97	15.98	12.72	48.37	6.84
Trade, Hotel & Restaurant	7.83	7.83	7.83	7.87	7.81	7.83	7.84	7.83
Banking & Insurance	12.27	13.30	12.16	11.49	11.61	12.64	4.70	12.52
Real Estate, Ownership of dwelling & Business Services	2.58	3.08	2.64	2.53	2.71	2.64	2.59	2.80
Public Administration	5.87	6.03	5.75	5.59	5.79	5.95	9.91	5.98
Other Services	9.09	8.78	8.28	8.40	8.42	8.73	8.39	8.71
<b>Tertiary</b>	<b>6.57</b>	<b>6.24</b>	<b>6.23</b>	<b>7.03</b>	<b>6.31</b>	<b>6.45</b>	<b>6.69</b>	<b>6.37</b>
NSDP of District	9.27	6.46	7.20	7.78	7.61	6.94	10.70	7.37

**Table 13.19: Road infrastructure in the district of Meghalaya**

State	Total length (in Kms) 1987*	Percentage of surfaced roads	Road density Per 100 sq km	Percentage of village connected by pucca road**	
				1981	1991
East Khasi hills	1811	46.71	35.5	19.0	26.2
West Khasi hills	728	36.26	13.9	7.61	11.90
East Garo hills	557	55.30	21.4	7.62	12.71
West Garo hills	1237	38.80	22.2	10.8	12.7
Ri Bhoi*	NA	NA	NA	10.5	19.3
South Garo hills*	NA	NA	NA	9.1	10.1
Jaintia hills	1066	42.87	28.0	11.88	27.11
Meghalaya	5399	42.50	24.1	11.1	16.4

**Table 13.20: Percentage of villages electrified in District of Meghalaya**

Districts	1981	1991	2001
East Khasi hills	20.0	60.8	74.13
West Khasi hills	4.2	21.7	35.28
East Garo hills	7.2	18.0	33.22
West Garo hills	1.7	18.3	36.49
Ri bhoi	18.7	53.00	66.11
South Garo hills	0.2	9.6	19.66
Jaintia hills	17.1	58.9	62.31
Meghalaya	8.1	30.9	44.93

**Table 13.21 Socio Economic Indicators (NER)**

Sl. No.	Items	Reference Year	Meghalaya	Assam	Arunachal Pradesh	Manipur	Mizoram	Nagaland	Tripura	
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1.	Area (Sq. Km)	2001	22429	78438	83743	22327	21081	16579	10486	3287240
2.	No. of Districts	2004	7	23	13	9	8	8	4	593
3.	No. of C&RD Blocks	2004	39	214	54	34	30	52	38	5537
4.	No. of villages	2001	5782	25,124	4,065	2,391	817	1,317	858	6,34,321
5.	Population ( in lakhs)	2001	23.18	266.55	10.97	23.89	8.88	19.88	31.99	10288.31
6.	Population Density ( per Sq.Km)	2001	103.38	339.83	13.11	97.05	42.15	236.37	305.07	324.85
7.	Sex Ratio ( per '000)	2001	972	935	893	978	935	909	948	933

## MEGHALAYA STATE DEVELOPMENT REPORT

8.	Literacy rate	2001	62.6	63.3	54.3	70.5	88.8	66.6	73.2	64.8
9.	Gross enrolment ratio (Class I-VIII) 6-14 yrs	2001-02	94.26	99.54	98.82	91.65	105.21	89.72	89.83	82.35
10.	Drop-out ratio(LP)	2007-08	30.50	69.21	60.02	37.75	59.89	53.36	69.02	54.65
11.	Drop-out ratio (UP)		9.54							
12.	P.C of Forest cover	2001	75.74 (2005)	35.33	82.33 (2001-05)	75.81	82.98	80.49	67.38	20.55
13.	a) Production of Rice (Lakh Tonnes)	2002-03	2.45 (2007-08)	37.38	1.34 (2004-05)	3.78	1.09	2.25	5.43	726.53
	b) Production of Food grain (Lakh Tonnes)	2002 -03	2.70 (2006-07)	38.95	2.27 (2004-05)	3.92	1.29	3.89	5.58	1741.88
14.	Installed Power Generating Capacity (MW)	2002-03	185.20 (2007-08)	621.81	49.47(MU)	48.61	60.15	30.20	127.30	107877
15.	Percentage of Villages electrified	2002-2003	60 (2008)	(2008)	64	92	99	96	96	83.8
16.	Households electrified	Dec, 08	51 %							
17.	C.D. Ratio (Commercial Banks)	30.09.2008	43.17	42.80	29.08	54.98	55.89	27.06	31.40	70.89
18.	C.D. Ratio (Regional Rural Banks)	30.09.2008	33.31	46.47	56.36	87.18	62.67	42.86	39.80	57.87
19.	Birth Rate (per '000)	2004	25.1	25.0	23.3	14.7	18.8	16.4	16.0	23.0
20.	Death Rate (per '000)	2004	7.5	8.7	5.0	4.1	5.1	3.8	5.7	7.6
21.	Infant Mortality rate (per '000)	2004	49	68	37	13	20	18	31	58
22.	Road Density (per'00 Sq.Km)	1999	36.98 (2007-08) PWD Roads only	109.36 All categories of roads	21.82 All categories of roads	51.21 All categories of roads	51.21 All categories of roads	122.67 All categories of roads	148.36 All categories of roads	76.84 All categories of roads

*National Eleventh Five Year Plan: Box 13.1:*

### **A Thirteen Point Action Plan suggested by the NCEUS for Employment in the Unorganised Sector:**

#### **A. Protective Measures for Workers**

##### **1. Ensuring Minimum Conditions of Work in the Non-agricultural and Agricultural Sectors;**

Two bills, for agricultural workers and non-agricultural workers, that specify minimum conditions of work, including a statutory national minimum wage for all workers.

##### **2. Minimum Level of Social Security:**

A universal national minimum social security scheme, as a part of a comprehensive legislation, covering life, health and disability, maternity and old age pension to protect the workers in the unorganized sectors.

#### **B. Package of Measures for the Marginal and Small Farmers;**

##### **3. Special Programme for Marginal and Small Farmer;**

Revival of the targeted programme focusing on small and minor farmers, with an initial thrust in the areas wherein the existing yield gap is also considered high. A special agency or a coordinating

mechanism should be set up if required.

**4. Emphasis on Accelerated Land and Water Management;**

Immediate priority to, and significant upscaling of programmes for land and water management. Revision of the priority sector landing policy to provide a quota for the micro and small enterprises.

**5. Credit for Marginal-Small Farmers;**

RBI to monitor, separately, credit to this segment, expansion in outreach of credit institutions in rural areas and a credit guarantee fund to obviate the need for collateral by the marginal-small farmers in accessing the institutional credits. A 10% share for small and marginal farmers in the priority sector credit

**6. Farmers' Debt Relief Commission:**

Central government to lay guidelines and provide 75:25 assistance for setting up State level Farmers' Debt Relief Commissions, in the states experiencing agrarian distress, natural or market related.

C. Measures to Improve Growth of the Non-agricultural Sector

**7. Improve Credit Flow to the Non-agricultural Sector**

<b>Percent</b>	<b>Sector &amp; Sub-Sector/Purpose</b>
18	10% Small & marginal farmers & 8% Other farmers
10	4% for micro enterprises with capital investment (other than land and building) upto Rs.5 lakh & 6% other micro and small Enterprises
12	12% Loans upto Rs. 5 lakh to the socio-economically weaker sections for housing, education, professions etc.
40	Total priority sectors lending

**8. Encouraging SHGs and MFIs for Livelihood Promotion;**

Measures to encourage growth of micro finance and SHGs in poor states and in the backward areas

**9. Creation of a National Fund (NAFUS);**

Rs. 5000 crore initial corpus for an exclusive statutory agency to take care of requirements of micro and small enterprises in agriculture and non-agriculture sector that are presently not reach by SIDBI and NABARD.

**10. Up scaling Cluster Development through Growth Poles;**

Twenty five growth poles in the traditional industries clusters with incentives at par with SEZs

D. Measures to Expand Employment and Improve Employability

**11. Expand Employment through Strengthening Self-employment Programmes;**

Rationalization and strengthening of the four major self employment generation programmes with 50 lakh annual employment generation target

**12. Universalise and Strengthen NREGA;**

Extension of NREG Programme to all districts

**13. Increasing the Employability through Skill Development;**

On-job-training cum employment-assurance programme to provide Rs.5000 per person incentive to any employer willing to provide one year on-job skill enhancement training.

# **CHAPTER - XIII**

**MISSION**

**FOR**

**MEGHALAYA**

**PROSPERITY**

**(ADDRESS OF HIS EXELENCY**

**Dr. A. P. J. ABDUL KALAM**

**AT THE MEMBERS OF THE**

**MEGHALAYA LEGISLATIVE**

**ASSEMBLY ON 16-03-2007)**

ADDRESS AT THE MEMBERS OF THE MEGHALAYA LEGISLATIVE ASSEMBLY

16-03-2007 : Meghalaya

## Missions for Meghalaya Prosperity

“Great missions born out of great minds”



I am delighted to be in this beautiful environment of Meghalaya and also to get this opportunity to address the Hon'ble Members of the Legislative Assembly of Meghalaya. I am very happy to be here in the Meghalaya Legislative Assembly which is an institution that gives vision to the state, evolves the legal frame-work for the policies and programmes of the state and gives shape to the aspirations of the people of this state, 80% of whom live in rural areas. I have visited Meghalaya five times. Every time I visit, I get a feeling of happiness looking at the nature bestowed on Meghalaya. It is indeed a land of rainy clouds. Above all, I feel there is no reason for poverty to afflict the people of Meghalaya since they are in the midst of rich bio-diversity, mineral deposits, raw material availability, plenty of water and above all people with unique tribal culture. When I was preparing the lecture for the Assembly I was always thinking what I can give to the people of Meghalaya. Last few weeks my team and myself worked and evolved a road map for transforming Meghalaya into an economically prosperous state before 2017.



Every time I meet students both from high school and university and teachers of Meghalaya and also the tribal community particularly farmers in the herbal and aromatic area, I see in their eyes an urge to transform Meghalaya into a beautiful, happy, safe and prosperous state in India. Who can make realization of this dream possible? Only you the Members of Legislative Assembly can make the dream into a reality.

The political history and economic growth of Meghalaya are seen to be rhythmic and closely interwoven with that of our nation as a whole. Legislative Assembly of Meghalaya has witnessed and wisely guided several important

phases of the State's growth since its formation in the year 1972. In the face of many challenges, various governments have placed Meghalaya on a positive-growth track. I would like to discuss with the Hon'ble Members of Meghalaya Legislative Assembly: "Missions for Meghalaya's Prosperity".



## Our National Mission – Challenges

Our nation is going through a major challenge of uplifting of 220 million people who are below the poverty line. They need habitat, they need food, they need health care, and they need education and employment finally resulting in a good life. Our GDP is growing at more than 8% per annum. Whereas, the economists suggest that to uplift the people who are below poverty line, our economy has to grow at the rate of 10% per annum consistently, for over a decade.

### OUR NATIONAL MISSION: CHALLENGES

- We are one billion+ people
- 600,000 villages with 700 millions people
- 220 million are below poverty line
- >36 million need employment
- How to uplift?
 

- Habitat
  - Infrastructure
  - Healthcare
  - Education
  - Employment
  - Market connectivity
  - Quality of Life

**Integrated, Simultaneous, Connected Actions**

**PURA – Providing Urban Amenities in Rural Areas**  
**Target : 7000 PURAs ( 10 PURAs for Meghalaya)**

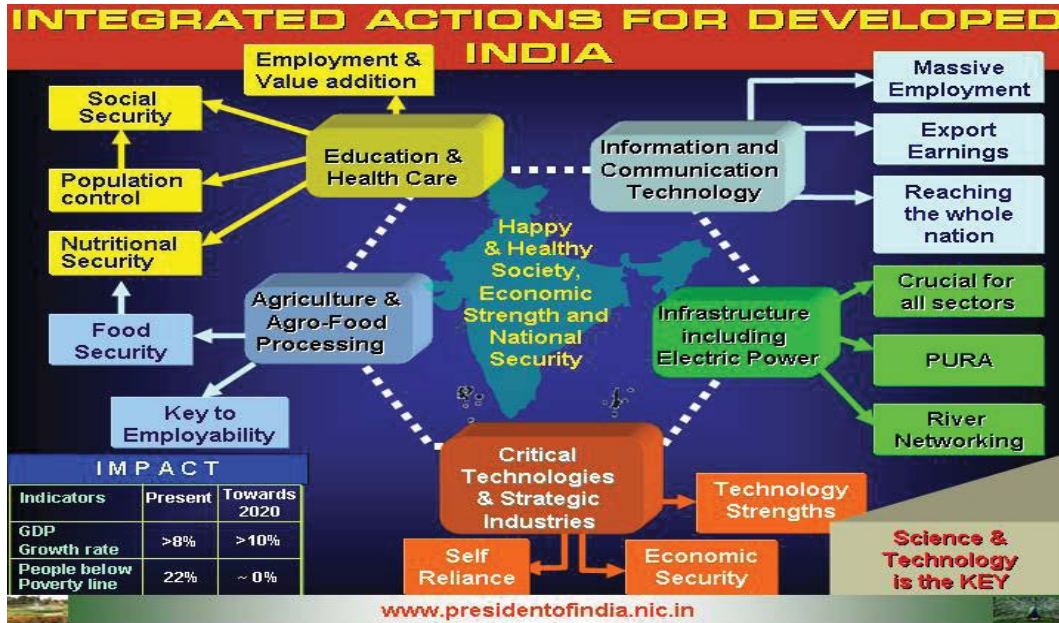
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## Integrated Action for Development

Our mission of transforming India into a Developed Nation is to meet the needs of all the billion people. We have identified five areas where India has core competencies for integrated action:

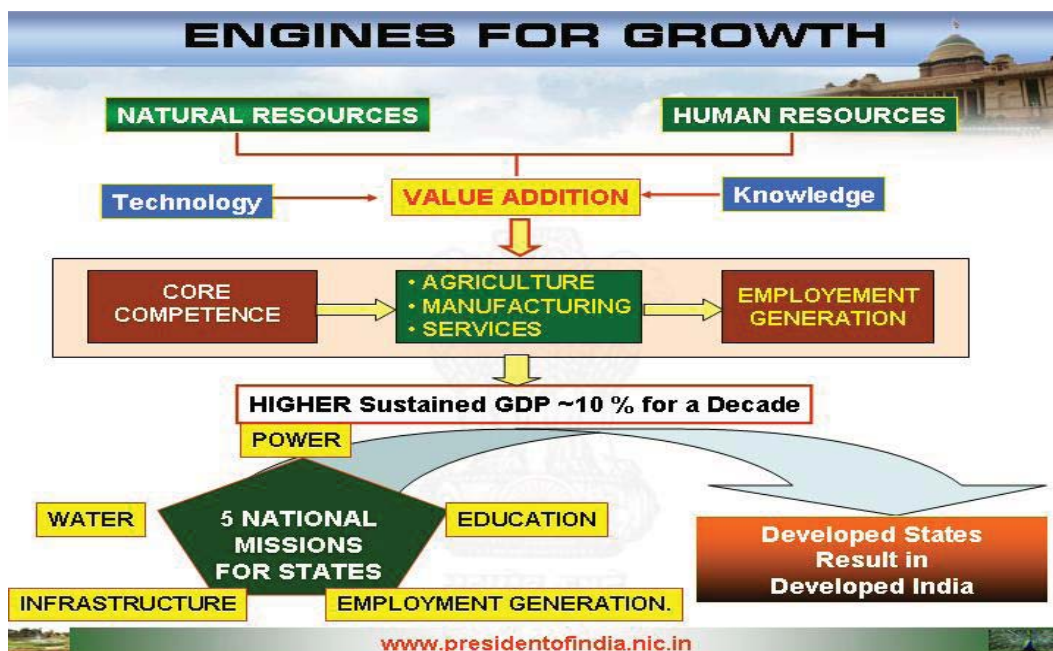
1. Agriculture and Food processing
2. Education and Healthcare
3. Information and Communication Technology
4. Infrastructure: Reliable and Quality Electric power, Transportation system and related Infrastructure for all parts of the country including creation of PURA clusters
5. Self Reliance in Critical technologies in Strategic sectors. These five areas are closely inter-related and when effectively addressed, would lead to food, economic, energy and national security. There should be all around growth in the all the five areas in the seven districts of the state to provide a balanced development both in rural and urban areas.





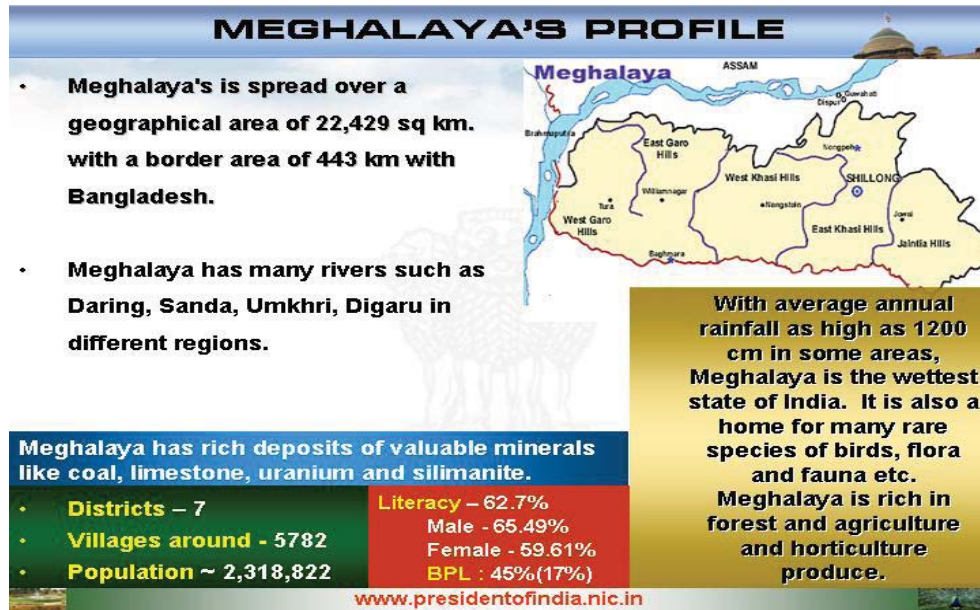
### Engines for Growth

Emphasis should be on full utilization of natural and human resources of the region to meet the demands of modern society. We should also remember that about 50 percent of our population consists of young people, with aspirations for a better life. This is also true in the case of Meghalaya. The development process has to bring hope, opportunity and happiness to these aspiring youngsters. It should expeditiously address the challenges for leap frogging through conventional and technological means. Value addition to horticulture and floriculture, enhancing tourism potential, cottage industries, handicrafts, wool and sericulture on the State's core competencies and technologies, will lead to higher incomes and employment opportunities and therefore higher growth rates. The engines for growth will be the launching of the five national missions viz. water, energy, education and skills, infrastructure and employment generation. Developed Meghalaya will result in a developed India. Now, I would like to discuss the core competence of Meghalaya.

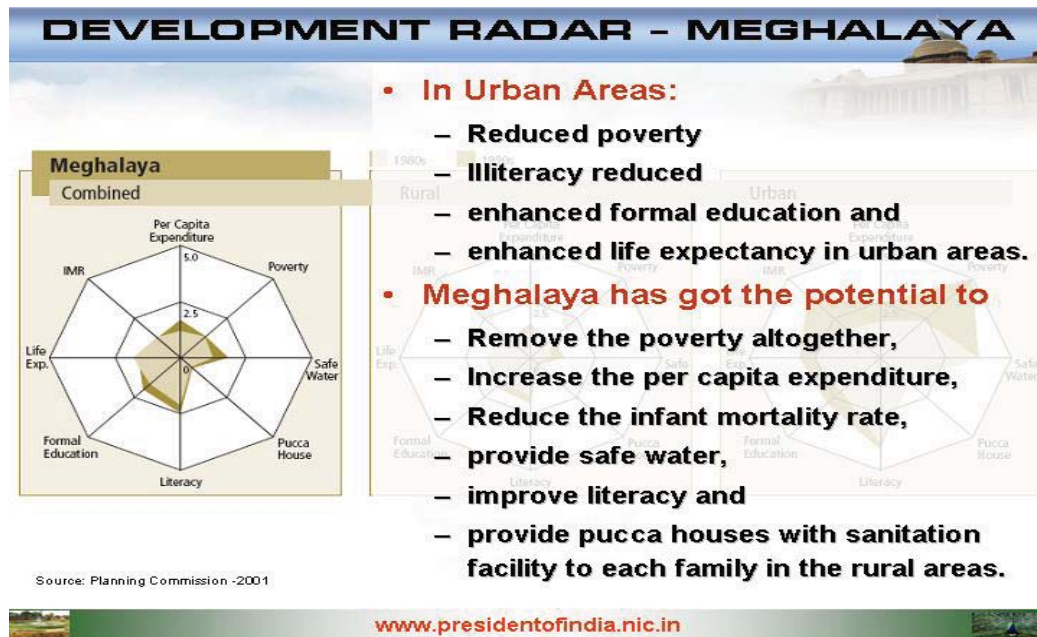


## Core competence of Meghalaya

As you know Meghalaya is spread over a geographical area of 22,429 sq km. with a border area of 443 km with Bangladesh. Meghalaya has many rivers such as Daring, Sanda, Umkhri, Digaru in different regions. These rivers have created deep gorges and some of the most beautiful waterfalls. Most of these are rain fed and are therefore seasonal. Meghalaya has rich deposits of valuable minerals like coal, limestone, uranium and silimanite. With average annual rainfall as high as 1200 cm in some areas, Meghalaya is the wettest state of India. It is also a home for many rare species of birds, flora and fauna etc. Meghalaya is rich in forest and agriculture and horticulture produce.



With all these favourable factors, what can be the missions for Meghalaya? There cannot be any other mission, other than removing the poverty of the 45% people who are living below the poverty line as per the results of the survey conducted by the State Government. At this stage, let me share with you a Development Radar brought out by the Planning Commission for various states. The boundary of octagon projected in the development radar indicates the maximum achievements of various indicators of development. The smaller octagon represents the national average. While we appreciate you for reduced poverty, illiteracy, enhanced formal education and enhanced life expectancy in urban areas, the Hon'ble Members must realize that Meghalaya has got the potential to remove poverty altogether, increase the per capita expenditure, reduce the infant mortality rate, provide safe water, improve literacy and provide pucca houses with sanitation facility to each family in the rural areas.



## Focus Meghalaya

My presentation to the Meghalaya Legislative Assembly is based on the following principles:-

- Method of increasing the per-capita income of the State to Rs. 60,000 from the existing Rs. 23,381 in five years.
- Improving the Human Development ranking of Meghalaya from the present 24 to less than five.
- Realizing the goal of total literacy before 2017 by giving highest priority to women's education, particularly the tribal population.
- Progressively reducing the number of people living below the poverty line from the existing 45 percent to near zero by 2017.
- In Meghalaya, it is possible to increase the revenue generation of the state and earning capacity of the citizens through creating market avenues with its neighbouring country in Bangladesh in addition to meeting the local requirement. Of course, I can see the political environment, you have to continuously improve the relations with the neighbouring countries, so that Meghalaya can benefit in the business at the same time keeping security as a primary need in the mind.

## Missions for Meghalaya

Let us study what are the missions which Meghalaya can undertake using the core competence of the state. The following are the missions for Meghalaya's Prosperity for the period 2007 to 2017:

1. Agriculture, Horticulture and Floriculture
2. Education and healthcare
3. Water Management
4. Bamboo mission
5. Tourism
6. Establishment of PURA for Rural prosperity
7. Special Economic Zone

Let me now discuss each missions in some detail.



### Mission 1: Agriculture, Horticulture and Floriculture

**a. Agriculture:** Meghalaya is using around 1,10,000 hectares for cultivating paddy crop. However, I find that the average productivity is around 1700 kg per hectare. This is much lower than the national average. With the availability of plenty of water and good soil, we have to find the problem areas which restrict the productivity of the land. The first aspect we have to concentrate is on the selection of quality seeds of the rice variety which are liked by the tribal and produce hybrid and high yield variety seeds which can tolerate both flood and drought. Simultaneously, the Government has to assist in the creation of large number of ponds in the village so that water can be stored and also prevent flooding of the rice crop. This availability of stored water can be pumped at will by the use of small ground water pumps including solar powered pumps. The farmers can be trained on the improved practices for cultivating rice and also enhancing rice production through multi-cropping during the year. In this connection, I would like to discuss the Bihar model which has been successfully implemented and is being practiced by the farmers.

## MISSION 1A : AGRICULTURE

### Meghalaya - 100,000 hectares for cultivating paddy crop

**Average productivity is around 1700 kg per hectare less than National Average**

**We should AIM at 3400 KG per hectare progressively**

- Plenty of water
- Good Soil
- Why Less productivity?
- Solution
  - Selection of quality seeds.
  - Flood and drought tolerant varieties.
  - Create large number of ponds in the village so that water can be stored and also prevent flooding of the rice crop.
  - Solar powered water pumps.
  - Improved best practices for cultivating rice
  - Multi-cropping

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Food grains productivity: An experiment has been carried out by the TIFAC team in Bihar, in the RP Channel 5 and Majholi distributory and later extended to Paliganj and other 5 distributaries on the request of farmers. The productivity of paddy has increased in these villages from 2 tons per hectare to 5.8 tons per hectare. Presently, paddy crops are spread in an area greater than 3000 hectares involving 3500 farmers. This project has been carried out by the TIFAC, in collaboration with a farmer's co-operative society, Indian Agricultural Research Institute (IARI) and the Agricultural University in Pusa, Bihar. Using scientific method of farming involving soil characterization, matching the right seed to soil, seeding in time, fertilizer and pesticide selection, water management, pre and post harvesting methodology, productivity has been more than doubled. Imagine the impact if all the farmers in Meghalaya apply appropriate technology in the 1.1 lakh hectares of land presently being sown. The yield will go up from the present 1.7

tonnes per hectare to at least 3.4 tonnes p/h within a period of three years. Simultaneously, by using the technology, the input cost can also be brought down. The revenue of the farmer will be minimum doubled resulting in direct benefit to one lakh farmer families holding around one acre per family. This approach will enable availability of adequate rice for the State. The surplus rice, beyond the consumption of the people of Meghalaya, could be converted as ready made variety rice dishes and packaged for long term storage and export. This type of food processing and value addition will bring additional 10,000 jobs to the youth in the food processing units and also enhance the revenue to the farmer. The same technique could also be utilized for enhancing the productivity of maize, cotton and oil seeds.

### BIHAR - TIFAC EXPERIENCE

**Overall up-liftment of the socio-economic condition of the less developed area through Technology and Management inputs :**



- Improvement of agricultural productivity of cereals, pulses, oilseeds etc by following total approach system**
- Encourage farmers to grow fruits & vegetables**
- Multi trait training to unemployed youth**
- Crop diversification**

**More than 3000 hectares with 3500 farmers.**

**RP Channel 5 and Majholi distributory and later extended to Paliganj and other 5 distributaries on the request of the famers.**

Paddy productivity has increased from 2 tons per hectare to 5.8 tons per hectare.

Wheat productivity, it has increased from 0.9 ton per hectare to 2 to 2.6 tons per hectare

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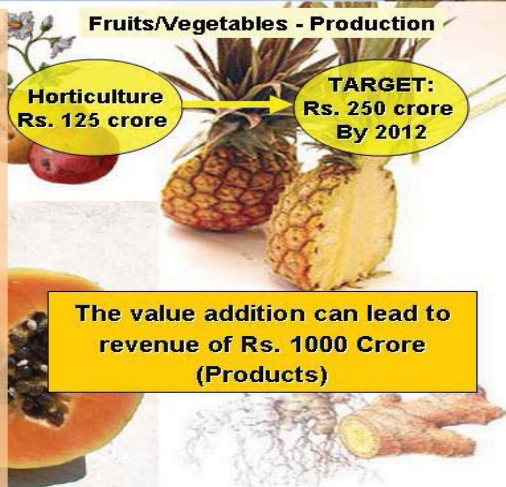
## b. Horticulture

### MISSION 1B: HORTICULTURE

**Horticulture mission**

- Potential crops : pineapple, potato, ginger, turmeric, banana, papaya and several off-season vegetables**
- Development of water harvesting and distribution infrastructure is essential**
- Increase the level of mechanization to reduce the cost of cultivation in horticultural estates.**
- Focus should be on watershed development water harvesting approach.**

**Fruits/Vegetables - Production**



Horticulture  
Rs. 125 crore

→

**TARGET:**  
Rs. 250 crore  
By 2012

**The value addition can lead to revenue of Rs. 1000 Crore (Products)**


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Meghalaya has the potential for cultivation of Cash crops like pineapple, potato, ginger, turmeric, banana, papaya and several off-season vegetables. Emphasis is needed in the development of water harvesting and distribution infrastructure. Also, there is a need for increasing the level of mechanization to reduce the cost of cultivation in horticultural estates wherever it is possible based on terrain conditions. Research is required for developing high-yield low gestation period crops which will be suitable for use by the food processing industry. These activities have to be taken up in a mission mode leading to setting up of fruit and vegetable processing plants aimed at the export market. This will facilitate distant marketing of horticulture produce of Meghalaya and provide lucrative revenue


for the Meghalaya farmers. The target for horticultural products should be set at around Rs. 250 Crore, from the present level of Rs.125 Crores. A very good infusion of advanced agricultural research, good water management and bio-technology are important ingredients for achieving this target. The 50% of the fruits and vegetables should be available for sale within Meghalaya. The residual 50% should be converted into processed fruits and vegetables. The value addition can lead to revenue of Rs. 1000 Crore to the farmers of Meghalaya which is eight times that of the cost of the raw vegetables and fruits. Agro processing should be done through a cooperative system so that the benefits go to the farmers directly. Meghalaya with its core competence in this area should be able to achieve this target by the year 2012 if it commits itself to a mission mode approach with total cooperation from the farmers, the R&D community, educational institutions and the government. This will be a wealth generator-cum-employment provider mission for the farmers of the state. The Meghalaya Government can take advantage of the National Horticulture Mission for technical, managerial and financial support for creating infrastructure and market for horticulture produce. These missions will double the revenue of over one lakh families who are presently deployed in horticulture. In addition, it will also provide additional employment in fruit and vegetable processing industries to over 10,000 youth. The State can lay emphasis on production of traditional cashew, khasi mandarin (orange), strawberry besides pineapple, turmeric, other medicinal plants and off-season vegetables.

**MISSION 1B: HORTICULTURE**

1. Setup Fruit and Vegetable processing plants, packaging system and marketing system
2. System oriented approach, advanced agriculture research, Good water management and Application of biotechnology
3. Hybrid seed production of horticultural crops can be taken on mission mode by the Meghalaya Government with R&D and university support.



**National Horticulture Mission**  
will double the revenue of over one lakh families who are presently deployed in horticulture



It will provide additional employment in fruit and vegetable processing industries to over 10,000 youth

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### c. Floriculture and Aromatic Plants

**MISSION 1C: FLORICULTURE AND AROMATIC PLANTS**

**ORCHIDS: *Cattleya, Scented Rose, Anthurium, Lilies***

- Meghalaya has all the potential for development of a successful orchid industry on scientific basis.
- Meghalaya should work on a mission of capturing at least \$ 50 million of export business for orchids and other cut-flowers.





**ORCHID EXPORT TARGET: Rs 250 Crore (\$50 Million)**

Singapore exports nearly 25 million dollars of orchids

**This mission will also provide productive employment for over 7500 youth of the State**

Meghalaya has all the potential for development of a successful orchid industry on scientific basis. It has varied and suitable climate and almost important commercial varieties of orchid including those of Cattleya, Scented Rose, Anthurium, Lilies etc., which can be grown for cut flower production. With this strength, Meghalaya should work on a mission of capturing at least \$ 50 million of export business of orchids and other cut-flowers. This is definitely possible due to our diversified climate, low cost of labour and progressive farming technology. We have to only get suitable planting material for large scale cultivation and also acquire the technology for commercial multiplication. We should

also master the post-harvest handling, storage and transportation technology for cut-flower production based on the experience of Thailand and Singapore who are major exporters of orchids. Singapore exports nearly 25 million dollars of orchids. Meghalaya teams in partnership with National Research Centre for Orchids (NRCO), Sikkim can definitely acquire the competence through a national and international connectivity and achieve the mission of exporting at least Rs. Two hundred and fifty crore of Orchids within the next five years. This mission will also provide productive employment for over 7500 youth of the State. Hon'ble Members, Govt. of Meghalaya and Central Government should ensure effective assured transportation of cut-flowers and other perishable commodities using North East Council as Coordinating agency to achieve the above target.

**MISSION 1C. FLORICULTURE AND AROMATIC PLANTS**

**Making central storage and testing facilities for the farmers in the key locations so that they can export their floriculture and herbal produce directly**

**HERBAL PRODUCTS PROCESSING PLANT**

The Meghalaya government can invite pharma industries to set up a processing plant for producing value added herbal products such as herbal soap, herbal cosmetics and nutraceuticals

**TARGET: HERBAL PRODUCTS Rs. 250 Crore**

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A mechanism is required for making central storage and testing facilities for the farmers in the key locations so that they can export their floriculture and herbal produce directly to the purchaser instead of handing over to middlemen at an uneconomic price. The Meghalaya government can invite pharma industries to set up a processing plant for producing value added herbal products such as herbal soap, herbal cosmetics and nutraceuticals. The State should aim for Rupees two hundred and fifty crore of herbal products to be produced and sold in the national and international market. This will provide value added employment to nearly fifteen thousand people from plantation to herbal products. It will be possible by creating affordable transportation of perishable commodities from difficult, distant and dangerous terrains of Meghalaya through air connectivity.

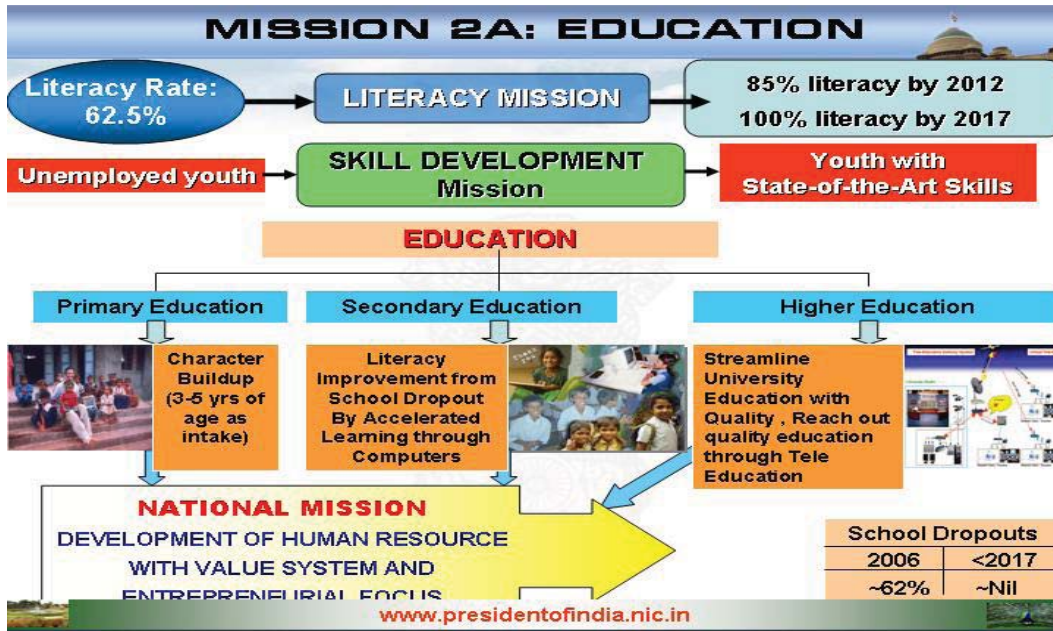


**Mission 2: Education and Health Care**

**a. Education**

I am happy to note that the literacy of Meghalaya at present is 62.5% which has to be increased to above 85% by 2012 and to 100% by 2017.

This can be achieved if each of the 16,000 college students and 44,000 high school students reach out during holidays to train and educate the people who cannot read and write. Then, we shall witness a unique experiment where nearly 60,000 educated population reaching out to around 5 lakhs people who today do not know how to read and write. Each student will have to provide literacy to only 3 or 4 persons during a year. This will ensure removal of illiteracy within the next three to four years. This will be complementary to the other adult literacy programmes organised by the State and Centre. The results will be excellent leading to prosperity and happiness of Meghalaya.



**Skills Development:** While literacy is essential for every citizen, they are insufficient to acquire gainful employment. Having the right and economically relevant skills, becomes critical for those who only have education up to the levels of 8th std/10th std/12th standard pass. A large percentage of our young people belong to this category. They need to be trained to get into an employment or self employment. Skills can be in construction, repair, hotel work, hospital related paramedical work or retailing or as electrician or carpenter. There are several kinds of work. Modern competitive economy demands correct and quality skills. It is our duty to empower the citizen with such skills.



**Value based creative and accelerated education:** Our aim is to develop human resources with value system and entrepreneurial focus, leading to arresting the tendency of school dropouts which at present at the primary level is over 62% in Meghalaya. We have to create a mechanism for the children to learn and become creative through love and affection, hygienic practices and nutrition in the pre-primary stage. It is essential to identify the average and below average students and impart accelerated learning process with the help of computer-based creative content from 1st to 10th standard. Children should learn by themselves using computers. Teachers, Parents, School Committee members



become accountable for ensuring prevention of dropouts. Meghalaya can adopt the methods suggested above (M.R. Raju model and Azim Premji model) for reducing drop outs from rural schools. Apart from preventing the dropout, there is a need to qualitatively and quantitatively improve the output of education system from the primary, secondary and college education. The target should be to increase the enrolment to university education to 12,000 from the existing 6,000 by the year 2015. The entire education system has to work in a mission mode to achieve this target and provide quality education to the youth of Meghalaya through enhancement of educational institutions, laboratories, tools and also through tele-education system within the State and also in partnership with other State universities and schools.



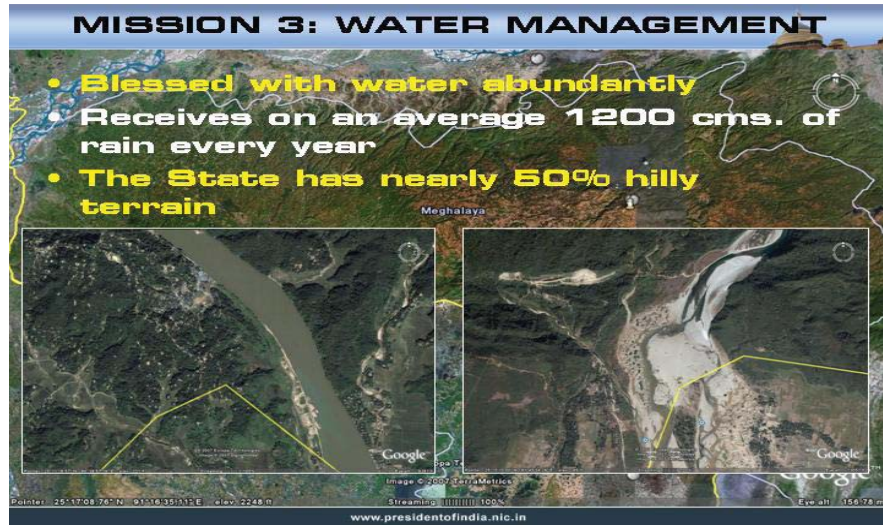
## **b. Healthcare:**

I have found that the main problem of provision of health service is the availability of the doctor, Para-medics and the necessary infrastructure. This has been a problem area in many of our primary health centers and even in district hospitals. To overcome the above, I would recommend an out-sourcing model of medical cover in which all the citizens of the State whose income is above the poverty line will make a monthly contribution of Rs. 10 for each member of the family. The revenue arising out of this fee in a year will be around Rs. 15.6 crore (13 lakh members above poverty line). Presently, the Government is spending around Rs. 60 crore for primary health in Meghalaya. The total Rs. 75.6 Crore can be considered as a yearly health fund. This fund can be utilized to provide premium for the outsourced medical cover to all the 23 lakh citizens of Meghalaya by having a public-private partnership who will be entrusted with the task of upgrading all the primary health care facilities manning them with qualified doctors, nurses and para-medics and also running mobile clinics and telemedicine system to remote areas. They will also have the responsibility of providing speciality and super-speciality healthcare to the needy in the nominated hospitals. The advantage of the system is provision of quality health care to all the citizens of the State at an affordable cost without undue pressure on State finances.

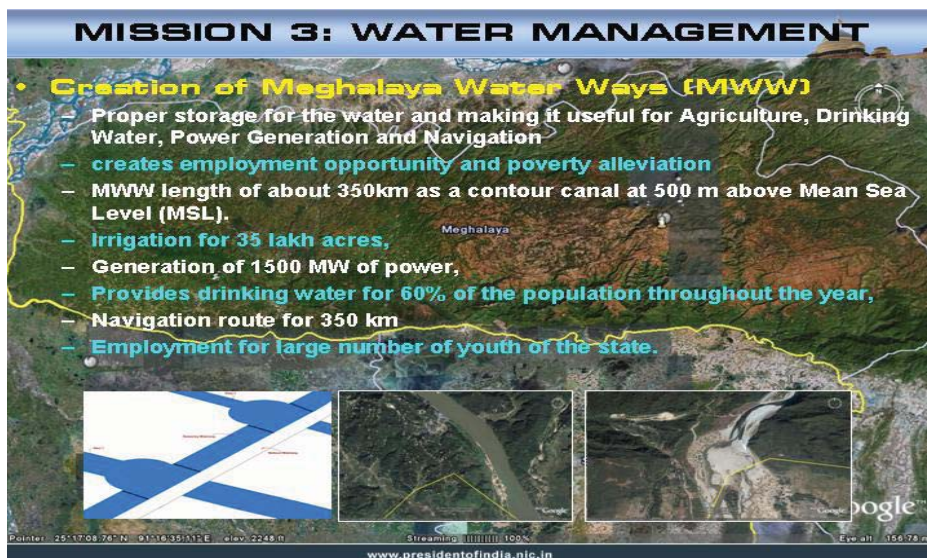
<b>MISSION 2B: HEALTH CARE</b>	
<b>OUTSOURCING MODEL</b>	<b>Partnership: Govt. + Super Speciality Corporate Hospitals + Insurance</b>
<b>ISSUES :</b>	
1. Availability of the doctor, para-medics and the necessary infrastructure in the Rural Areas.	
<b>Solution : HEALTHCARE MODEL</b>	
1. Healthcare programme with Rs. 10/month subscription	
2. Rs. 15.6 Crore from 13 lakh people who are above poverty line.	
3. Govt. spending Rs. 60 Crore for healthcare	
4. Create health fund with an outlay of Rs. 75.6 Crore	
<b>THROUGH PUBLIC-PRIVATE PARTNERSHIP → SERVICE TO → PHCs</b>	
<b>CREATE HEALTH INFRASTRUCTURE</b>	
<b>PROVIDE MEDICAL DOCTORS AND PARAMEDICS SERVICE</b>	
<b>EXTEND TELE-MEDICINE AND MOBILE CLINIC SERVICES</b>	
<a href="http://www.presidentofindia.nic.in" style="color: white;">www.presidentofindia.nic.in</a>	

## Mission 3: Water Management

Meghalaya State is blessed with water abundantly. It has several rain based rivers and some places in Meghalaya receives on an average 1200 cms. of rain every year. The rain pours continuously for eight months from April leaving four months almost dry in Meghalaya. It is essential to make use of this vital resource for the development of the State. The State has nearly 50% hilly terrain. The balance land is fit for cultivation provided proper water management and drainage is planned.



**Meghalaya Water ways:** To make the best use of the water available in plenty and to improve the living standard of the people in Meghalaya, there is a need for creating a waterway for proper storage for the water and making it useful for Agriculture, Drinking Water, Power Generation and Navigation. This will go a long way to create employment opportunity and poverty alleviation for the people of the State. The Meghalaya Waterways may have a length of about 350km as a contour canal at 500 m above Mean Sea Level (MSL). It can irrigate 35 lakh acres, generate 1500 MW of power, provide drinking water for 60% of the population throughout the year, have a navigation route for 350 km thus increasing the connectivity and also provide employment for large number of youth of the state. The waterways will also give enough protection from flash floods and from flood damage. It will also attract tourists.




**Water harvesting:** In the interim period when the Meghalaya water ways programme is in progress, I would recommend large scale water harvesting in the State by desilting the existing ponds and creation of large number of artificial lakes

in all the villages of the State. This will enable conservation of the flood water, prevent water logging of the crops and provide adequate water during non-rainy days. Since pure natural water is available in the State, this resource can be utilized for producing mineral water and supplying to different parts of the country. To enable the farmers to use the water for irrigation, the government can think in terms of providing them with solar panel based water pumps in all the villages.

## MISSION 3: WATER MANAGEMENT

### Water Harvesting Mission

- Large scale water harvesting in the State by desilting the existing ponds
- Creation of large number of artificial lakes in all the villages of the State
- Conservation of the flood water, prevent water logging of the crops and provide adequate water during non-rainy days
- Potential for Mineral water plants
- Solar panel based water pumps in all the villages.



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Pointer: 25°39'01.46" N 91°52'50.91" E elev. 3239 ft Streaming: 100% Eye alt: 25580 ft

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## Mission 4: Bamboo Mission

## MISSION 4: BAMBOO MISSION

Producing globally competitive new generation bamboo products



**Integrated programme of expansion of plantations of Bamboo species, the scientific management, and promotion of community level value addition and entrepreneurship**

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This mission envisages an integrated programme of expansion of plantations of Bamboo species, the scientific management, and promotion of community level value addition and entrepreneurship. This will enable presenting the raw material for the industries and the industry to access and apply modern technology for producing globally competitive new generation bamboo products. This includes setting up of clusters of small value addition processing units, near the resource for employment generation and benefit to the local small entrepreneur. Processed raw material suitable for ultimate use in industry/handicraft sector will be required, for economizing handling cost of raw material to the location of industry proposed to be set up in different parts of the State. However to prevent the effects of Bamboo

flowering, Meghalaya can consider maintaining a year wise census of the Bamboo farms so that the plants which have exceeded the life of 20 years or more are uprooted and systematic re-plantation is done.



**MISSION 4: BAMBOO MISSION**

- Cultivation of Bamboo over ten thousand hectares of forest land in addition to the existing bamboo cultivation
- Lead to the creation of 40,000
- Market opportunities worth over Rs. 100 crores with an investment of Rs. 25 crore
- The value addition for the bamboo results into lifestyle articles, and handicrafts for export market

PARTNERSHIP with JETRO of JAPAN, National Institute of Design, Ahmedabad, Indian Institutes of Management, Industrial houses and Meghalaya Government can work together to generate number of Bamboo enterprises in different FOREST PURA clusters.

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The programme should envisage the cultivation of bamboo over ten thousand hectares of forest land in addition to the existing bamboo cultivation. The economic and social benefit from these activities, will lead to the creation of forty thousand jobs and the market opportunities worth over Rs. 100 crores with an investment of Rs. 25 crore. The value addition for the bamboo results into lifestyle articles, and handicrafts for export market. This value addition and marketing can be done in partnership with JETRO of JAPAN, North Eastern Hill University, National Institute of Design, Ahmedabad, Institutes of Management in Meghalaya entrepreneurs and Meghalaya Government. Bamboo enterprises can become part of PURA Clusters.



### **Mission 5 : Tourism**

There are number of places of interest in Meghalaya which will be an attraction for the tourists. Meghalaya is blessed with picturesque landscape, conducive geo-ecological settings, salubrious climate, sparkling waterfalls, cascades, legendary & mythological sites, rich traditional culture and warm and hospitable people. The century old lake known as Polok lake is an important & beautiful tourist spot. Khasi and Garo tribes are popularly known for their traditional healing practices. The state has a strong base of traditional medicine, utilizing different types of locally available medicinal plants and herbs. The government and corporate hospitals should facilitate the traditional medical practioners to practice along with the other systems of medical practioners for providing an integrated healthcare to the people as well as tourists. The state offers some of the finest routes for trekking in both mild and difficult terrain. The southern

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slopes with high rocky cliffs have ample scope for the development and promotion of outdoor sports like climbing and abseiling. Majority of places in the rural areas of Meghalaya are associated with myths and legends. Training the local youth in the field of folklore for reciting legend, myths, and folktales during important events would help in promoting tourism.

### MISSION 5 : MEGHALAYA TOURISM



**MEDICAL TOURISM in Meghalaya**

- Strong base of traditional medicine, utilizing different types of locally available medicinal plants and herbs.
- The government and corporate hospitals should facilitate the traditional medical practitioners to practice along with the other systems of medical practitioners for providing an integrated healthcare to the people as well as tourists



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The state government should enter into a public-private partnership agreement with tourism based institutions and industries who can create the total infrastructure from hotels, roads, water system, power systems, drainage system, medical cover, banking, wayside amenities, tourism spots on a build, own, operate and transfer model. The state government must provide land, infrastructural support, hassle free permission, license to operate for a minimum period to make the proposition profitable.

### MISSION 5: MEGHALAYA TOURISM



Thrust + Additional Infrastructure+ Training

**Meghalaya Tourism**

**National**  
3.75 lakhs → 1 M

**International**  
5000 → 50,000

1. Enhance the Image of the tourism and create world class infrastructure
2. Every tourist generates 4 jobs as per the international standard
3. Enhance the tourist circuit:
4. Create air connectivity to the Tourist circuits with 50-100 seater aircrafts
5. 2 lakh additional jobs

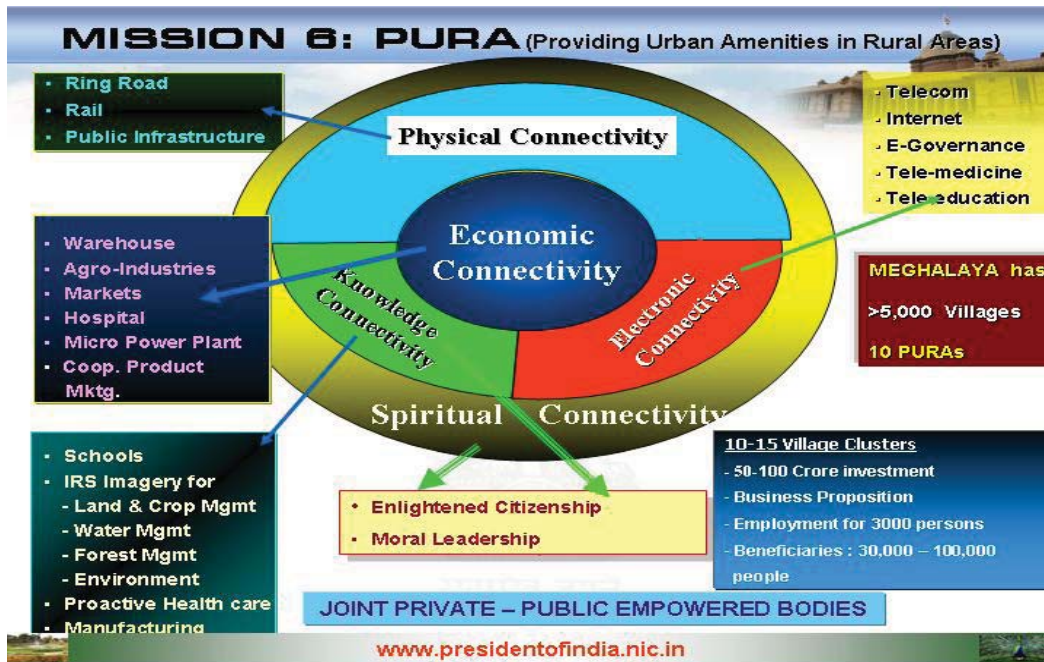
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This will ensure large scale employment opportunities, since each tourist generates five jobs in the hotel, transportation, guiding and services sector. As per 2005, statistics Meghalaya received 3,75,000 national tourists and 5000 foreign tourists. You should aim at generating minimum 1 million national tourists and 50,000 foreign tourists by the year 2012. The required infrastructure in the form of roads, civic amenities, hotels, healthcare facilities have to be built on a mission mode. This will enable generation of over 2.5 lakh jobs for the youth in the tourism sector.



**Mission 6 : Establishment of Providing Urban Amenities in Rural Areas (PURA) for Rural prosperity**

I have studied about Meghalaya terrain and the number of districts, towns and villages. Meghalaya and its regions require a unique Forest PURA due to the existence of varying terrain and forest conditions. I would recommend establishment of 10 PURA clusters for Meghalaya. This will provide four critical connectivities between villages located in different geographic locations enabling accelerated economic growth: physical, electronic and knowledge connectivity, leading to economic connectivity. The fund for the implementation of PURA has to come from annual budget of the State and the Bharat Nirman Programme of the Central Government. Let us study those connectivities.



**Essential Connectivities:** These are: physical connectivity of village clusters through quality roads and transport and waterways so that the villages will be connected by the road and water system and in turn into the high ways. Electronic connectivity through tele-communication with satellite, high bandwidth fiber optic cables, wireless reaching the rural areas from cities and through internet kiosks. This will enable the urban facilities like super speciality hospitals, educational institutions to provide value added services to rural areas. Knowledge connectivity provides education, skills training for farmers, artisans and craftsmen and entrepreneurship programmes. These three connectives will lead to Economic connectivity so that employment potential will increase through starting of small scale industries, food processing industries coming in a big way with the help of banks, educational institutions and micro credits. The

The Hon'ble Members of Meghalaya Assembly may like to see operational PURAs located in Aarang in Chhattisgarh, Periyar PURA in Tamil Nadu and Byrraju PURA in Andhra Pradesh.



## Mission 7: Special Economic Zone

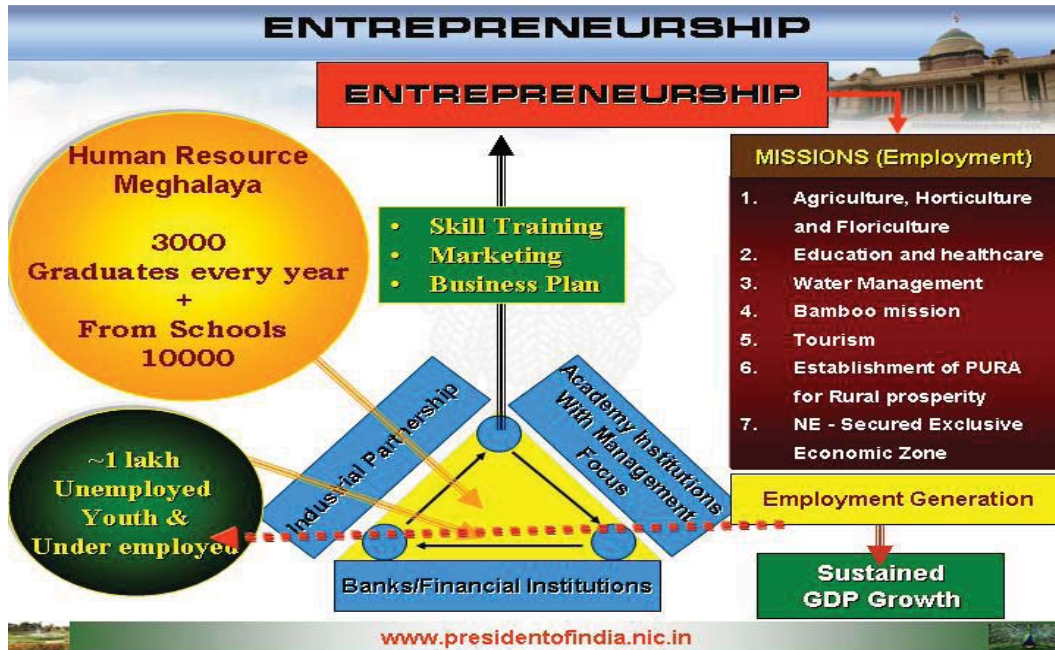
In addition to the above six missions, I suggest establishment of three economic zones in Meghalaya. One at Shillong for herbal, aromatic, ginger varieties farming, leading to production of drugs, aromatic and ginger products for export. Another Economic Zone can be located in such a way that it attracts tourists in a place surrounded by water falls, with an open museum of all tribal culture something similar to what has been done in Chhattisgarh, orchid floriculture farms and also a science and technology park. Third economic zone can be centred around mining of special material and associated products. In view of the three Special Economic Zones suggested for Meghalaya, it is important to establish a full fledged airport for landing of modern jet aircrafts in Meghalaya. With the growth of technology in instrument landing system it should be possible to create an all weather air port in Meghalaya. These economic zones are definitely possible in Meghalaya where peace is prevailing and people are tourist friendly. SEZs will attract industries of pharmacy, biotechnology and hotel industries. These economic zones will create additional revenue of RS. 2,500 crore to the State with an employment potential of over 25,000 people.



## Entrepreneurship

These 7 missions which I have discussed, will require generation of large number of entrepreneurs in the State through entrepreneurship programmes. The academic institutions in Meghalaya generate about 3000 graduates per year and the 10th class and 10+2 students will be around 10,000. All of them will seek employment either within Meghalaya, outside the state or abroad. Now the school syllabus and university syllabus have to be integrated with entrepreneurship

courses. The students at the end of the course should get a certificate or a diploma. This will enable students qualified in these schools and colleges, to have the confidence that they can start the small enterprises in agriculture, manufacturing or services especially in the areas of agro-processing products, life style products from bamboo, managing tourism, small scale industries for handloom, handicraft products and creation of forest PURAs. Banks have to be entrepreneur friendly and should give them venture capital and support the young entrepreneurs and their creative ideas. This system will change the situation in all the states, particularly in Meghalaya by generating large number of employment providers rather than employment seekers.



## Results of the mission

Dear Hon'ble Members, may I now summarize the seven important missions for your consideration and implementation for sustained prosperity and empowerment of Meghalaya:

1. **Agriculture, Horticulture and Floriculture:** Enabling doubling of the income of 2 lakh families, provide employment for 42,500 youth. It will also generate export revenue of Rs. 500 Crore.
2. **Education and healthcare:** Achieving 85% literacy by 2012 and 100% literacy by 2017. Reduce dropout before secondary to less than 30%. Increase yearly enrolment in college to 32,000. Realising provision of quality healthcare to all the citizens of the State for a small fee of Rs. 10 per month per individual for people living above poverty line.
3. **Water management:** Water management will provide 350 kms of waterways, irrigation for 35 lakh acres, generate 1500 megawatts of power and provide drinking water for 60% people. Water harvesting (Similar to Malse Lake type) will ensure adequate availability of water during the non-rainy season for all the citizens for agriculture and drinking water.
4. **Bamboo mission:** Create handicrafts and cottage industries jobs for 40,000 youth and generate the revenue of over Rs. 100 crore.





5. **Tourism:** Increase the domestic tourist from 3,75,000 to one million and foreign tourist from 5,000 to 50,000. This will create 2.5 lakh additional jobs for the youth.

6. **Establishment of PURA:** Enable creation of ten PURA clusters spread through out the State which will bridge the rural-urban divide and increase the economic prosperity of 80% rural Meghalaya.

5.



7. **Special Economic Zone:** Establishment of three economic zones will enable additional revenue of Rs.2500 crores and employment for 25,000 people.

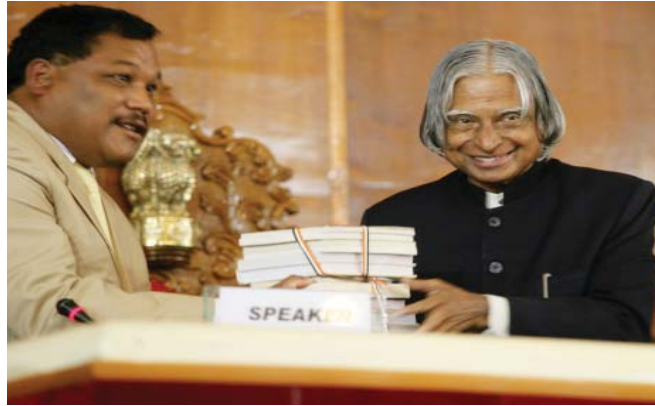


## Conclusion

I would like the Meghalaya Legislative Assembly to discuss all the seven missions and lead to progressive implementation, so that Meghalaya will become an economically developed state well before 2017. Great missions have to be born out of the great minds of Meghalaya Legislative Assembly. What is important at this point is political vision and convergence of all political parties to the mission of transforming Meghalaya into a developed state. Meghalaya needs

## MEGHALAYA STATE DEVELOPMENT REPORT

now creative leaders. What is the definition of creative leaders. Creative leadership means exercising the vision to change the traditional role from the commander to the coach, manager to mentor, from director to delegator and from one who demands respect to one who facilitates self-respect. I am sure the Members of Legislative Assembly will create creative leaders including the rural areas.



I convey my best wishes to all the Hon'ble Members of Meghalaya Assembly and through them to all the people of Meghalaya success in their mission of transforming Meghalaya into an economically prosperous, happy, peaceful and safe State.

May God bless you.



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**Printed at the Directorate of Printing & Stationary  
Meghalaya, Shillong**