

**REPUBLIC OF INDIA
STATE OF MIZORAM, MINOR IRRIGATION
DEPARTMENT**

**THE STUDY
ON
DEVELOPMENT AND MANAGEMENT OF
LAND AND WATER RESOURCES
FOR SUSTAINABLE AGRICULTURE IN MIZORAM
IN
THE REPUBLIC OF INDIA**

**FINAL REPORT
MAIN REPORT**

MAY 2015

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

NIPPON KOEI CO., LTD.

KRI INTERNATIONAL CORP.

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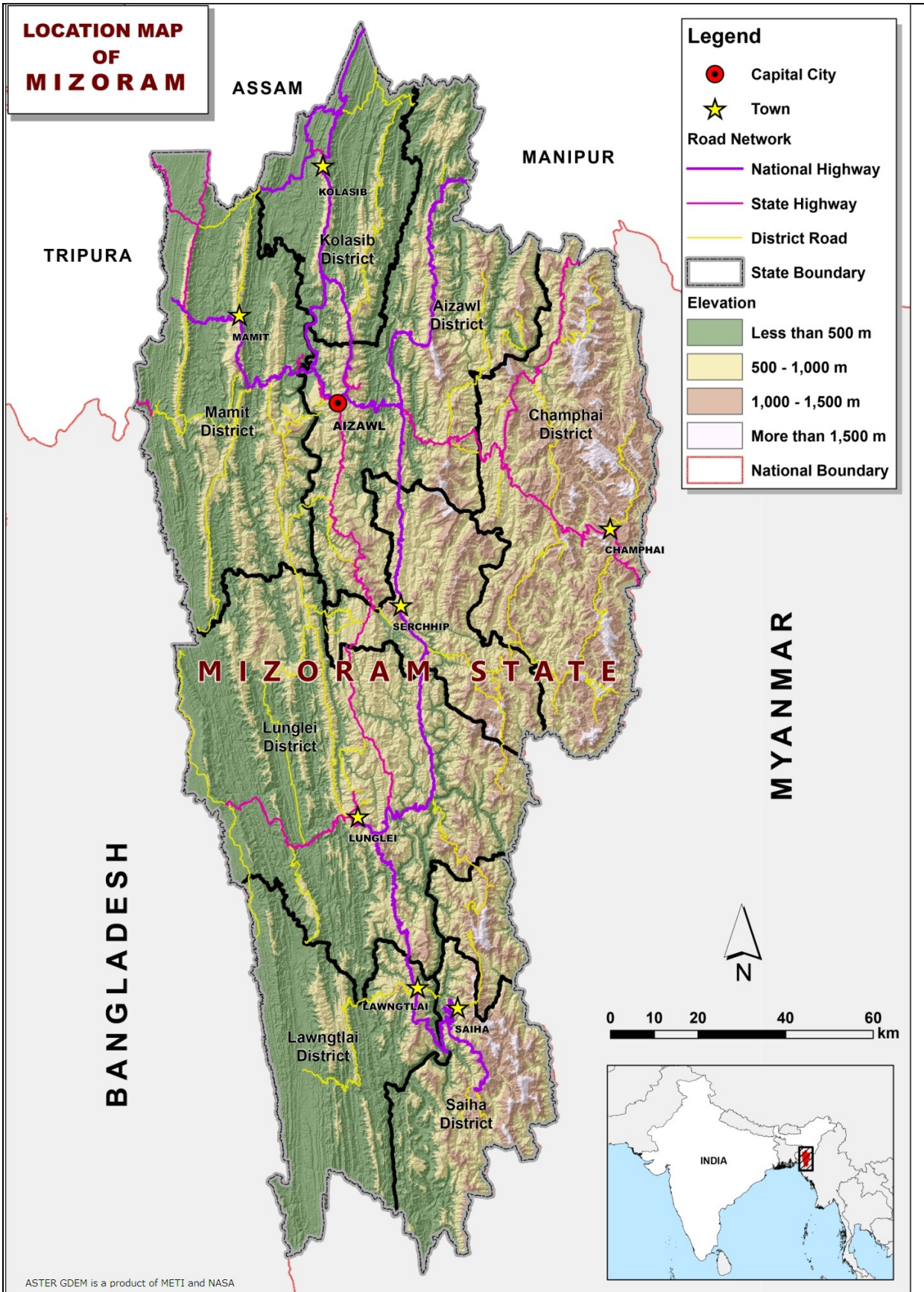
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Source : JICA Study Team

Location map of Mizoram

Photographs (1/5)

		
Burning a Jhum Land	Jhum Land after Burning	Grass Grown in Jhum Land
		
Broad View of Jhum Lands	Banana & Ginger in Jhum Land in Aibawk	Up and Down Harvesting of Different Vegetable in a Jhum Land
		
Arecanut Plantation	Paddy Cultivation Without Irrigation Facilities at a Slope Land	Rice Harvesting in Kolasib
		
Stretching Paddy Field	Paddy Cultivation with Irrigation Facilities at a WRC Land	Mini Power Tiller
		
Maize Cultivation at a Paddy Field in Rabi Season	Mixed Maize and Mustard Leaves at a Paddy Field in Rabi Season	Vegetable Production in Sihphir
















Source : JICA Study Team

Photographs (2/5)

		
Squash in Sihphir	Orange Plantation	Anthurium
		
Coffee Nursery	Japanese Variety Satsuma	Oil Palm Plantation
		
Cabbage Production in Longtai District	Irrigated Maize Farming	Aizawl Water Source
		
Terrace Development	Water Reservoir with Pump	Reservoir on Hill
		
Diversion Weir	An Mid Project Canal	Washed Canal







Source : JICA Study Team

Photographs (3/5)





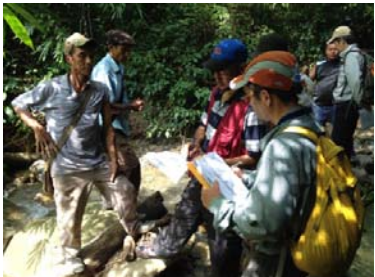










		
View of Chhimtuipui River	Retailers in Private Market, Champhai	Transport of Products to Roadside by Farmers, Siphir, Aizawl District
		
Wild Edible Young Pods of Mimosaceae Called Zawng-Tah at a Vegetable Shop	A Point at The Hillside of a Mountain Collecting Harvested Vegetables From Jhum for Selling	An Agricultural Material Shop Selling Seeds, Agrochemicals, Tools, etc. in Aizawl
		
forwarding Products to Urban Market by Collectors, Siphir, Aizawl District	Transport of Cabbages to Market by Farmers, Serchhip	Railway Station, Bairabi
		
Farmers Selling Their Products on Entrance to New Market, Aizawl	Fair Price Shop Distributing Pds Rice, Khawzawl, Champhai District	Factory of Champhai Grape Growers Society
		
Rice Mill	Fruits Concentration Plant, Mifco, Chhingchhip	Thresher, Kolasib

Source : JICA Study Team

Photographs (4/5)

		
<p>Turmeric Products</p>	<p>MIZOFA Fish Seed Farm in Chempha, Kolasib</p>	<p>Lengpui Fish Seed Mill with Fish Farmers Training Centre</p>
		
<p>Cultured Chinese Carp-Bighead</p>	<p>Lengpui Fish Feed Mill</p>	<p>Roadside Fish Sales in Early Morning, Aizawl</p>
		
<p>Pig Rearing in the Backyard</p>	<p>A Shed Used for Cattle Milking, and for Collecting Cow Dung for Cultivation</p>	<p>A Rack for Selling Chicks at a Private Shop</p>
		
<p>A Shed for Poultry Fattening Constructed by Nlup Funds</p>	<p>A Lunch with a Farmer</p>	<p>Meeting with The Chairman of Lunglei High Powered Committee</p>
		
<p>Meeting with Wua Diltlang in Longtai District</p>	<p>Meeting with Farmers</p>	<p>Meeting with Rai and Mara Autonomous District</p>

Photographs (5/5)

		
View of the Seminar on Participatory Planning	View of the Preparatory Technical Training for Model DPR	View of the Water Discharge Measurement Training
		
View of the Soil Classification Training	View of the Walkthrough Survey, Laului Scheme	Discussion on Irrigation Planning with Satellite Image, Kanghai Scheme
		
View of the Preparation of WUA Rules and Regulations, Laului Scheme	View of the Preparation of Cropping Pattern by Farmers, Ngengrual Scheme	View of the Discussion of Agriculture Marketing, Dumlui Scheme
		
View of the Discussion on Agriculture Action Plan, Ngengrual Scheme	View of the Preparation of Fishery Action Planning, Dumlui Scheme	View of the Preparatory Meeting for Workshop, Ngengrual Scheme
		
View of the Training for Preparation of Model DPR	View of the Ratification Meeting in Ngengrual Scheme	View of the Ratification Meeting in Kanghai Scheme

Source : JICA Study Team

**The Study
on
Development and Management of Land and Water Resources
for
Sustainable Agriculture in Mizoram**

Final Report

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Appendix

- Appendix-1 : Scope of Works (S/W) and Record of Discussion for S/W
- Appendix-2: Minutes of Meetings
- Appendix-3 : Maps
- Appendix-4 :Project Sheets
- Appendix-5 :DPR Preparation Guideline

Abbreviations

AAU	Assam Agriculture University
AAV	Antyodaya Anna Yojana
ADB	Asian Development Bank
AHVD	Animal Husbandry and Veterinary Department
AI	Artificial Insemination
AIBP	Accelerated Irrigation Benefits Programme
AMFU	All Mizoram Farmers Union
AMSL	Above Mean Sea Level
AP	Andhra Pradesh
APEDA	Agricultural Processed Food Product Export Development Authority
APMC	Agricultural Produce Marketing Committee
ASEAN	Association of South East Asian Nations
ASHA	Accredited Social Health Activist
ASI	Archeological Survey of India
ATMA	Agriculture Technology Management Agency
BAFFACOS	Bamboo Flowering & Femine Combat Scheme
BCAM	Brooms Cultivators Association of Mizoram
BCTs	Border Trade Centres
BDR	Business Development Resource
BHP	Brake Horse Power
BIMSTEC	Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation
BMMU	Block Mission Management Unit
BOT	Build Operate Transfer
BPL	Below Poverty Line
BRGF	Backward Regions Grant Fund
BRO	Border Roads Organisation
BSNL	Bharat Samchar Nigam Ltd.
CAD	Command Area Development
CAU	Central Agricultural University
CB	Commercial Bank Development Action Plan
CCA	Cultivated Command Area
CCF	Chief Conservator of Forest
CDAR	Community Development Action & Reflection
CDP	Catalytic Development Programme
CIF	Community Investment Fund
CM	Chief Minister
C-NES	Center for North East Studies & Policy Research
CONCOR	Container Corporation of India
CPI	Consumer Price Index
CRRI	Central Road Research Institute
CSB	Central Silk Board
CSIR	Council of Scientific and Industrial Research
CSO	Central Statistical Organization
CSS	Centre for Sustainable System
CSS(s)	Centrally Sponsored Scheme(s)
CWC	Central Water Commission
DAP(s)	District Agriculture Plan(s)
DCP	District Credit Plan
DCRR	Department of Cooperative Revival and Reforms
DDP	Desert Development Programme
DEDS	Dairy Entrepreneurship Development Scheme
DEF	Department of Environment & Forest
DES	Department of Economics & Statistics
DGBR	Directorate General of Border Roads
DMI	Directorate of Marketing & Inspection

DMMU	District Mission Management Unit
DMRD	Disaster Management & Rehabilitation Department
DOA	Department of Agriculture
DoES	Department of Economic & Statistics
DOF	Department of Fisheries
DOH	Department of Horticulture
DoLR	Department of Land Resources
DONER	Development of North Eastern Region
DOPT	Department of Personnel and Training
DOS	Department of Sericulture
DPAP	Drought Prone Areas Programme
DPC	District Planning Committee
DPR(s)	Detailed Project Report(s)
DRDA	District Rural Development Agency
DRIP	District Rural Industries Project
DSWC	Department of Soil & Water Conservation
EDC	Eco-Development Committee
EE	Executive Engineer
EIA	Environment Impact Assessment
EL	Elevation
EM	Effective Micro Organism
ERM	Extension, Renovation and Modernization
ES	Epidemiological Section
FAO	Food and Agriculture Organization of the United Nations
FCI	Food Corporation of India
FCR	Feed Conversion Ratio
FDB	Fisheries Development Board
FDI	Foreign Direct Investment
FEO	Fisheries Extension Officer
FFDA	Fish Farmers Development Agency
FMP	Flood Management Programme
FRBM	Fiscal Reform and Budget Mangement
FSF(s)	Fish Seed Farm(s)
FSSAI	Food Safety and Standards Authority of India
FTP	Foreign Trade Policy
GAP	Good Agricultural Practices
GCA	Gross Command Area
GDP	Gross Domestic Products
GFD	Gross Fiscal Deficit
GIS	Geographic Information System
GLC	Ground Level Credit
GNP	Gross National Product
GoI	Government of India
GOM	Government of Mizoram
GPS	Global Positioning System
GSDP	Gross State Domestic Product
HCP	Hnam Chhantu Pawl
HDI	Human Development Index
HDO	Horticulture District Officer
HMNEH	Horticulture Mission for North East & Himalayan States
HP	Horse Power
HSSLC	Higher Secondary School Leaving Certificate
IBRD	International Bank for Reconstruction and Development
ICAR	Indian Council of Agricultural Research
ICMR	Indian Council of Medical Research
ICP	Integrated Check Point
ICRISAT	International Crops Reserch Istitute for the Semi-Arid Tropics

ICT	Information and Communication Technology
ID	Industry Department
IDA	International Development Association
IDDP	Intensive Dairy Development Project
IEC	Information, education and Communication (activities)
IEE	Initial Environmental Examination
IFAD	International Fund for Agricultural Development
IFFCO	Indian Farmers Fertiliser Cooperative Limited
IFS	Indian Forest Service
IGNOU	Indira Gandhi National Open University
IL&FS	Infrastructure Leasing & Financial Services
IMF	International Monetary Fund
IMR	Infant Mortality Rate
INM	Integrated Nutrient Management
INR	Indian Rupee
IPC	Irrigation Potential created
IPM	Integrated Pest Management
IRs	Indian Rupee
ISIA	Initial Social Impact Assessment
ISO/HACCP	ISO/Hazard Analysis & Critical Control Point
ISOPOM	Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize
ISRO	National Space Reserch Organization
IT	Information Technology
ITTC	Integrated Textiles Training Centres
IUCN	International Union for Conservation of Nature and Natural Resources
IWAI	Inland Waterway Authority of India
IWDP	Integrated Wastelands Development Programme
IWMP	Integrated Watershed Management Project
IWT	Inland Water Transport
JFMCs	Joint Forest Management Committees
JICA	Japan International Cooperation Agency
JLGS	Joint Liability Group
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KCC(s)	Kisan Credit Card(s)
KVK(s)	Krishi Vigyan Kendra(s)
KW	Kilo Watt
LCS	Land Customs Stations
LFPR	Labour Force Participation Rate
LPG	Liquified Petroleum Gas
LRSD	Land Revenue & Settlement Department
LSCs	Land Settlement Certificates
LWA	Lai Women Association
MAHCO	Mizoram Apex Hand loom and Handicraft Cooperative Society
MAHFED	Mizoram State Agriculture, Horticulture and Marketing Cooperative Federation Ltd.
MAMCO	Mizoram Agriculture Marketing Corporation
MASCOS	Mizoram Sericulture Farming Cooperative Society Ltd
MBA	Master of Business Administration
MCAB	Mizoram Co-operative Apex Bank Ltd.
MGNREGA	Mahatma Gandhi National Rural Emploment Guarantee Act
MHIP	Mizoram Hmeichhe Insuihkhawm Pawl
MI	Minor Irrigation
MICLUN	Mizoram Cultivator and Labour Union
MID	Minor Irrigation Department
MIFCO	Mizoram Food and Allied Industries Corporation
MIFPROY	Mizoram Food Processing Industry

MIGA	Mizoram Iskut (Squash) Growers Association
MIP	Mizoram Indodelhna Project
MIRSAC	Mizoram Remote Sensing Application Centre
MIS	Market Intervention Scheme
MIZOFED	Mizoram State Cooperative Marketing & Consumer Federation Ltd
MMR	Maternal Mortality Rate
MNES	Ministry of Non-Conventional Energy Sources
MNRES	Ministry of New and Renewable Energy Sources
MOEF	Ministry of Environment and Forest
MoFPI	Ministry of Food Processing Industry
MoRD	Ministry of Rural Development
MoU	Memorandum of Understanding
MOWR	Ministry of Water Resources
MPZA	Mizo Panhnah Zuar Association
MRB	Mizoram Rural Bank
MSc	Master of Science
MSCU	Mizoram State Cooperative Union
MSL	Mean Sea Level
MSME(s)	Micro, Small and Medium Enterprise(s)
MSTL	Mobile Soil Testing Laboratory
MTZA	Mahni Thlai Zuar Association
MULCO	Mizoram Multi-Commodity Producers Cooperative Union Ltd.
MUP	Mizoram Upa Pawl
MW	Mega Watt
MZTA	Mahni Thlai Zuar Association
NABARD	National Bank for Agriculture and Rural Development
NCDC	National Cooperative Development Corporation
NDC	National Development Council
NDDB	National Dairy Development Board
NE	North East
NEC	North Eastern Council
NEDFI	North Eastern Development Finance Corporation Ltd.
NEEPCO	North Eastern Electric Power Corporation
NEHU	North Eastern Hill University
NERAMAC	North East Regional Agricultural Marketing Corporation
NFDB	National Fisheries Development Board
NFSM	National Food Security Mission
NGO(s)	Non Governmental Organisation(s)
NH	National Highway
NHAI	National Highway Authority of India
NHDP	National Highway Development Programme
NIEPA	National Institute of Education Planning & Administration
NIMZs	National Investment and Manufacturing Zones
NLCPR	Non Lapsable Central pool of Resources
NLUP	New Land Use Policy
NMFP	National Mission on Food Processing
NMMI	National Mission on Micro Irrigation
NMMP	National Mission on Medicinal Plant & Aromatic Plants
NMMU	National Mission Management Unit
NMPS	National Mission for Protein Supplements
NPBBD	National Programme for Bovine Breeding and Dairy
NPCBB	National Project for Cattle and Buffalo Breeding
NPL	Non-performing Loan
NPMSF	National Project on Management of Soil Health & Fertility
NRAA	National Rainfed Area Authority
NRCS	National Sensing Centre
NRHM	National Rural Health Mission

NRLM	National Rural Livelihood Mission
NSDP	National State Domestic Product
NSIC	National Small Industries Corporation
NSS	National Social Service
NSSO	National Sample Survey Organization
NTDC	North Eastern Tourism Development Corporation
NTFR	Non timber Forest Resources
NVIUC	National Vegetable Initiative For Urban Cluster
NW	National Waterway
NWC	National Water Policy
NWDPRA	National Watershed Development Project for Rainfed Areas
ODA	Official Development Assistance
ONGC	Oil and Natural Gas Corporation
OPAE	Oil Palm Area Expansion Programme
PAC	Potential Area Connectivity
PCCF	Principal Chief Conservator Forest
PDS	Public Distribution System
PED	Power and Electric Department
PGCIL	Power Grid Corporation of India Ltd.
PHC	Primary Health Centres
PHED	Public Health Engineering Department
PIA(s)	Project Implementation Agency(ies)
PIGFED	Mizoram Pig Producers Cooperative Federation Ltd
PIM	Participatory Irrigation Management
PLP(s)	Potential Linked Credit Plans
PLs	Prawn Post-larvae
PMGSY	Pradhan Mantri Gram Sadak Yojana
PMRY	Prime Minister's Rojgar Yojana
PP	Plant Protection
PPID	Planning and Programming Implementation Departmen
PPP	Public Private Partnership
PRRS	Porcine Reproductive And Respiratory Syndrome
PS	Power Station
PSE(s)	Public Small Enterprise(s)
PU	Physical Units
PURA	Provision of Urban Amenities in Rural Areas
PWD	Public Works Department
RBI	Reserve Bank of India
RCCF	Regional Chief Conservator Forest
RCF	Regional Conservator Forest
RD	Rural Development
RDD	Rural Development Department
REC	Regional Empowered Committee
REDP	Rural Entrepreneurship Development Programme
RES	Rinderpest Eradication Section
RFD	Results-Framework Document
RGGVY	Rajiv Gandhi Grameen Vidyutkaran Yojna
RIDF	Rural Infrastructure Development Fund
RKVY	Rashtrya Krishi Vikas Yagona
RMIS	Rationalization of Minor
RPA	Irrigation Statistics
RPI	Retail Price Index
RRL	Regional Research Laboratory
RSVY	Rashtriya Sam Vikas Yojana
RVP	River Valley Project
SAG	State Advisory Group
SAMIS	Service Area Monitoring and Information System

SAP	State Agriculture Plan
SARDP-NE	Special Accelerated Road Development Programme for North East
SAUs	State Agriculture Universities
SCERT	State council of Education Research & Training
SD	Sericulture Department
SDO	Sub Divisional Officer
SEAC	State Level Expert Appraisal Committee
SEIAA	State Level EIA Authority
SEO	Sericulture Extension Officer
SFP	The State Focused Paper
SGSY	Swarnajayanti Gram Swarojgar Yojana
SHG(s)	Self Help Group(s)
SHP	Strategic Healthcare Programme
SI	Small Industries
SIA	Social Impact Assessment
SIDBI	Small Industries Development Bank of India
SJSRY	Swarna Jayanti Sahari Rojgar Yajana
SLNAs	Supporting State Level Nodal Agencies
SME(s)	Small and Medium Enterprise(s)
SMMU	State Mission Management Unit
SNF	Solid Not Fat
SOEs	State Owned Enterprises
SPCB	State Pollution Control Board
SRI	System of Rice Intensification
SSA	Sarva Shiksha Adhiyan
SSI	Small Scale Industry
STI	Sericulture Training Institute
SVFA	Senior Veterinary Field Assistant
SWCD	Soil and Water Conservation Department
SWRTO	Small Water and Road Transport Operator
TCD	Trade and Commerce Department
TCS	Tata Consultancy Services
TEV	Techno Economic Viability
TRA	Tea Research Association
TRIFED	Tribal Cooperative Marketing Development Federation of India Limited
TTAADC	Tripura Tribal area Autonomous District Council
UN	United Nation
UNDP	United Nations Development Programme
UPASI-TRI	UPASI Tea Research Foundation
US	United States
UT(s)	Union Territory(ies)
VA	Voluntary Agency
VC(s)	Village Council(s)
VDBs	Village Development Board
VDC	Village Development Committee
VECs	Village Education Committees
VFA	Veterinary Field Assistant
VIP	Very Important Person
VLMC	Village Level Monitoring Committee
VOs	Voluntary Organisations
VVV	Vikas Volunteer Vahini
WAPCOS	Water and Power Consulting Services (India) Limited
WC(s)	Watershed Committee(s)
WCDC	Watershed Cell cum Data Centre
WDPSCA	Watershed Development Programme in Shifting Cultivation Area
WDT	Watershed Development Team

WFP	World Food Program
WMP	Water Management Programme
WPI	Wholesale Price Index
WRC	Wet Rice Cultivation
WTO	World Trade Organization
WUA	Water Users' Association
YCA	Young Chakma Association
YLA	Young Lai Association
YMA	Young Mizo Association
ZAGS	Zo-Anthurium Growers Society
ZEP	Zopar Export Private Limited
ZIDCO	Zoram Industrial Development Corporation Limited
ZOFISFED	Mizoram Cooperative Fish Farming Marketing and Processing Federation Ltd
ZOHANDCO	Mizoram Handloom and Handicraft Development Co-operation Ltd.

Measurement Units

Area

cm² = Square-centimetre(s)
m² = Square-metre(s)
km² = Square-kilometre(s) (1,000,000 m²)
ha = Hectare(s) (10,000 m²)
acre = Acre(s) (4,046.8 m² or 0.40468 ha.)

Length

mm = Millimetre(s)
cm = Centimetre(s)
m = Metre(s)
km = Kilometre(s) (1,000 m)

Currency

US\$ = United State Dollars
US\$1.0 = INR 61.5 = Yen 117
(as of December 2014)
Yen = Japanese Yen
INR = Indian Rupee

Volume

cm³ = Cubic-centimetre(s)
m³ = Cubic-metre(s)
L = Litre(s) (1,000 cm³)
MCM = Million Cubic Metre (s)

Weight

g = Gram(s)
kg = Kilogram(s) (1,000 gr.)
tonne = Metric Tonne(s) (1,000 kg)
t = Metric Tonne(s) (in Table)

Time

sec = Second(s)
min = Minute(s) (60 sec.)
hr = Hour(s) (60 min.)

Indian Numbering

Lakh(s) = Hundred Thousand (100,000)
Crore(s) = Ten Million (10,000,000) or
100 lakhs

Chapter 1 Introduction

1.1 General

This is final Report prepared in accordance with the record of discussions on the Study on Development and Management of Land and Water Resources for Sustainable Agriculture in Mizoram in the Republic of India (hereinafter called the “Study”), between the Japan International Cooperation Agency (JICA) and the Minor Irrigation Department (MID), State Government of Mizoram (GOM), Republic of India.

1.2 Background and Objectives of the Study

In Mizoram, 60% of the population is engaged in agriculture even though the cultivable land is extremely limited as 70% of the land is located in the hilly area with more than 35° slope. As in many hilly areas in the region, a large portion of the farming population has traditionally been engaged in *jhum* cultivation. However, the rapid increase in the population has led to the shortening of the cultivation cycle, which in turn prevents the fallow land to regain its productivity. The practice also contributes to the deforestation of the area.

While the topography of the state and poor transportation infrastructure prevent the development of other economic sectors, agriculture faces problems as well, due to competition against cheaper food items from other states. Mizoram produces only 30% of its food consumption. The State of Mizoram thus places importance on the improvement of food self-sufficiency through agricultural development.

Rice is widely consumed as a staple food in Mizoram. It is the key to improving food security of the state. Currently, 70% of the state’s rice is produced through *jhum*. The state government is fully aware that this practice should gradually shift to settled agriculture through proper land development and introduction of irrigation systems for the improvement of the state’s agricultural productivity.

Given this background, the state government initiated a multipurpose development project named as the New Land Use Policy Project (NLUP, 2009-2013) in order to improve household income by reducing *jhum* cultivation for the protection of the forests and promotion of alternative livelihoods. Although it is expected that NLUP is implemented with the cooperation of various departments of the state government, in reality, each department operates independently of its counterpart in the central government. Thus, this project is carried out without a holistic analysis of the current status of agriculture in the state, and overall strategy for the growth of the sector.

Mizoram’s annual 2,600 mm rainfall is much higher than in other states of the country. Efficient utilization of water resources thus should lead to agricultural productivity. However, as discussed above, because of the hilly geographical conditions of the state, irrigation rate is recorded as low as 10%, which is the lowest in the country. In addition, the existing irrigation schemes are not in full-scale use without proper agricultural production and marketing plan of the beneficiaries and poor maintenance of the facilities. Due to inadequacy in planning, the state does not have a long-term agricultural development master plan and its detailed project report (DPR) for irrigation only includes technical matters, without a proper plan for farming program and economic benefits, which should cover market access or channelling.

As requested by the central government, JICA has conducted a detailed survey for the formulation of further agricultural projects in Mizoram, from February to March 2013. The major findings of the Study are as follows:

- i) In the process of DPR preparation, the design does not necessarily give due consideration to the climate and topography of Mizoram, which is characterized by heavy rainfall that often destroys the infrastructure or causes water stagnation, in turn preventing the efficient utilization of water. Hence, such a design is not suited for minor irrigation in hilly areas, common in Mizoram.
- ii) In order to improve the capacity to formulate proper DPR, a holistic approach is required. The report should include clauses for technical upgrade, detailed plans for improving

farming programs with cooperation of concerned departments, cost and benefit estimates, and plans for maintaining the structures by the beneficiaries. The current DPR does not discuss the management and maintenance of the project structures, also the coordination among various departments for agricultural programs.

Based on these findings, the Minor Irrigation Department, Agriculture Department, Horticulture Department, and Soil and Water Conservation Department, have come to understand that there is a need for a concerted cooperation among them in order to improve productivity and promote the development of DPR.

The objectives of the Study are as follows: (a) to rely its basis on the overall analysis of the current status and development potential of the land and water resources and socioeconomic situations of agriculture in Mizoram; (b) to formulate a master plan for the sustainable improvement of the livelihood of farmers that is suitable for the diversity of the state; and (c) to create and assess the validity of the DPR formulation model for the participatory minor irrigation project and model DPR, through lateral participation of various agricultural departments and farmers. These objectives and their expected outcome are summarized below:

1.3 Study Area

The Study covers all districts of the State of Mizoram, which has an area of 21,087 km².

1.4 The JICA Study Team and its Counterpart

The JICA Study Team is composed of 12 experts having different expertise in the field of agricultural development. Nine departments in GOM involved in the Study nominated their counterpart personnel, as well as, the nodal officers who will be the focal point of the respective departments and the JICA Study Team. The members of the JICA Study Team and the nominated counterpart personnel and nodal officers are shown in Table 1.4.1 and Table 1.4.2, respectively.

Table 1.4.1 Members of the JICA Study Team

Position	Name
Team Leader/Rural Development Planning 1	Shigeki Yamaoka
Sub-Leader/Rural Development Planning 2	Yutaka Murai
Irrigation/Water Resource Development Planning/Hydrology	Shingo Ueno
Agriculture/Paddy Production	Takuya Saisho
Horticulture/ Farmland Conservation	Katsuyuki Yamamoto
Facility Planning/Cost Estimates/Civil Work Planning	Tatsuhiko Hiraiwa
Land Utilization Planning/ Database/GIS	AW. Al-Hanbali
Agro Economy/Marketing/Post-Harvest Processing	Akeshi Mori
Rural Society/Rural Organizations/Rural Finance/Economic Analysis	Junko Saikawa
Training/Coordination/Land Utilization Planning/GIS	Takahisa Amano
Environmental Social Consideration	C.Rouviere
Inland Fishery	K. Allapichay

Source: JICA Study Team

Table 1.4.2 List of Nodal Officers and Counterpart Personnel

Department	Nodal Officer		Counterpart Personnel	
	Name	Position	Name	Position
Minor Irrigation Department	Er. Laldingliana	S.E. (W&D)	Er. K. Hamlet Er. Lalremruata Ngurte	E.E. (Work) Junior Engineer
Agriculture Department (CH)	Mr. C.Lalthlamuana	Deputy Director, Soil Survey	Mr. P. Vanlalngheta	SMS Agro
Horticulture Department	Mr. Lalliankima	Joint Director	Mr. Vanlaruata Chenkual	Deputy Director
Soil and Water Conservation Department	Mr. Hualthanga Chhakckhuak	Joint Director	Mr. Vanlalmuanpuia	Assistant Soil Conservation Engineer
Fisheries Department	Mr. S. P. Singh	DFDO, Aizawl	Mr. Lalmalsawma	FEO

Animal Husbandry and Veterinary Department	Dr. Lalremliana	Deputy Director	Dr. P. C. Lalsangzuala	Vety Officer
Environment and Forest Department	Mr. V. Lalfala, IFS	DFO, Aizawl	-	-
Rural Development Department	Mr. Robert C. Lalmangaiha	Deputy Director (Gen)	Ms. Lalmangaihzuoli	Junior Project Office
Sericulture Department	Mr. Lalrinmawia	Joint Director	Ms. P. Lalmuansangi	Sericulture Promotion Officer
Ministry of Water Resources, Government of India	Mr. Maddali Ram Jogesh	Deputy Secretary (EA)	-	-

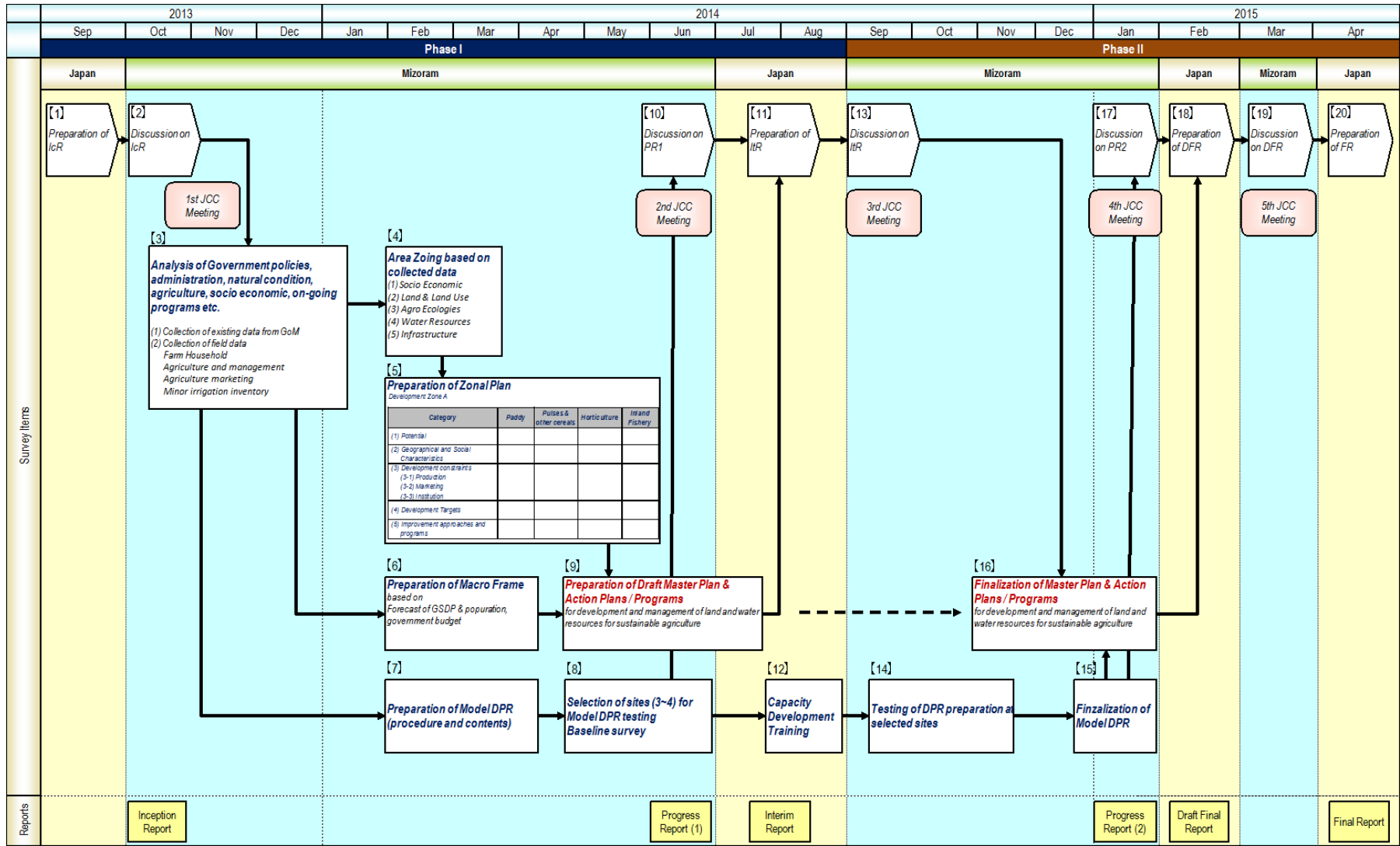
Source: JICA Study Team

1.5 Work Procedure and Outline

The Study is carried out for 20 months from September 2013 to April 2015. The Study was divided into two phases, namely: Phase-1 from September 2013 to August 2014 and Phase-2 from September 2014 to April 2015. The objectives of Phase-1 are mainly the preparation of the master plan for development, and the management of land and water resources for sustainable agriculture while Phase-2 targets the improvement of DPR procedure and content. The workflow is shown in Figure 1.5.1.

Source: JICA Study Team

Figure 1.5.1 Workflow



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1.6 Technology Transfer

The technology transfer from the JICA Study Team members to counterpart personnel was carried out according to the technology transfer plan discussed and agreed upon in the inception meeting as shown in Table 1.6.1.

Table 1.6.1 Technology Transfer Plan

Categories		Content	Method	Target
Formulation of a master plan		Data organization and analysis with GIS Water resource/hydrological analysis Development potential evaluation and developmental zoning Macro frame formulation (development goal, strategy, and scenario) Environmental social consideration	Discussion and sharing of knowledge through day-to-day communication	MID and other relevant agencies
DPR formulation process improvement model	Outside Mizoram	Participatory planning Participatory irrigation management and maintenance Water users association and management	Field visits and lectures in Japan or other country	MID and other relevant agencies
	Within Mizoram	Agricultural planning Water demand estimation, water budget analysis, and irrigation planning Construction plan, design, and budget Maintenance planning Cost-benefit analysis and economic evaluation Environmental and social consideration	Discussion and sharing of knowledge through day-to-day communication	MID and other relevant agencies

Source: JICA Study Team

1.7 Joint Coordination Committee (JCC)

The joint coordination committee (JCC) was established to provide coordination among different departments and to give the necessary words of guidance to the JICA Study Team for the smooth and effective implementation of the Study. The JCC was chaired by Ms. L. Toehhong, Chief Secretary, and each related department head was nominated as a member of JCC as shown in Table 1.7.1. Five JCC meetings were scheduled during the study period in the months of October 2013, June and September 2014, and January and March 2015.

Table 1.7.1 Members of the Joint Coordination Committee

Title	Name	Position	Organization
Chairman	Ms. L. Toehhong (1 st – 3 rd meeting)	Chief Secretary	GOM
	Mr. Lal Malsawma (4 th – 5 th meeting)		
Vice Chairman	Mr. Lianchungnunga	Secretary to MID	GOM
Project Director	Mr. Lalthanliana	Chief Engineer	MID
Member	Mr. Ngunlal Chinzah	Principal Adviser	Planning and Programme Implementation Department
	Mrs. L. N. Toehhawng	Commissioner	Finance Department
	Dr. C. Laltharliana	Director (Crop Husbandry)	Agriculture Department
	Mr. H. Lalthanpuia	Director (Research and	Agriculture Department

	Education)	
Mr. R.Zotawna	Director	Horticulture Department
Er. Laldingliana	S. E.	Minor Irrigation Department
Dr. Jerome Rokima	Director	Soil and Water Conservation Department
Mr. M.A.Razi	Director	Fisheries Department
Dr. L.B. Sailo	Director	Animal Husbandry and Veterinary Department
Mr. S.S. Garbyal, IFS	Principal Chief Conservator of Forests	Environment and Forest Department
Mr. Lianhmingi Pachau	Director	Rural Development Department
Mr. D. Engzanang	Director	Sericulture Department
Mr. Maddali Ram Jogesh	Deputy Secretary	Ministry of Water Resources, Government of India
Ms. Yu SASAKI Mr. Akihiro KIMURA	Lead Administration Officer Representative	JICA

Source: JICA Study Team

Chapter 2 National Background

2.1 Overview of the National Economy

The Indian economy achieved a gross domestic product (GDP) growth rate of above 9% for three consecutive years i.e., 2005/06, 2006/07, and 2007/08. After the global financial crisis in 2008/09, it made a V-shaped recovery. However, the growth rates from 2011/12 to 2012/13 have slowed down due to several factors such as slowed consumption demand caused by strong inflation and powerful monetary response, slowed corporate and infrastructure investment, and a slowing global economy. There are prospects that GDP growth rate would moderately recover in 2013/14 due to monetary easing measures by the Reserve Bank of India (RBI), efforts of the Government of India (GOI) for economic reform, and moderate recovery of global economy.

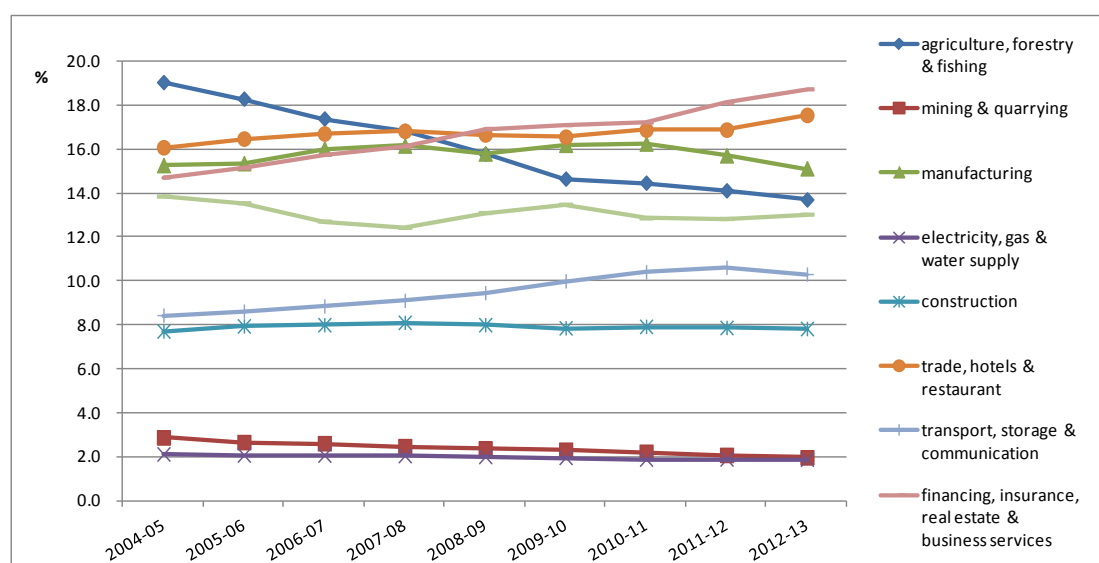
Table 2.1.1 Key Economic Indicators

Item	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
GDP (At current prices, INR billion)	32,422	36,934	42,947	49,871	56,301	64,778	77,953	89,749	100,206
Growth Rate (%)	n.a.	13.9	16.3	16.1	12.9	15.1	20.3	15.1	11.7
GDP (At cost 2004-05 prices, INR billion)	29,715	32,531	35,644	38,966	41,587	45,161	49,370	52,436	55,054
Growth Rate (%)	n.a.	9.5	9.6	9.3	6.7	8.6	9.3	6.2	5.0
WPI (average) (% change)	n.a.	4.5	6.6	4.7	8.1	3.8	9.6	8.9	7.4
CPI (average) (% change)	n.a.	n.a.	n.a.	6.2	9.1	12.4	10.4	8.4	10.0
Export Growth (USD) (% change)	n.a.	n.a.	n.a.	29.0	13.6	-3.5	40.5	21.3	-4.9
Import Growth (USD) (% change)	n.a.	n.a.	n.a.	35.5	20.7	-5.0	28.2	32.3	-0.0
Current Account Balance/GDP (%)	n.a.	n.a.	n.a.	-1.3	-2.3	-2.8	-2.8	-4.2	-4.6
Foreign Exchange Reserves (USD in billions)	n.a.	n.a.	n.a.	309.7	252.0	279.1	304.8	294.4	295.5

Note: Figures in the GDP for 2010-11, 2011-12, and 2012-13 are 2nd revised estimates, 1st revised estimates, and advanced estimates, respectively.

Source: Economic Survey 2012-13, Government of India, and Central Statistics Office.

Figure 2.1.1 shows the transition of GDP shares by industries. While the shares of agriculture, forestry, and fishery have been decreasing, the service industries (IT, communication, transportation, financing, real estates, etc.), on the contrary, have been in an upward trend. Employment in the agriculture sector still accounted for 51% (2010), while those in the services and industry sectors accounted for 27% and 22%, respectively. Delay in the development of infrastructure (electricity, logistical networks, and industrial estates), difficulties in labour management, and complicated tax system and administrative procedures are regarded as factors for the delay in industrialization.



Source: Prepared by the JICA Study Team based on the figures obtained from the Ministry of Statistics and Program Implementation.

Figure 2.1.1 GDP Shares (at Constant 2004-05 Prices) by Industries

2.2 Overview of Agriculture Sector in India

Shares of agriculture and allied activities to GDP at constant (2004-05) prices have been shrinking year by year and it accounted for only 14.1% in 2011-12. Moreover, the growth rates are lower than those of the total GDP at constant prices (see Figure 2.1.1). The role of agriculture in the country's economy is much bigger in terms of employment and food security.

Average annual growth during the 11th 5-Year Plan period (2007/08-2011/12) came up to 3.6%, which is short of its 4.0% growth target; however, it was much higher than those of the 9th and 10th Plan periods (2.5% and 2.4%, respectively) and could be thought reasonably stable despite large weather shocks.

Table 2.2.1 Growth in GDP in the Agriculture and Allied Sector

Item	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Growth rate of GDP (At factor cost 2004-05 prices, %)	9.5	9.6	9.3	6.7	8.6	9.3	6.2	5.0
Growth rate of agriculture, forestry, and fishery sectors (At factor cost 2004-05 prices, %)	5.1	4.2	5.8	0.1	0.8	7.9	3.6	1.8

Note: Figures in the GDP for 2010-11, 2011-12, and 2012-13 are 2nd revised estimates, 1st revised estimates, and advanced estimates, respectively.

Source: Economic Survey 2012-13, Government of India, and Central Statistics Office.

There was an observed significant progress towards increasing production, yield levels, and crop diversification during the last three decades. The 1980-90 period witnessed relatively higher growth in terms of production and yield in major crops compared to the 1990-2000 period except for coarse cereals. Yield levels significantly improved for cotton, pulses, and coarse cereals during 2000-12. (See Table 2.2.2)

Table 2.2.3 shows the levels of area, production, and yields of major crops for the last three years. Rice still occupied the largest portion of cultivated areas, followed by wheat and coarse cereals. Production of rice, wheat, and coarse cereals achieved 105 million t, 95 million t, and 42 million t, respectively in 2011/12.

Table 2.2.2 Compound Annual Growth Rates of Area, Production, and Yield of Major Crops

Crops	1980/81 to 1989/90 (%)			1990/91 to 1999/90 (%)			2000/01 to 2011/12 (%)		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Rice	0.41	3.62	3.19	0.68	2.02	1.34	0.00	1.78	1.78
Wheat	0.46	3.57	3.10	1.72	3.57	1.83	1.35	2.61	1.24
Coarse Cereals	-1.34	0.40	1.62	-2.12	-0.02	1.82	-0.81	3.01	3.85
Pulse	-0.09	1.52	1.61	-0.60	0.59	0.93	1.60	3.69	2.06
Oilseeds	1.51	5.20	2.43	0.86	1.63	1.15	2.12	3.36	1.22
Sugarcane	1.44	2.70	1.24	-0.07	2.73	1.05	1.38	2.07	0.68
Cotton	-1.25	2.80	4.10	2.71	2.29	-0.41	3.22	13.53	9.99

Source: Economic Survey 2012-13, Government of India.

Table 2.2.3 Area, Production and Yield of Major Crops

Crops	Area (Lakh hectares)			Production (Lakh tonnes)			Yield (kg/hectare)		
	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12	2009-10	2010-11	2011-12
Rice	419.2	428.6	440.1	890.9	959.8	1,053.1	2,125	2,239	2,393
Wheat	284.6	290.7	298.6	808.0	868.7	948.8	2,839	2,989	3,177
Coarse Cereals	276.8	283.4	264.2	335.5	434.0	420.4	1,212	1,531	1,591
Pulse	232.9	264.0	244.6	146.6	182.4	170.9	630	691	699
Oilseeds	259.6	272.2	263.1	248.8	324.8	298.0	958	1,193	1,133
Sugarcane	41.8	48.9	50.4	2,923.0	3,423.8	3,610.4	70,020	70,091	71,660
Cotton	101.3	112.4	121.8	240.2	330.0	352.0	403	499	491

Source: Annual Report 2012-2013, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

The GOI had strongly controlled imports and exports of agricultural products in the 1990s. Quantitative restrictions on their imports were alleviated in the 1990s and completely eliminated in April 2001. Tariff rates for imported products have been periodically adjusted in order to stabilize domestic prices of agricultural products. Quantitative restrictions on exports of agricultural products were also eliminated in the late 1990s. However, quotas have been imposed to meet the objectives of domestic price policies.

Table 2.2.4 and Table 2.2.5 show the top ten imports and exports of agricultural commodities. Imports of vegetable oils accounted for the largest proportion in terms of quantity and value. With regard to export products, rice and oil meals were large in quantities while cotton, rice, marine products, and guar gum meals were large in values.

Table 2.2.4 Top 10 Agricultural Imports

#	Item	2009-10		2010-11		2011-12	
		1,000 tonnes	INR crore	1,000 tonnes	INR crore	1,000 tonnes	INR crore
1	Vegetable Oils Fixed Edible	8,034	264.8	6,905	298.6	8,429	462.4
2	Pulses	3,510	98.1	2,591	69.8	3,308	87.7
3	Cashew Nuts	756	30.5	504	24.8	809	53.4
4	Fruits and Nuts	-	28.7	-	36.8	-	45.2
5	Sugar	2,551	59.7	1,198	27.9	997	31.4
6	Spices	153	14.3	108	13.6	124	21.0
7	Cotton Raw and Waste	171	12.4	56	6.0	78	10.6
8	Milk and Cream	8	0.8	37	4.9	63	10.4
9	Jute, Raw	63	1.5	75	2.7	181	4.5
10	Cereal Preparation	41	1.9	37	2.3	46	3.0

Source: State of Indian Agriculture 2012-2013, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

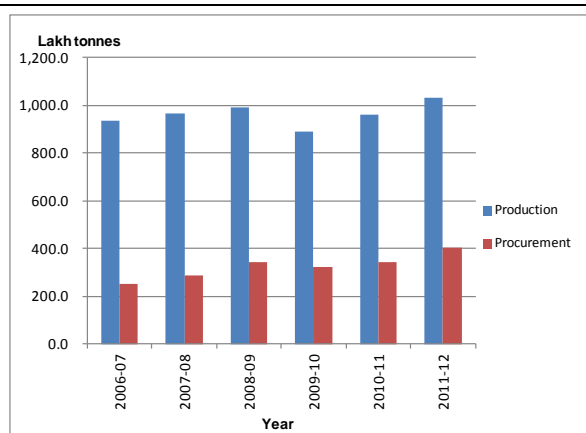
Table 2.2.5 Top 10 Agricultural Exports

#	Item	2009-10		2010-11		2011-12	
		1,000 tonnes	INR crore	1,000 tonnes	INR crore	1,000 tonnes	INR crore
1	Cotton Raw incl. Waste	1,358	95.4	1,258	129.8	2,013	216.2
2	Marine Products	710	100.0	801	115.5	1,032	165.9
3	Guar gum Meal	218	11.3	403	28.1	707	163.6
4	Rice Basmati	2,017	108.9	2,186	105.8	3,212	154.5
5	Meat and Preparations	-	62.9	-	87.8	-	141.1
6	Spices	663	61.6	749	78.7	931	131.8
7	Oil Meals	4,671	78.3	6,798	108.5	7,436	117.6
8	Sugar	45	1.1	3,241	103.4	2,747	87.8
9	Rice other than Basmati	140	3.7	96	2.2	4,099	86.7
10	Other Cereals	2,892	29.7	3,188	36.0	4,072	54.8

Source: State of Indian Agriculture 2012-2013, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

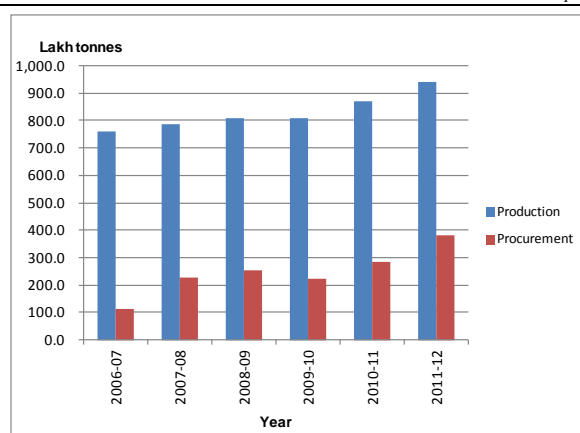
Major agricultural policies, which GOI has implemented, are on pricing and distribution policies, as well as, policies related to agricultural inputs. Under the public distribution system (PDS), the government procures agricultural crops such as rice and wheat at the minimum support prices (MSP), and store and distribute them to consumers through state governments at subsidized prices. Amounts of rice and wheat produced and procured by the government are shown in Figure 2.2.1 and Figure 2.2.2.

The government has subsidized chemical fertilizers, electricity, and irrigation water through several schemes aiming for an increased agricultural production. Policies related to agricultural finance and insurance, technology development and extension have also been implemented.



Source: State of Indian Agriculture 2012-2013, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

Figure 2.2.1 Production and Procurement of Rice



Source: State of Indian Agriculture 2012-2013, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India.

Figure 2.2.2 Production and Procurement of Wheat

2.3 Administrative and Financial Mechanisms between the Union and State Government

2.3.1 Distribution of Authorities and Administration

India is a federal republic having 28 states and seven union territories (UTs). Though it adopts relatively centralized system, the states have wide-range legislative powers. Distribution of legislative powers between the union and the states are stipulated in Schedule 7, Article 246 of the Indian Constitution as shown in Table 2.3.1.

Table 2.3.1 Distribution of Legislative Powers (Examples)

Union	Concurrent	State
<ul style="list-style-type: none"> • Defense, naval, military and air forces, arms, atomic energy, mineral resources • Central Bureau of Intelligence and Investigation • Foreign affairs • UN Organization • Treaties and agreements with foreign countries • War and peace • Foreign jurisdiction, extradition • Railways, highways, maritime shipping • Posts and telegraphs • Currency, coinage, legal tender, foreign exchange • Foreign loans • Reserve Bank of India • Trade and commerce with foreign countries • Incorporation and regulation • Bills of exchange, cheques, promissory notes • Insurance • Stock exchange and futures markets • Regulation and development of oilfields and mineral oil resources • Census • Union Public Service • Elections to Parliament, to the Legislatures of States and to the offices of President and Vice-President; the Election Commission • Constitution, organization, jurisdiction and powers of the Supreme Court 	<ul style="list-style-type: none"> • Criminal law • Code of criminal procedure • Marriage and divorce • Transfer of property other than agricultural land • Contracts • Bankruptcy and insolvency • Civil procedures • Economic and social planning • Trade unions • Social security and social insurance • Welfare of labour • Price control • Factories • Electricity 	<ul style="list-style-type: none"> • Public order • Police • High court • Local government • Public health and sanitation • Communication (road, bridges, ferries, etc.) • Agriculture • Water (water supplies, irrigation, canals, drainage, embankments, water storage, water power) • Land • Fisheries • Trade and commerce within the State • Elections to the Legislature of the State • Powers, privileges and immunities of the Legislative Assembly and its members

Source: Schedule 7, Article 246, Constitution of India.

Powers, authority, and responsibilities of local governments (municipalities and *panchayats*) were stipulated in the Constitution of India due to its 73rd and 74th Amendments in 1992. However, their practical responsibilities and relations to the state government differ depending on the states.

2.3.2 Financial System

Authorities regarding taxation and expenditure are also demarcated between the union and the state governments. At the central level, while the Ministry of Finance manages general financial issues, the Planning Commission is responsible for plan expenditure and the Finance Commission is responsible for non-plan expenditure.

(1) Taxation

Revenues of the state finance come from state's own taxes and non-taxes, and fund transfer from the central to the state. Distribution of powers on taxation between the union and the states are stipulated in Schedule 7, Article 246 of the Indian Constitution as shown in Table 2.3.2.

Table 2.3.2 Distribution of Powers on Taxation

Union	State
<ul style="list-style-type: none"> • Taxes on income other than agricultural income; • Duties of customs including export duties; • Duties of excise on tobacco and other goods manufactured or produced in India except alcoholic liquors, opium, India hemp, and other narcotic drugs and narcotics; • Corporation tax; • Taxes on the capital value of the assets excluding agricultural land of individuals and companies; and taxes on the capital of companies; • Estate duty in respect of property other than agricultural land; • Duties in respect of succession to property other than agricultural land; • Terminal taxes on goods or passengers, carried by railway; sea or air; taxes on railway fares and freights; • Taxes other than stamp duties on transactions in stock exchanges and future markets; • Rates of stamp duty; • Taxes on the sale or purchase of newspapers and on advertisements published therein; and • Taxes on the sale or purchase of goods except newspapers, where such sale or purchase takes place in the course of inter-state trade or commerce. 	<ul style="list-style-type: none"> • Land revenue; • Taxes on agricultural income; • Duties in respect of succession to agricultural land; • Estate duty in respect of agricultural land; • Taxes on lands and buildings; • Taxes on mineral rights; • Duties of excise on the goods manufactured or produced in the State: alcoholic liquors opium, Indian hemp, and other narcotic drugs and narcotics (excluding medicinal and toilet preparations); • Taxes on the entry of goods into local area; • Taxes on the consumption or sale of electricity; • Taxes on the sale or purchase of goods other than newspapers; • Taxes on advertisements other than advertisements published in the newspapers; • Taxes on goods and passengers carried by road or on inland waterways; • Taxes on vehicles; • Taxes on animals and boats; • Tolls; • Taxes on professions, trades, callings, and employments; • Capitation taxes; • Taxes on luxuries, including taxes on entertainment, amusement, betting, and gambling; and • Rates of stamp duty excluding those imposed by the Union government.

Source: Schedule 7, Article 246, the Constitution of India.

(2) Financial Transfer

Financial transfers from the central to the state governments are done through three types of procedures as shown in Table 2.3.3.

Table 2.3.3 Types of Financial Transfer

Share in central taxes and grants by the Finance Commission (approximately 50% of fund transferred)	Share in income taxes and excise duties as well as grants for state non-plan expenditures. Criteria such as population and per capita income are considered in the distribution among the states.
Grants and loans by the Planning Commission (approximately 30% of fund)	Grants and loans for state plan expenditures and capital expenditures are provided under the name of Central Assistance (CA), namely: a) Normal Central Assistance (NCA); b) Additional Central Assistance (ACA) for implementation of externally aided projects

transferred)	(EAPs); and c) Special Central Assistance (SCA) for special projects/programmes for special category states. Their distributions are decided based on Gadgil-Mukherjee Formula (in consideration of the population, per capita income, efforts for tax collection, irrigation/power projects, etc.).
Grants and loans by the ministries of the Central Government (approximately 20% of fund transferred)	Grants and loans are provided with Central and Centrally Sponsored Schemes (CSS).

Source: Local Government in India 2007, Council of Local Authorities for International Relations

2.3.3 Budget Transactions of the Center and States

Revenue and capital expenditure of the center for the last six years are shown in Table 2.3.4. While non-developmental and developmental expenditures have been increased, total revenue increased as well. There is budget transfer from the center to states under items of “Grants to States and UTs under Developmental Expenditure” and “Statutory Grants to States”.

Revenue and capital expenditure of the states for the last six years are shown in Table 2.3.4. Same as the center, while non-developmental and developmental expenditures have been increased, total revenue also increased. Amount of grants from the center have accounted from 18% to 20% of the total revenue amount.

Table 2.3.4 Revenue and Capital Expenditure of the Center (INR crore)

		2007-08	2008-09	2009-10	2010-11	2011-12 (RE)	2012-13 (BE)
A.	Non-developmental Expenditure	369,942	457,717	562,609	620,199	661,050	784,502
1	Interest payment	169,179	192,204	213,093	234,022	275,618	319,759
2	Defense services	91,681	114,223	141,781	154,117	170,937	193,407
3	Border services	887	881	1,185	2,421	2,173	2,492
4	Organs of State	2,166	2,964	4,193	3,588	4,317	4,575
5	Fiscal services	4,478	7,680	11,243	16,993	10,689	51,764
6	Administrative services	22,185	31,124	38,754	41,469	49,111	54,001
7	Pension and other retirement benefits	24,261	32,941	56,149	57,405	56,190	63,183
8	Technical and economic cooperation	1,601	1,739	1,980	2,570	2,429	3,460
9	Subsidy to FCI	31,328	43,751	58,443	63,844	72,823	75,000
10	Grants to UTs (NP)	611	895	814	496	563	514
11	Social security and welfare	11,011	16,672	16,790	18,588	1,647	1,539
12	Others	10,555	12,643	18,185	24,687	14,553	14,806
B.	Developmental Expenditure	304,293	383,108	413,852	525,019	586,268	664,600
1	Social and community services	67,757	90,386	105,314	128,906	132,741	162,520
2	General economic services	46,798	7,583	5,734	28,967	42,231	66,197
3	Agriculture and allied services	44,157	65,828	62,330	78,869	72,818	82,221
4	Industry and minerals	9,534	17,995	28,643	56,125	85,855	65,070
5	Fertilizer subsidy	32,490	76,602	61,264	62,301	67,978	60,974
6	Power, irrigation, and flood control	6,711	9,034	10,586	9,993	12,018	13,925
7	Transport and communication	37,898	42,542	60,443	76,035	72,592	91,080
8	Public works	1,421	1,752	2,083	3,855	2,645	3,342
9	Grants to states and UTs	57,527	71,385	77,452	80,868	97,390	119,271
C.	Self-balancing Item	-	-	-	-	-	-
D.	Statutory Grants to States	26,365	27,259	29,697	31,514	47,572	58,357
E.	Loan and Advances	1,386	6,748	7,034	11,166	6,355	8,429
	TOTAL EXPENDITURE	701,985	874,831	1,013,193	1,187,898	1,301,245	1,515,889
A.	Tax Revenue	439,547	443,319	456,536	569,869	642,251	771,071
B.	Non-tax Revenue	101,543	93,735	109,939	213,941	120,210	159,104
C.	Self-balancing Item	-	-	-	-	-	-
	TOTAL REVENUE	541,090	537,054	566,475	783,810	762,462	930,175

Note: RE=Revised Estimates, BE=Budget Estimates.

Source: Indian Public Finance Statistics 2012-2013, Ministry of Economic Affairs, Ministry of Finance, Government of India.

Table 2.3.5 Revenue and Capital Expenditure of the States (INR crore)

		2007-08	2008-09	2009-10	2010-11	2011-12 (RE)	2012-13 (BE)
A.	Non-developmental Expenditure	260,026	292,121	362,897	414,035	487,132	561,165
1	Interest payment	94,919	97,637	115,637	127,619	142,637	159,153
2	Appropriation for reduction/avoidance of debt	6,165	6,253	4,155	3,874	3,341	5,554
3	Organs of state	5,026	6,480	9,180	10,574	14,552	14,418
4	Fiscal services	8,497	9,894	12,356	14,036	17,334	19,607
5	Administrative services	42,741	49,940	65,818	72,831	90,883	110,018
6	Relief on account of natural calamities (NP)	5,938	7,275	7,881	7,431	12,054	7,156
7	Pension and other retirement benefits	53,373	61,727	83,403	108,553	122,042	140,895
8	Compensation/assignment to local bodies	16,721	18,701	20,709	25,688	3,462	40,076
9	Food subsidy	1,380	2,543	3,678	3,783	4,270	4,629
10	Social security and welfare (NP)	13,699	17,871	23,263	23,314	27,258	33,277
11	Compensation to landholders	0	0	0	0	0	0
12	Others	11,567	13,801	17,818	16,333	18,399	26,382
B.	Developmental Expenditure	390,256	474,359	570,048	646,592	821,964	942,719
1	Social and community services	199,013	249,721	315,658	376,223	478,463	551,787
2	General economic services	6,338	6,639	5,749	4,932	6,249	5,933
3	Agriculture and allied services	48,346	62,567	74,666	81,777	104,876	123,150
4	Industry and minerals	7,425	7,066	8,430	10,037	13,457	14,667
5	Power, irrigation, and flood control	76,714	87,830	91,133	95,494	120,007	134,160
6	Transport and communication	39,987	46,870	56,951	59,538	72,219	81,994
7	Public works	7,787	8,040	10,741	11,558	14,903	17,171
C.	Loan and Advances by States and UTs	9,254	7,832	14,434	19,256	21,265	24,702
D.	Transfer to Funds	5,565	4,918	7,950	10,783	12,864	14,169
	TOTAL EXPENDITURE	665,101	779,239	956,329	1,090,665	1,343,224	1,542,754
A.	Tax Revenue	423,583	464,683	543,673	697,741	833,081	975,701
B.	Non-tax Revenue	54,267	55,441	64,678	63,481	68,382	77,107
C.	Grants from the Center	107,235	126,944	150,382	169,398	226,992	267,936
D.	Transfer from Funds	4,327	4,841	2,633	1,671	2,754	2,726
A.	TOTAL REVENUE	589,411	651,910	761,367	932,291	1,131,209	1,323,470

Note: RE=Revised Estimates, BE=Budget Estimates.

Source: Indian Public Finance Statistics 2012-2013, Ministry of Economic Affairs, Ministry of Finance, Government of India.

2.4 Development Plan of India

2.4.1 Indian Vision 2020

“Indian Vision 2020”, which India should accomplish by 2020, indicates the vision that has been prepared with the initiative of the Planning Commission and published in December 2002. This vision states that with population growth slowing to about 1.6% per annum, the growth rate of GDP of around 9% per annum would be sufficient to quadruple the per capita income and make India from a low income country to an upper middle income country (UMI) by 2020.

Average performances of UMI countries are referred as benchmark for India’s development challenges and achievable goals by 2020. Table 2.4.1 shows India’s current status on some key development parameters and their targets in 2020.

Table 2.4.1 Development Parameters

Development Parameters	Current as of 2002	Target for 2020
Poverty as % of population below poverty line	26.0	13.0
Income distribution (gini index 100 = equality)	37.8	48.5

Development Parameters	Current as of 2002	Target for 2020
Unemployment rate (% of labour force)	7.3	6.8
Male adult literacy rate (%)	68.0	96.0
Female adult literacy rate (%)	44.0	94.0
Net primary school enrolment ratio	77.2	99.9
Public expenditure on education as % GNP	3.2	4.9
Life expectancy at birth in years	64.0	69.0
Infant mortality rate per 1000 live births	71.0	22.5
Child malnutrition as % of children under 5 years based on weight for age	45.0	8.0
Public expenditure on health as % GNP	0.8	3.4
Commercial energy consumption per capita (kg of oil equiv.)	486.0	2,002.0
Electric power consumption per capita (kwh)	384.0	2,460.0
Telephones per 1,000 population	34.0	203.0
Personal computers per 1,000 population	3.3	52.3
Scientists and engineers in R&D per million population	149.0	590.0
Sectoral Composition of GDP in %		
- Agriculture	28.0	6.0
- Industry	26.0	34.0
- Services	46.0	60.0
International trade in goods as % of GDP	3.6	35.0
Foreign direct investment as % of gross capital formation	2.1	24.5
Gross FDI as % of GDP	0.1	3.5

Source: Report of the Committee on India Vision 2020, Planning Commission, Government of India, December 2002.

In order to strive to achieve these reference levels and surpass them, significant challenges were determined as follows:

- A targeted approach to bring millions of families above the poverty line;
- Generation of nearly ten million new employment opportunities per annum, especially for those in the lower income group;
- Eradication of illiteracy;
- A concerted effort to raise the primary and secondary enrolment rates and minimize dropouts;
- Improved public health to reduce infant mortality and child malnutrition;
- Massive investment in power generation, telecommunications, and other physical and social infrastructure;
- Accelerated acquisition of technological capabilities to increase productivity in agriculture, industry, and services; and
- Become more important player in the world economy in terms of trade and investments.

2.4.2 North Eastern Region Vision 2020

The Ministry of Development of North Eastern Region is responsible for the matters relating to planning, execution, and monitoring of development schemes and projects in the North Eastern Region consisting of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim. Its vision is to accelerate the pace of socioeconomic development of the region so that it may enjoy growth parity with the rest of the country.

The ministry together with the North Eastern Council (NEC) prepared the “North Eastern Region Vision 2020”, which was adopted at the NEC’s 56th Plenary Session in May 2008. The vision explains that the region has remained one of the most backward regions of the country. It is remote, its access for movement of goods and people is constrained, and its governance is poor. In the vision, the following components of the strategy were raised for bridging the gap between the region and the rest of the country in terms of productivities, capacities of people and institutions for making the region peaceful, strong, confident, and ready to engage with the global economy:

- Empowerment of the people by maximizing self-governance and participatory development through grassroots planning.

- Rural development focused on improving agricultural productivity and creation of non-farm avocations and employment.
- Development of comparative advantage agro-processing industries and sericulture, investment in manufacturing units, utilizing the large hydroelectric power generation potential and focus on developing services such as tourism.
- Augmentation of capacity of the people and institutions both in government and private sectors.
- Augmentation of infrastructure (rail, road, inland water and air transportation) to facilitate movement of the people and goods, communication networks, utilizing vast power generation potentials, which will open up markets for produce from the region, attract private investment, and create greater employment opportunities. Opening up the sea route through the Chittagong Port and the land routes through Myanmar, China, and Bangladesh for connectivity of the region with the Association of Southeast Asian Nations (ASEAN).
- Ensuring adequate flow of resources for public investments in infrastructure, a framework for private participation, and an enabling environment for the flow of investment to harness the physical resources of the region for the welfare of the people.

2.4.3 Twelfth Five-Year Plan (2012-2017)

The Twelfth Five-Year Plan with themes of faster, sustainable, and more inclusive growth was approved by GOI in October 2012. Highlights of the plan are as follows:

- Average GDP growth of 8.0%;
- Agriculture sector growth of 4.0%;
- Manufacturing sector growth of 10.0%;
- Reduce poverty ratio by 10.0%;
- Generate 50 million work opportunities;
- Health and education are main thrust areas. Increase outlays on these areas; and
- Enhance infrastructure investment to 9.0% of GDP.

Table 2.4.2 shows the allocation for public sector's resources by major sectors of the 11th Plan realization and 12th Plan projections. Total outlays from "center" and "center, states, and UTs" of the 12th Plan projections were increased from those of the 11th Plan realization by 14% and 9%, respectively. Regarding the total outlay from "center, states, and UTs" of the 12th Plan projections, the "social services" sector accounted for the largest portion, followed by the "energy" and "transport" sectors.

Table 2.4.2 Sectoral Allocation for Public Sector's Resources: 11th Plan (2007-12) Realization and 12th Plan (2012-17) Projections
(billion INR)

#	Heads of Development	Center									States and UTs			Center, States, and Uts		
		Budgetary Support			IEBR			Total Outlay			Budgetary Resources			Total Outlay		
		11th	12th	Increase %	11th	12th	Increase %	11th	12th	Increase %	11th	12 ^{th*}	Increase %	11th	12th	Increase %
1	Agriculture and Allied Activities	603.39	1,339.65	122.02	3.44	6.71	95.06	606.83	1,346.36	121.87	1,024.22	2,286.37	123.23	1,631.05	3,632.73	122.72
2	Rural Development	1,799.25	2,670.47	48.42	0.00	0.00	0.00	1,799.25	2,670.47	48.42	1,082.84	1,904.17	75.85	2,882.09	4,574.64	58.73
3	Special Area Programmes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	428.17	803.70	87.71	428.17	803.70	87.71
4	Irrigation and Flood Control	23.25	172.12	640.30	0.01	0.00	0.00	23.26	172.12	639.98	2,270.08	4,048.00	78.32	2,293.34	4,220.12	84.02
5	Energy	433.74	985.41	127.19	4,607.09	9,874.56	114.33	5,040.83	10,859.97	115.44	1,801.88	3,524.68	95.61	6,842.71	14,384.65	110.22
6	Industry and Minerals	504.52	1,203.72	138.59	970.58	1,717.18	76.92	1,475.10	2,920.90	98.01	381.43	852.12	123.40	1,856.53	3,773.02	103.23
7	Transport	2,276.37	4,917.13	116.01	1,822.32	3,277.69	79.86	4,098.69	8,194.82	99.94	2,033.16	3,846.90	89.21	6,131.85	12,041.72	96.38
8	Communications	53.08	296.99	459.51	532.08	512.85	-3.61	585.16	809.84	38.40	0.00	0.00	0.00	585.16	809.84	38.40
9	Science, Technology, and Environment	506.15	1,300.54	156.95	0.00	0.00	0.00	506.15	1,300.54	156.95	186.82	372.96	99.64	692.97	1,673.50	141.50
10	Economic Services	457.06	1,813.21	296.71	0.18	1.55	761.11	457.24	1,814.76	296.89	436.52	1,241.36	184.38	893.76	3,056.12	241.94
11	Social Services	4,924.08	11,904.16	141.75	636.72	838.45	31.68	5,560.80	12,742.61	129.15	6,414.96	13,905.82	116.77	11,975.76	26,648.43	122.52
12	General Services	97.95	505.00	415.57	0.02	0.00	-100.00	97.97	505.00	415.46	458.00	574.59	25.46	555.97	1,079.59	94.18
	Total	11,678.84	27,108.40	132.12	8572.44	16,228.99	89.32	20,251.28	43,337.39	114.00	16,518.08	33,360.68	101.96	36,769.36	76,698.07	108.59

Note: IEBR (Internal and Extra Budgetary Resources) = Resources of PSEs (Public Sector Enterprises) including borrowed resources. *Excludes IEBR of SPSEs and Local Bodies.

Source: Twelfth Five Year Plan (2012-2017) – Faster, More Inclusive and Sustainable Growth, Planning Commission (Government of India), 2013.

2.4.4 Agriculture Sector in Twelfth Five-Year Plan (2012-2017)

While the average of annual growth rate of GDP in the agriculture and allied sectors during the 11th Plan was 3.7%, the growth target during the 12th Plan is set at 4.0%. The 12th Plan is needed to face challenges such as a shrinking land base, dwindling water resources, adverse impact of climate change, shortage of farm labour, and volatility in the international markets. The following are regarded as key drivers of growth: i) viability of farm enterprise and returns to investment; ii) availability and dissemination of appropriate technologies; iii) plan expenditure on agriculture and infrastructure; and iv) governance and institutions enabling better delivery of services.

(1) Farm Viability

Farm viability is central to achieve rapid and inclusive agricultural growth. In order to ensure this, the 12th Plan focuses on the following issues shown in Table 2.4.3.

Table 2.4.3 Focused Issues in the 12th Five-Year Plan

Issue	Current Status	Focus
Centrality of smallholdings	Average size of an operational holding is 1.23 ha. Farmers having less than 2 ha: 83% of holdings and 41% of area. 12% of rural households are women-headed ones.	Reform the tenancy laws, modernize land records, and ensure at least homestead-cum-garden plots for all rural households. Capacity building encouraging group formation and collective efforts.
Expanding agricultural marketing and processing	Inadequate market information, lack of physical infrastructure, and price volatility.	Leverage private investment and policies enabling more efficient and competitive markets. Modernize market infrastructure and system (standard operating procedure, electric auction, open registration, etc.). Improve post-harvest infrastructure and system (logistics, storage, processing, etc.).
Credit and cooperatives	Credit demand during the 12 th Plan is projected to be INR 31,246 billion - INR 42,085 billion	Reform cooperative credit structures to cater credits to relatively smaller farmers.
Farm income variability	World price volatility and climate risk have been increased. Coordination between minimum support price (MSP) and tariff policy is very weak.	Modify a <i>National Agricultural Insurance System</i> , with private-sector involvement, continuation of weather-based insurance, introduction of community-based mutual and savings-linked insurances.

Source: Twelfth Five-Year Plan.

(2) Agricultural Research and Education

A number of new initiatives have been proposed, namely: i) research consortia platforms; ii) National Agricultural Education Project for Systemic Improvement in Higher Agricultural Education and Institution Development as an externally-funded project; iii) nurture entrepreneurship development with external funds; iv) enhance farmers-scientist contact; v) a one-year composite programme for developing professional skills for entrepreneurship; and vi) a youth-centric approach for attracting and retaining youth in agriculture.

It is planned to allow spending 1% of agricultural GDP on the National Agriculture Research System (NARS), which should address the following issues: i) strengthen organic carbon research, ii) develop model and technology interventions on rational use of inputs; iii) expert group on pulses; iv) develop heat resistant varieties of wheat; v) post-harvest and commercialization; and vi) protect intellectual property rights of public research system.

(3) Extension and Technology Management

It is proposed to give a coordinated thrust on seeds, farm mechanisation, and extension.

(a) Seeds and planting materials

Raise the ratio of quality seeds used for increasing productivity, linkages between the private seed industry and public research institutions, establish seed testing centers and certification centers, strengthen infrastructure (seed processing, storage, transportation and distribution), and improve local-seed system.

(b) Farm machinery

Farm mechanization penetration, participation of commercial agricultural machinery manufacturers, and identification of critical mechanization gaps and specific local requirements.

(c) Extension

Collaboration between public extension and private agencies, conduct a country-wide extension census, gender consideration, attention payments to fields other than cropping (livestock, fishery, fodder, machinery, etc.).

(4) Specific Plans and Objectives for Major Subsectors

Current status and focus of major subsectors are shown in Table 2.4.4.

Table 2.4.4 Current Status and Focuses of Subsectors

Subsectors	Current Status	Focus
Livestock	Livestock extension remains neglected. Shortage of facilities and infrastructure related to disease diagnosis. Livestock markets are underdeveloped.	Achieve an annual growth rate of 5%-6%. Breed improvement, enhance availability of feeds and fodder, and improve health services. National Dairy Plan (NDP) for an increased milk production, national control programmes for all major animal diseases. National Livestock Mission (NLM): feed and fodder production; development of small ruminants, poultry, piggery, other minor livestock species; livestock insurance and extension.
Fisheries	Contributed 17% of national agricultural export (2010-11). About 14.5 million people are engaged in fishing, aquaculture, and allied activities. Coastal resources are over-exploited.	Achieve 6% growth rate of the sector during 12 th Plan period. Implement monitoring, control and surveillance. Upgrade facilities/infrastructure for marine fishing fleet and marketing. Provide quality fish seed by setting up brood banks and adequate infrastructure for disease diagnosis and treatment.
Horticulture	Contributed 4.7% of annual growth rate during the 11 th Plan period. Post-harvest management, market development, and processing are weak.	Aim for 5% growth of horticulture production during 12 th Plan period. Integrate several existing schemes for holistic growth. Improve horticulture statistics and set up an extensive network of Horticulture Information System.
Foodgrains and oil seeds	Growth of foodgrains yields declined and again increased (3.2% in 1980, 1.6% in 1990, 3.3% during the 11 th Plan).	Enhance production by the additional 25 million tonnes of foodgrains (10 million t of rice, 10 million t of wheat, 3 million t of pulses, 2 million t of millet) or 2%-2.5% increase during the 12 th Plan period. Strategic-area development (inclusion of the northeastern region).

Source: Twelfth Five-year Plan.

(5) Natural Resources

Current status and focus of major subsectors related to natural resources are shown in Table 2.4.5.

Table 2.4.5 Current Status and Focus of Subsectors Related to Natural Resources

Subsector	Current Status	Focus
Water	Water resource potential of India is 1,869 billion m ³ mostly coming from rainwater. Around 30% of India falls in the extreme water scarce zone.	Investment in irrigation and flood control for the 12 th Plan is planned to be INR 4,000 billion. Budgetary support for water resources development for the same plan is INR 1,095 billion. Create and utilize irrigation facilities.
Watershed development	Emphasis has been shifted from soil and water conservation towards livelihood security and income generation.	Integrate schemes/programmes/activities of various departments by the National Rainfed Area Authority for dryland farming and technical back stopping for watershed development. Train the officials, take initiatives on social mobilization, and conduct studies for evaluation of the implementation.
Land and soil	Net sown has been decreased since 1990-91, which is 140.02 million ha.	Lay out clear policies to protect productive agricultural lands and provide specific guidance and institutions. Take necessary measures to rejuvenate deteriorated soils.
Fertilizer and pesticides	Fertilizer consumption has been increasing. India is the second largest consumer in the world, consuming about 26.5 million t of Nitrogen, Phosphorous, and Potassium (NPK) fertilizer. Fertilization efficiencies have become low due to over-emphasis on chemical fertilizers and imbalanced fertilizer use.	Prioritize fertilizer use efficiency and soil health. Enhance soil testing capacity and creation of widespread awareness for soil-test-based fertilizer use. Efforts for production and use of organic and biological inputs. Enhance availability of safe and efficacious pesticides and their judicious use.

Source: Twelfth Five-year Plan.

Chapter 3 Socioeconomic Conditions of Mizoram State and Development Plans

3.1 Overview of Mizoram State

Mizoram is located in the east end of Indian territory, lying between Latitude 21° 58' and 24° 35' North and Longitude 92° 15' & 93° 29' East, and sandwiched between Myanmar in the east with 404 km long border and south and Bangladesh in the west with 318 km long. Mizoram is a land-locked state having an area of 21,087 km² with 277 km long in north-south and 121 km in east-west. Mizoram is topographically characterized as the steep hill ranging from EL. 100 m to EL 2,210 m above mean sea level, and separated by rivers which flow either to the north or the south creating deep gorges between the hill ranges. Mizoram is classified as Tropical Hill Zone and its climate is relatively mild with temperature varying between 20°C to 29°C in the summer and 11°C to 21°C in the winter. The entire area is under the direct influence of the monsoon, and It rains heavily from May to September with an average rainfall more than 2,000 mm in Aizawl, the capital of Mizoram State located in its northern area. Mizoram was incorporated in the Union Territory in 1972 as a part of Assam State, and acquired two legislative seats in Parliament, one each in the Lok Sabha and in the Rajya Sabha. Mizoram finally became the full fledged state as the 23rd independent State of the Union in February 1987.

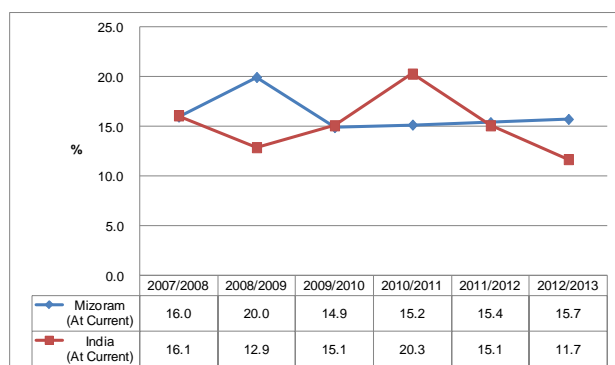
Agriculture is the mainstay of Mizoram. More than 70% of the total population is engaged in Agriculture, and most of them rely on the traditional Jhum (slash and burn) cultivation on steep slope lands. Despite topographically adverse environment for agriculture, Mizoram has an opportunity to avail of wide range of vertical climate variation with ample monsoon rain for area specific agriculture. In addition, Mizoram is characterised as the 3rd highest literacy rate in India as high as 96.1%. This may be attributed to the contribution of the Christian missionaries since the end of 19th century, almost all the Mizoram people having faith.

3.2 Socioeconomic Overview

3.2.1 Economic Conditions

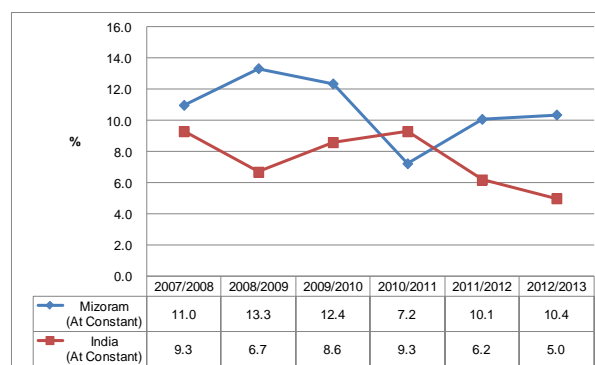
(1) Economic Growth

The growth state domestic product (GSDP) of Mizoram has been continuously increasing over the years. During the period from 2007/2008 to 2012/2013, GSDP at current prices and at constant (2004/2005) prices showed average annual growth rates of 16.2% and 10.7%, respectively. These rates are higher than those of India (15.2% and 7.5%, respectively). GSDP at current prices and at constant prices are expected to attain INR 8,091.9 crore and INR 5,536.9 crore (projected estimates), respectively, for 2012/2013.



Source: Economic Survey Mizoram 2012-13, Economic Survey India 2012-13.

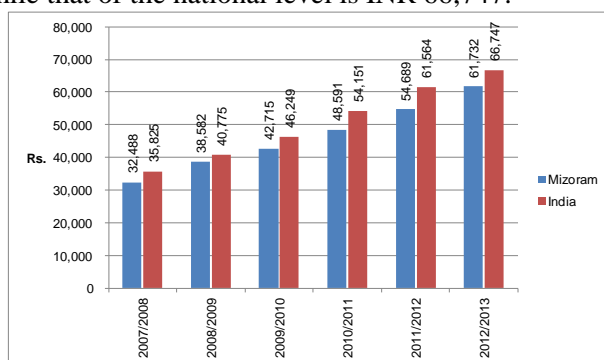
Figure 3.2.1 Growth Rates: GSDP at Current Prices



Source: Economic Survey Mizoram 2012-13, Economic Survey India 2012-13.

Figure 3.2.2 Growth Rates: GSDP at Constant (2004/2005) Prices

Per capita income of Mizoram is also continuously increasing over the years. It is projected at INR 61,732 for 2012/2013, while that of the national level is INR 66,747.

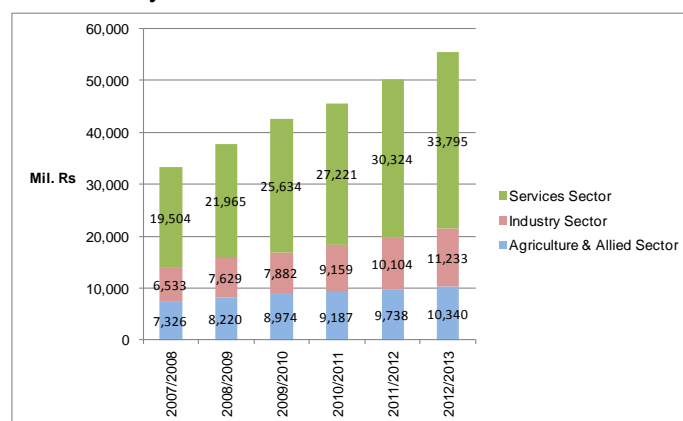


Source: Economic Survey Mizoram 2012-13, Economic Survey India 2012-13.

Figure 3.2.3 Per Capita Income at Current Prices

(2) Sectoral Performance of the Economy

Figure 3.2.4 shows the trend of real GSDP by the sectors of agriculture and allied (primary), industry (secondary), and services (tertiary). GSDP of the respective sectors has been increasing steadily. While around 60% of GSDP is derived from the services sector, around 20% each came from the agriculture and allied sector, and the industry sector. The share of the agriculture and allied sector has been slightly decreasing for the last six years, from 22% to 19%.



Source: Economic Survey Mizoram 2012-13.

Figure 3.2.4 Real GSDP by Sector

3.2.2 Population

Table 3.2.1 shows the population of Mizoram in 2011 by district, rural/urban, and sex based on the provisional results of Census 2011. Its growth rate from 2001 to 2011 was 22.78%. Although more than half (50.4%) of the population lived in rural areas, the share of the rural population has decreased to 48.5% in 2011. Among all districts, Aizawl District has the biggest population and highest population density.

Nearly all (94.4%) were categorized as Scheduled Tribes in 2011, while the Scheduled Caste population was very small (0.1%). According to Census 2001, the majority (87.0%) of the population was Christian, followed by Buddhists (7.9%), Hindus (3.6%), and Muslims (1.1%).

Table 3.2.1 Population of Mizoram (2011)

District	Rural			Urban			Total			Growth Rate (2001-2011)	Density per km ²
	Male	Female	Total	Male	Female	Total	Male	Female	Total		
Mamit	36,945	34,003	70,948	7,622	7,187	14,809	44,567	41,190	85,757	36.59%	28
Kolasib	18,735	17,623	36,358	23,721	22,975	46,696	42,456	40,598	83,054	25.92%	60
Aizawl	46,828	44,389	91,217	154,244	158,593	312,837	201,072	202,982	404,054	24.07%	113

District	Rural			Urban			Total			Growth Rate (2001-2011)	Density per km ²
	Male	Female	Total	Male	Female	Total	Male	Female	Total		
Champhai	39,190	37,963	77,153	24,109	24,108	48,217	63,299	62,071	125,370	16.31%	39
Serchhip	16,625	16,269	32,894	16,199	15,782	31,981	32,824	32,051	64,875	19.12%	46
Lunglei	47,550	45,061	92,611	31,702	29,781	61,483	79,252	74,842	154,094	12.29%	34
Lawngtlai	49,671	46,884	96,555	10,708	10,181	20,889	60,379	57,065	117,444	34.08%	46
Saiha	15,775	15,526	31,301	12,715	12,350	25,065	28,490	27,876	56,366	19.71%	40
Mizoram	271,319	257,718	529,037	281,020	280,957	561,977	552,339	538,675	1,091,014	22.78%	52

Source: Statistical Abstract of Mizoram: 2011, Census 2011.

As per Census 2011, the literacy rate of the state was 96.1%, which is the third highest in the country. This is attributed to the contribution of missionaries towards literacy¹. The literacy rates of males and females in the state in 2011 were 93.72% and 89.4%, respectively. This shows a slight increase in the male-female gap, i.e., 4.32% in 2011 and 3.97% in 2001. Among all the districts, Serchhip District recorded the highest literacy rate at 98.8% (male 99.2%, female 98.3%), while Lawngtlai District, where the Christian population was less than half unlike in other districts², recorded the lowest at 66.4% (male 99.2%, female 98.3%).

3.2.3 Poverty and Gender

(1) Poverty

The Planning Commission has periodically estimated poverty lines and poverty ratios. Large sample surveys on household consumer expenditure are being conducted by the National Sample Survey Office (NSSO) normally every five years. Though a survey was conducted in 2009-10 (NSS 66th Round), the NSSO repeated a large-scale survey in 2011-12 (NSS 68th Round) because 2009-10 was not a normal year because of severe drought.

According to the 2011-12 survey, the poverty ratio of Mizoram was 20.4%, which is lower than India's average of 21.92% and is ranked 23rd of the lowest. Mizoram's poverty ratio, India's average poverty ratio, and Mizoram's ranking were 21.1%, 29.8%, and 19th, respectively, in 2009-10, and 15.4%, 37.2%, and 9th, respectively, in 2004-05. These results revealed that the poverty situation in Mizoram has worsened.

The Planning Commission does not estimate poverty ratios by district. Table 3.2.2 shows district-wise poverty incidence in Mizoram, which was estimated by Dr. James L. T. Thanga of Mizoram University³ based on the NSS 66th Round. Three districts, namely, Aizawl, Lunglei, and Lawngtlai have shown higher rural poverty ratios than the national average of 33.8%. On the other hand, Serchhip has a higher urban poverty incidence than the national average of 20.9%.

Table 3.2.2 Estimated Poverty Incidences in Mizoram by District in 2009-10

District	Rural	Urban	Total
Mamit	30.44	17.44	23.94
Kolasib	3.19	17.89	10.54
Aizawl	39.21	9.79	24.50
Champhai	29.73	11.15	20.44
Serchhip	22.68	27.66	25.17
Lunglei	36.89	14.49	25.69

¹ In 1894 two missionaries of the Arthington Aborigines Mission came to Aizawl and worked on creating the Mizo alphabet. A missionary of the Calvinistic Methodist Mission took up education in 1989 and organized classes. Until the late 1952, the church managed elementary education through Honorary Inspector of Schools.

² The percentages of Christian populations in 2011 by district were 94% (Aizawl), 81% (Kolasib), 90% (Serchhip), 97% (Mamit), 97% (Champhai), 80% (Lunglei), 98% (Saiha), and 45% (Lawngtlai).

³ James L. T. Thanga, "Rural Poverty: A Socio-Economic Dimension in Mizoram", Research Paper Published in *Geographic*, Vol. 7 (June) 2012.

District	Rural	Urban	Total
Lawngtlai	41.62	-	41.62
Saiha	31.47	10.54	21.00
Total	33.56	12.77	24.11

Note: No sample has been drawn from urban areas of Lawngtlai.

Source: James L. T. Thanga, "Rural Poverty: A Socio-Economic Dimension in Mizoram"

(2) Gender

The condition of women in Mizoram is comparatively better than in other states of India, as proven by the relatively higher female literacy rate, lower maternal mortality rate, higher female work participation rate, etc.

Although Mizo society is indeed free as far as the mixing of men and women is concerned, Mizo women are discriminated against in various aspects of life and society. Many cases have been observed wherein women's earnings are controlled by their husbands. Women are excluded in various decision-making bodies in both social organizations and church life. Female participation in local administration and politics is limited. For instance, only 36 women were selected as village council members from 556 villages in the elections in February 2006. There is no woman Minister of State in the Legislative Assembly⁴.

Female work participation in Mizoram is much higher than India's average. However, there is a general agreement that Mizo women are also subject to labor market discrimination and are segregated to low-paying and low-level jobs. Female work participation rate (FWRP) in Mizoram has increased from 19.18% in 1971 to 22.98% in 2001, but decreased to 17.86% in 2011 in a similar way as male work participation rate (MWRP). Employment of women in the organized sector is small and far below than that of men. For instance, female state government employees were still one-third of male ones as of 2009. Women's works are concentrated in the informal sector, agriculture, manual and casual works since there exist few other available alternative employment opportunities for women. According to Table 3.2.3, more women are engaged in marginal works than men, whose actual numbers and shares to the total population had been increasing until 2001. Particularly, the number of women working in agriculture and related activities are quite high. The diversion of land from food crops to cultivation like floriculture and horticulture as well as the situation that an increasing number of men have been moving to urban areas in search of job opportunities have generated growing employments for female workers in agriculture and related fields.

Table 3.2.3 Male and Female Work Participation Rates

Year	Male	Female
1971	26.43%	19.18%
1981	27.37%	18.07%
1991	28.04%	20.87%
2001	29.60%	22.98%
2011	26.50%	17.86%

Source: Statistical Abstract of Mizoram: 2011, Census 2011.

3.2.4 Agriculture and Food Security

(1) Agriculture

Agriculture constitutes to be the mainstay of the people of Mizoram. Around 48% of families are engaged in agriculture. Rice, which is a staple food, occupies 67% of the total cultivated area, and 75% of the total food grain production in the state. Other crops, such as maize, tapioca, potato, oilseeds, pulses, sugarcane, and spices are cultivated. Two main agricultural systems are being practiced in the state, namely, shifting cultivation (referred locally as *jhum*), and wet rice cultivation/terrace rice cultivation (WRC/TRC). The major challenge that Mizoram continue to face is

⁴ Lalhriatpuii, *Economic Participation of Women in Mizoram*, Concept Publishing Company Ltd., 2010.

how to adapt its land use pattern and production system to increase population and to change people's lifestyle that is biologically and economically sustainable.

Livestock provide additional income and employment to farmers. Mizoram has a good production of pigs, goat, mithun, and poultry. The state also has a large scope and potential in other allied activities such as sericulture, and fisheries.

Considering such situation of agriculture in Mizoram, the Agriculture Department published "Vision 2020" in July 2011. In order to meet the projected demands of food grains, livestock, fish and horticultural products by 2020, target yields of major crops are set. Details are explained in Section 4.2.

(2) Food Security

Although Mizoram is an agrarian state, it still imports a large quantity of food products, fruits, vegetables, fish, and livestock required for the overall food supply of the people. Large quantities of such items are imported from other states particularly neighbouring states of Assam, Tripura, and Manipur.

Regarding rice, Mizoram requires an estimated amount of 180,000 MT of rice annually. However, the state could produce only 46,000 MT per year, which could meet only 20% of its rice requirement⁵. The remaining 80% of the rice requirement is imported from outside the state mainly through the public distribution system (PDS). The amounts of rice lifted by the Food, Civil Supplies and Consumer Affairs Department under PDS were 144,745 MT in 2010/11, 155,457 MT in 2011/12, and 157,841 MT in 2012/13⁶.

PDS is a major instrument of the government's economic policy for ensuring availability of food grains to the public at affordable prices, as well as for enhancing food security for the poor. Essential commodities, such as rice, wheat, sugar, and K. oil (Kerosene oil), are distributed through a network of fair price shops (FPSs). PDS is operated under the joint responsibility of the central and state governments. The central government (also referred to as the Government of India (GoI)) is responsible for procurement, storage, transportation, and bulk allocation of food grains. The Government of Mizoram (GoM) is responsible for identifying the target households, issuing ration cards, and supervising and monitoring the functions of FPSs.

Table 3.2.4 shows the targets and amounts distributed under PDS. Regarding the categories of the targets, APL stands for *above poverty line*, BPL stands for *below poverty line*, and AAY stands for *Antyodaya Anna Yojana*, which means the poorest of the poor. Since there are no clear criteria for selecting AAY, and the ceiling numbers of BPL and AAY households are fixed by GoI, GoM only deals with their allocations based on identification by the concerned village and local councils. GoI decides sales prices for BPL/AAY at FPSs, while that for APL is decided by GoM.

Table 3.2.4 Targets and Amounts Distributed under PDS (2013/14)

Targets		No. of Target Households	Ceiling Amount Distributed to Targets (month)	Price at Procurement from FCI	Sale Price at FPS	Allocation/Distribution (month)
Rice (Normal Operation)	APL	191,153	8 kg per adult	INR 830/quintal	INR 9.50/kg	2,841 MT
	BPL	41,900	35 kg per household	INR 565/quintal	INR 6.15/kg	1,470 MT
	AAY	26,100	35 kg per household	INR 300/quintal	INR 3.00/kg	910 MT
Rice (OMSS)	APL	191,153	8 kg per adult	INR 1987/quintal	INR 9.50/kg	8,000 MT
Sugar	APL/BPL/AAY	259,153	400 g per head	-	INR	666 MT

⁵ Approved Annual Plan Mizoram 2012-13.

⁶ Statistical Handbook, Mizoram 2012, and Food, Civil Supply and Consumer Affairs Department. These amounts include rice distributed under normal operation and OMSS as well as for midday meals and welfare institutes.

Targets		No. of Target Households	Ceiling Amount Distributed to Targets (month)	Price at Procurement from FCI	Sale Price at FPS	Allocation/Distribution (month)
					14.00/kg	
Wheat	APL/BPL/AAY	259,153	3 kg per household	-	INR 9.48/kg	624 MT
S.K.Oil	APL/BPL/AAY	259,153	3 L per household	-	INR 16.00/L	648 KL

Note: OMSS = Open Market Sales Scheme. 1 quintal =100 kg.
Source: Food, Civil Supplies and Consumer Affairs Department.

Presently, rice and wheat are procured from the Food Corporation of India (FCI) alone. S. K. oil is lifted from Indian Oil Corporation Ltd. (IOC). Sugar was previously supplied by FCI; however, it has been discontinued since June 2013. It would likely be supplied by GoM through a private company or individuals.

The coverage of PDS for APL is decided by the state governments. In case of Mizoram, GoM decided that all APL should be provided with a certain amount of rice under PDS. Currently, 2,184 MT of rice per month are allocated by GoI to ALP households in Mizoram, and therefore GoM could procure such rice from FCI at a subsidised price of INR 830/quintal. GoM procures additional 8,000 MT per month from FCI under the open market sales scheme (OMSS), but at a price of INR 1,987/quintal in order to cover the required amount for APL households, which increases the fiscal burden of the state.

3.2.5 Landholding System

All lands in Mizoram that are not classified as reserved forestland is owned by the state government. Reserved forests are regarded to belong to both the state government and the central government⁷.

(1) Allotment of Land for Agricultural Purposes

Classification of agricultural land was done as per the Mizo District (Land and Revenue) Act, 1963, and the Mizo District (Land and Revenue) Rules, 1963. As per Rule 13 of the Mizo District (Land and Revenue) Rules, 1971, people who have agricultural land passes/permits could convert the same to regular Land Settlement Certificates (LSCs), which have the status of “patta”.

In July 2013, the Mizoram (Land and Revenue) Rules, 2013 was enacted⁸. As per this rules, allotment of land for agricultural purposes is made either by periodic patta (p. patta) or by land lease for specific tenure and for specific purpose (e.g. commercial plantation, horticultural farming, and agricultural farming). While both shall pay for land revenue, major differences between them are as follows:

- P. patta holders may transfer or sublet during the validity period, but the same cannot be done by land leaseholders.
- If development damages the land, p. patta land should be compensated according to its accessed market value, but not in the case of land lease.
- P. patta validity is five years while land lease validity is from 15 to 99 years.
- P. patta is for agricultural land while land lease is for any purpose other than residential.

A p. patta’s validity is set at five years, and is renewable⁹. A p. patta can be converted to an Agricultural Land Settlement Certificate (ALSC) with consideration of situation of quality of land use, annual land revenue payment, and validity of p. patta. An ALSC holder shall pay for land revenue. While the p. patta holder needs to renew the validity, the ALSC holder has absolute ownership, i.e., has right to transfer ownership of the land in part or in whole. Both p. patta and ALSC include the

⁷ The Mizoram (Land and Revenue) Rules, 2013 is not applicable for the notified reserved forest.

⁸ This rules 2013 is not applicable in autonomous district councils.

⁹ When applying for a p. patta, a “no objection certificate” from VC is required. The maximum area that can be allotted for permanent plantation for person or juristic person is 60 bighas or 80,268 m² per family or juristic person domiciled in the State of Mizoram.

name and address of holder, survey no., plot no., registration no., grade, area (in m² or bigha¹⁰), revenue rate, annual revenue payable, and period of allotment.

If holders of p. patta or ALSA make fish ponds in their land, they should apply for diversion of use of the land holding.

(2) Community Land

State lands falling within the jurisdiction of a village and being controlled by the village council (VC) has been regarded as so-called community land. VCs have never been legally entrusted to allocate such community land to villagers except house-side plots. However, VCs have done allotment of community land as per the customary practice of *jhuming* and other farming activities by issuing VC passes¹¹.

Under the Mizoram (Land and Revenue) Rules, 2013, VCs have to apply for the Land Revenue and Settlement Department to demarcate the land reserved for VCs. The department shall make survey, fix boundaries pillars, and accordingly, declare that land as community land by issuing notifications.

3.3 State and Local Administration

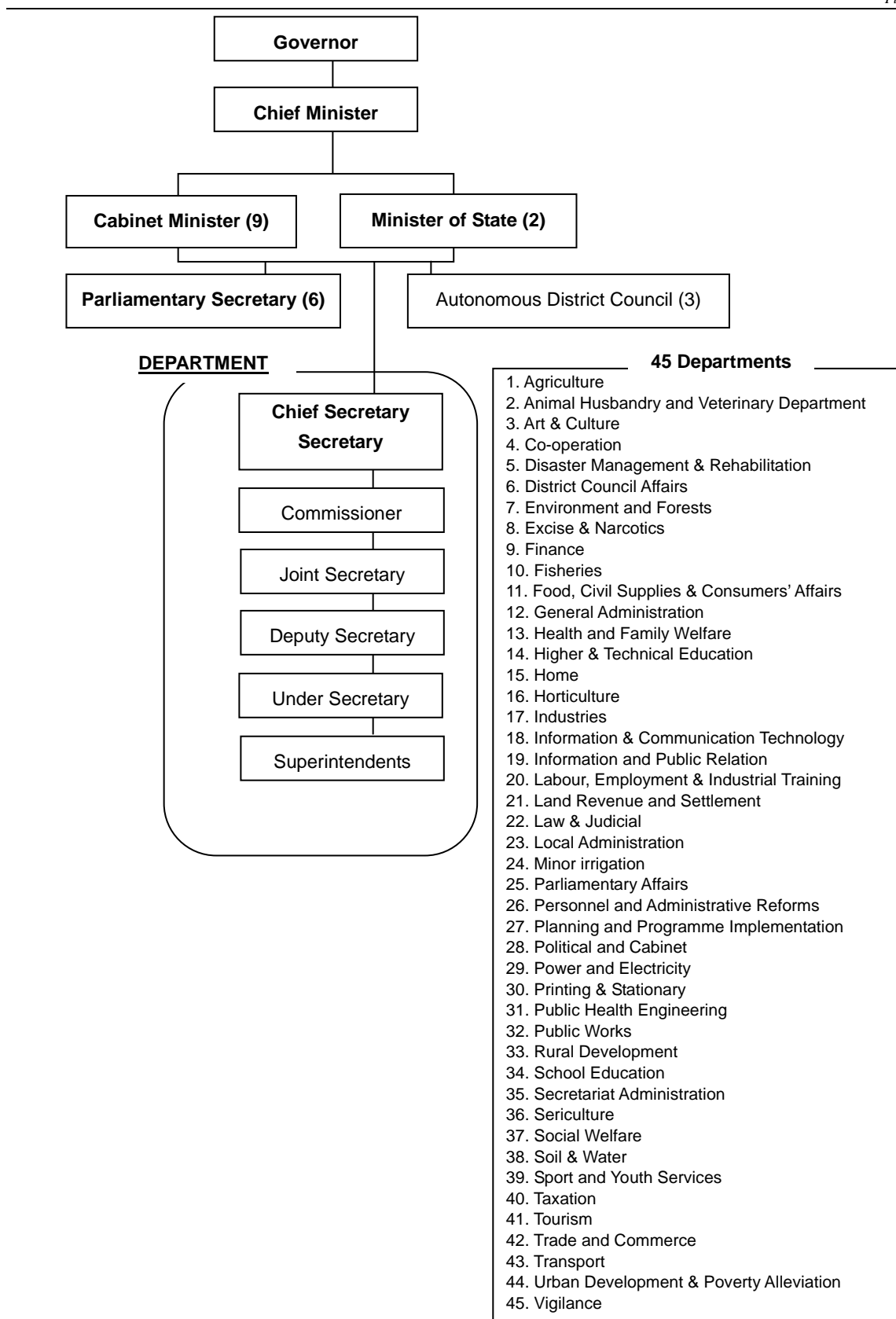
Mizoram is the 23rd state of India and is one of the “Seven Sisters” of Northeast India. It was one of the districts of Assam until 1972 when it became a union territory. After the signing of the memorandum of settlement between GoI and the Mizo National Front in 1986, Mizoram was granted statehood on 20 February 1987.

3.3.1 State Level Administration

A governor as appointed by the President of India heads the state government and the administration continue to run in the name of the governor. The chief minister (CM) is an advisor of the governor, and has real executive authority. Under the CM, there are cabinet ministers and ministers of state who have portfolios in departments. Parliamentary secretaries are also selected to assist the ministers. Each department is headed by a secretary with supports from functionaries down the line. Currently, there are 45 departments. Please refer to Figure 3.3.1 for the organizational structure.

¹⁰ 1 bigha is nearly equal to 1/3 acre.

¹¹ According to the results of rural household survey (total number of respondent households is 360) conducted by the JICA Study Team, VC passes are predominant as land holding status for all types of land use. The number of VC passes/number of lands held are 195/281 (69%) for shifting cultivation land, 199/219 (91%) for fallow land, 51/55 (93%) for irrigated upland, 4/9 (44%) for irrigated lowland, 80/90 (89%) for rainfed upland, 7/11 (64%) for rainfed lowland, and 217/325 (67%) for residential land.



Source : Government of Mizoram

Figure 3.3.1 State Administrative Structure

3.3.2 Local Administration and Government

The state is divided into eight administrative districts. Each district is headed by a deputy commissioner/district collector/district majesty that has the authority of district-level administration and judiciary, as well as the function of coordinating different government departments at the district level. Under him/her, there are sub-divisional officers/sub-collectors/sub-divisional majesties.

The district is also divided into a number of rural development blocks (RDBs). An RDB is under a block development officer.

Parallel to these administrative districts, there are three Autonomous District Councils (ADCs), viz. Mara, Lai, and Chakma, under the Sixth Schedule to the Constitution of India. The principles and sprits as envisaged by the Sixth Schedule are purely to enable tribal communities to run their own local government in the style of their own sociopolitical practices, customs, and traditions without interference and without imposition of the general administration. The ADC is composed of elected executive members, and is headed by the chief executive member. These ADCs are positioned under the CM, and the District Council Affairs Department deals with issues relating to the ADCs.

Some functions of the state government departments are entrusted to these ADCs¹².

Unlike other states of India which usually have a three-tier local government system, there are no councils for both administrative districts and sub-divisions of Mizoram. There are VCs for all villages and towns for both administrative districts and ADCs¹³.

Table 3.3.2 shows number of VCs and their members. VCs are the grassroots level democratic setups and administrative units consisting of the elected village members. They carry out all village and internal administration within the powers provided to them by the Village Council Act. They have functions such as acting as a village court, allotting land for house sites and annual *jhum*, enforcing social works for the common benefit of the community, and managing burial grounds. Their services are utilized in developmental works. VCs receive grants from the Finance Commission for the schemes. Schemes under rural development programmes are mostly implemented through VCs.

Table 3.3.1 District-Wise Administrative Setup

No.	Name of District	No. of Sub-Divisions	No. of RDBs
1.	Mamit	3	3
2.	Kolasib	3	2
3.	Aizawl	3	5
4.	Champhai	3	4
5.	Serchhip	3	2
6.	Lunglei	3	4
7.	Lawngtlai	3	4
8.	Saiha	2	2
	Total	23	26

Source: General Administration Department, Government of Mizoram, Administrative Atlas Mizoram, Census of India 2011.

Table 3.3.2 District-Wise No. of Village Councils and Members

The No.	District	No. of Village Councils		No. of VC Members	
		2010-11	2011-12	2010-11	2011-12
1.	Mamit	71	85	240	332
2.	Kolasib	45	45	179	219
3.	rAizawl	91	91	322	379
4.	Champhai	101	105	360	445
5.	Serchhip	42	44	152	192
6.	Lunglei	135	138	464	548
7.	Lai ADC	86	87	415	398
8.	Mara ADC	85	93	267	436
9.	Chakma ADC	69	69	390	390
	Total	725	757	2,789	3,339

Source: Statistical Handbook Mizoram 2012, Directorate of Economics & Statistics, Mizoram: Aizawl.

3.3.3 State Finance

Table 3.3.3 shows the overall fiscal position of Mizoram in the last five years. The fiscal health of the state has gradually been improving, owing to both improvement of tax awareness and better grants-in-aid from the central government. Grants-in-aid from the central government have accounted

¹² Functions entrusted to these ADCs are stipulated in Government Notification (The Mizoram Gazette, Vol-XL Aizawl, Thursday 1.9.2011 Bhadrapada 10, S.E. 1993, Issue No.388).

¹³ There is only a municipal council for Aizawl in Mizoram. Under the Aizawl Municipal Council, there are 19 local (ward) councils.

for around 75% of the total revenue received, while tax revenue has accounted for around 20% only. Tax-GSDP ratio of Mizoram has remained at a far lower level than the average of all states¹⁴.

Table 3.3.3 Overall Fiscal Position of Mizoram (INR crores)

		2008-09	2009-10	2010-11	2011-12	2012-13*
I	Opening Balance	-76.59	-85.10	-130.87	533.05	1,094.12
II	Revenue Account					
1	Receipt	2,653.13	2,963.50	3,374.71	4,011.81	5,259.69
1)	Tax Revenue	478.01	502.11	720.86	1,006.45	994.72
2)	Non-Tax Revenue	158.67	126.50	146.71	168.04	206.75
3)	Grants-in-aid from GOI and Contribution	2,016.45	2,334.89	2,507.15	2,837.33	4,058.22
2	Expenditure	2,313.80	2,702.70	3,255.03	3,723.86	4,673.03
1)	General Services	803.75	947.76	1,010.82	1,220.05	1,410.68
2)	Social Services	898.18	1,105.68	1,237.35	1,345.92	1,717.61
3)	Economic Services	611.86	649.35	1,007.68	1,157.89	1,555.75
3	Surplus or Deficit	339.33	260.80	119.68	287.96	586.65
III	Capital Account					
1	Receipt	130.63	251.21	539.50	493.55	426.89
1)	Internal Debt of State Govt.	99.58	193.72	510.28	443.47	390.70
2)	Loans and Advances from GOI	6.19	32.17	3.25	22.28	9.44
3)	Loans and Advances (Recoveries)	24.86	25.32	25.97	27.80	26.55
2	Expenditure	554.74	963.07	902.41	814.60	1,432.82
3	Surplus or Deficit	-424.11	-711.87	-362.92	-321.05	-1,005.93
IV	Public Account (Net)	76.27	405.30	907.15	594.17	178.84
V	Overall Surplus or Deficit	-8.51	-45.76	663.91	561.07	-240.43
VI	Closing Balance	-85.10	-130.87	533.05	1,094.12	853.69

Note: Figures of 2012-13 are revised estimates. Regarding revenue account, the totals of 1) General Services, 2) Social Services; and 3) Economic Services are not matched to the figures of expenditure in 2010-11 and 2012 since there are deductions of stock recoveries for those years.

Source: Figures of 2008-09 and 2009-10 are from Statistical Abstract of Mizoram: 2011, and those of 2010-11, 2011-12 and 2012-13 are from Annual Financial Statements, website of Finance Department, Government of Mizoram.

The state's own tax revenue has shown improvement in the last few years (see Table 3.3.3). Taxes on sales and trade, taxes on vehicles, and state excises have been the prominent contributors to the state's own tax revenue. However, the overall contribution of the state's own tax revenue is still limited compared with resources devolved from central taxes and duties.

Table 3.3.4 Taxes by Type (INR crores)

		2008-09	2009-10	2010-11	2011-12	2012-13*
A.	STATE TAXES	94.6	107.6	130.1	178.7	202.1
1	Taxes on Income and Expenditure	5.9	7.9	8.4	11.9	11.5
2	Land Revenue	1.6	2.8	4.3	2.5	1.4
3	Stamps and Registration	0.5	0.4	0.3	0.7	0.6
4	State Excise	1.9	2.1	2.4	2.3	2.6
5	Sales Tax	77.5	85.9	104.7	142.2	158.2
6	Tax on Vehicle	5.5	6.7	7.7	16.7	23.2
7	Taxes on Goods and Passengers	1.4	1.4	1.7	2.1	4.1
8	Other Taxes on Commodities and Services	0.3	0.4	0.5	0.4	0.6
B.	CENTRAL TAXES AND DUTIES (Devolution)	383.4	394.5	590.8	827.8	792.6
1	Corporation Tax	125.7	162.4	230.9	318.7	286.6
2	Taxes on Income (other than corporation tax)	78.9	90.5	122.0	172.1	169.8

¹⁴ According to the working group on State's Financial Resources' Report, the average tax-GSDP ratio of Mizoram during the 11th Plan period was 1.5, whereas the average of all states was 8.0. It also projected that average tax-GSDP ratio of Mizoram for the period of 2012-17 would be 2.2 against the average of all states, which is 7.4.

		2008-09	2009-10	2010-11	2011-12	2012-13*
3	Taxes on Wealth	0.1	0.4	0.5	1.1	0.7
4	Customs	73.3	55.2	103.3	147.1	132.9
5	Union Excise Duties	64.0	44.5	75.2	93.8	90.1
6	Service Tax	11.4	41.6	58.9	95.0	112.5
	TOTAL TAX REVENUE	478.0	502.1	720.9	1,006.5	994.7

Note: Figures of 2012-13 are Revised Estimates.

Source: Figures of 2008-09 and 2009-10 are from Statistical Abstract of Mizoram: 2011, and those of 2010-11, 2011-12, and 2012-13 are from Annual Financial Statements, website of Finance Department, Government of Mizoram.

3.4 Development Plan for Mizoram

3.4.1 Twelfth Five-Year Plan of Mizoram

(1) Vision and Strategy

The broad vision and strategy of the Twelfth Five-Year Plan (2012/13-2017/18) is to achieve growth with equity based on enhanced livelihood options through agricultural and rural development, better resource management, and development of human resources including relevant skills upgrading. The components of the development strategy are as follows:

- i) **Empowerment of people** by maximizing self-governance and participatory development through grassroots planning;
- ii) **Creation of development opportunities** for majority of the people living in villages through rural development initiatives;
- iii) **Development of sectors with comparative advantages** so as to utilize the resources of the region productively for the benefits and welfare of the people;
- iv) Strengthening infrastructure and connectivity; and
- v) Capacity development of people and institutions to enable them to participate productively in economic activities.

(2) Priority Sectors

Considering the resources and needs of the people, six priority sectors were identified, as follows:

- i) Agriculture and Allied, and Irrigation: Strong emphasis on horticulture, including post-harvest management and processing, as well as on creating better irrigation facilities and more water sources.
- ii) Infrastructure: Develop basic infrastructure particularly in the road and power sectors.
- iii) Healthcare: Improve health delivery system and bridge infrastructural gap.
- iv) Education: Human resources development through diversified institutions of higher, technical, and professional education.
- v) Micro-industries and Sericulture: Promote bamboo-based and agro-based industries. Increase production of raw silk by promoting post-harvest management and processing.
- vi) Rural Development: Poverty alleviation and employment generation in rural areas through rural development programmes.

(3) Proposed Outlay

Table 3.4.1 shows sector-wise proposed outlay for the Twelfth Five-Year Plan. Against the initially proposed outlay of INR 15,326.8 crore, a total amount of INR 12,160 crore was approved by the Planning Commission of India. However, its sector-wise allocations have not yet been finalized. As compared with the actual allocation for the previous 11th Plan, this approved amount for the 12th Plan is larger by INR 5,860 crore, or by 93%.

Regarding procedures for plan budgets, respective state departments start preparing proposals in December or January of the previous fiscal year. The Planning and Programme Implementation Department compiles these proposals as an annual plan, and submits it to the Planning Commission. It usually takes two to three months for the Planning Commission to review it, and make necessary modifications. Then, the Planning Commission usually approves the annual plan in May or June, by

when any disbursement could not be done. The outlays for the annual plans for 2012/13 and for 2013/14 had been approved; however, the latter has not been published yet.

Table 3.4.1 Sector-Wise Proposed Outlay for the Twelfth Five-Year Plan

Sector		Actual Allocation for the 11th Plan		Initially Proposed Outlay for the 12th Plan		Revised Proposed Outlay for the 12th Plan*		Approved Outlay for the 2012/13 Annual Plan	
		INR crore	%	INR crore	%	INR crore	%	INR crore	%
I	Agriculture and Allied Activities	954.0	15.1	1,823.6	11.9	1,447.0	11.9	504.9	22.0
II	Rural Development	229.8	3.6	610.3	4.0	483.0	4.0	49.3	2.1
III	Special Area Programme	325.0	5.2	488.4	3.2	387.9	3.2	94.2	4.1
IV	Irrigation and Flood Control	261.8	4.2	750.1	4.9	594.6	4.9	115.4	5.0
V	Energy	382.7	6.1	1,066.7	7.0	846.3	7.0	97.1	4.2
VI	Industry and Minerals	130.7	2.1	230.0	1.5	183.6	1.5	93.9	4.1
VII	Transport	536.3	8.5	2,119.8	13.8	1,630.7	13.4	338.8	14.7
VIII	Science, Technology and Environment	36.5	0.6	24.4	0.2	70.5	0.6	1.3	0.1
IX	General Economic	495.2	7.9	2,077.1	13.6	1,647.7	13.6	181.5	7.9
X	Social Services	2,318.9	36.8	5,642.0	36.8	4,476.1	36.8	715.8	31.1
1	Education	685.7	10.9	1,946.0	12.7	1,543.1	12.7	325.2	14.1
2	Medical and Public Health	495.2	7.9	854.0	5.6	677.3	5.6	85.4	3.7
3	Water Supply and Sanitation	318.6	5.1	1,311.2	8.6	1,039.7	8.6	84.3	3.7
4	Housing	118.4	1.9	292.5	1.9	232.3	1.9	43.1	1.9
5	Urban Development	459.1	7.3	656.0	4.3	521.7	4.3	148.4	6.5
6	Other Social Services	242.0	3.8	582.3	3.8	462.1	3.8	29.5	1.3
XI	General Services	629.1	10.0	494.5	3.2	391.6	3.2	107.9	4.7
	TOTAL	6,300.0	100.0	15,326.8	100.0	12,160.0	100.0	2,300.0	100.0

Note: These figures were provided by the Planning and Programme Implementation Department.

Source: Draft Twelfth Five-Year Plan (2012-17) and Annual Plan, Planning and Programme Implementation Department, Government of Mizoram.

3.4.2 New Land Use Policy (NLUP)

(1) Background and History

The New Land Use Policy (NLUP) has a history of nearly three decades during which its implementation was on and off.

In 1985, the NLUP was introduced on a modest scale for *jhum* control confined in four blocks. An integrated approach comprising both the farm sector (agriculture, animal husbandry, sericulture, etc.) and the non-farm sector (cottage industries, etc.) was adopted. During 1985-1992, 30,134 families were covered and about INR 21.2 crore were released. Few cases of success stories were observed which showed the potential of the NLUP programmes to provide sustainable livelihood options. The first NLUP was replaced by the Mizoram Intodelhna Programme (MIP) in 2002. Beneficiaries were given financial assistance of INR 7,500/beneficiary in the first phase, and INR 4,000/beneficiary in the second phase. A total of INR 30.38 crore has been released under the MIP, which was too small to make any headway. Also, the involvement of line departments was minimal, and frequent changes in the programmes and guidelines created confusion. Finally, all the programmes went awry.

In February 2009, an NLUP project proposal has been submitted to the Planning Commission. Then, DPR covering a five-year project period was prepared. The Planning Commission approved the first year (2009-2010) of the project under the state plan in August 2009.

(2) Objectives

The major objectives of the NLUP are as follows:

- i) To keep 60% of Mizoram's total land area under rain forest by restoring ecological balance

through rejuvenation of forest cover, improvement of surface and water management, and introduction of new forest and land management system.

- ii) To wean away farmers from destructive *jhum* practices, and to adopt sustainable on-farm and off-farm economic activities.
- iii) To improve income for both urban and rural poor through sustainable farming, and micro-enterprises including promotion and modernization of small-scale and cottage industries.
- iv) To initiate allied policies which are vital for the state's reform programme.

(3) Project Components

The NLUP includes three components, i.e., A) Management, B) Development, and C) Infrastructure. The financial and physical targets of DPR are shown in Table 3.4.2. Around 120,000 families are planned to benefit over the project period.

(4) Implementation Setup and Procedure

The NLUP is implemented and monitored under a four-tier management system, as follows:

- i) NLUP Apex Board: This is a high-powered committee headed by the chief minister and consists of council of ministers, commissioners/secretaries of concerned departments, and experts, which have policy-making authority to approve plans/programmes, approve funds, and supervise overall implementation of the schemes.
- ii) NLUP Implementing Board (NIB): This is chaired by the vice chairman of the NLUP Apex Board, and consists of the heads of concerned line departments, experts, etc. It allocates funds to line departments (Agriculture, Horticulture, Fisheries, Animal Husbandry and Veterinary, Soil and Water Conservation, Industries, Environment and Forest), and coordinates these departments to ensure implementation of the schemes. Eight line departments are the implementers of the scheme. The NIB monitors its progress at regular intervals, and takes corrective measures, if necessary.
- iii) District Level Committees: They are headed by the concerned deputy commissioner, and consist of district officers of concerned line departments to supervise and monitor project implementation, organize training and demonstration, etc. They are the key executive agencies in charge of working out the programmes, in consultation with the concerned village level committees.
- iv) Village Level Committees: They are crucial community-based institutions, and play integral roles in the NLUP programmes, such as selection of beneficiaries. Village council members along with a certain number of nominated villagers form the membership of the committees. A few prominent citizens are also members.

Firstly, beneficiaries are identified and selected by a village level committee. The list then goes to the district level committee for further action. Secondly, activities and trades selection is done by the village committee, subject matter specialists from respective departments, and the beneficiaries themselves. The final list of the beneficiaries and the trades are sent to the NIB. Once these beneficiaries and trades are finalized by the NIB, the respective implementing departments assess the trade-based input requirements for the year. Based on these assessments, the funds are allotted by the departments.

Table 3.4.2 Targets at DPR

	Targets at DPR (2009/10-2013/14)	
	Phy. (No. Of beneficiaries)	Fin. (INR crore)
A Management	-	70.12
B Development		
Agriculture	31,600	376.00
Horticulture	28,800	268.50
Sericulture	8,500	85.00
Fishery	3,000	63.52
Soil & Water Conservation	9,000	84.05
AH & Veterinary	18,860	152.82
C Industries	9,500	76.00
Environment & Forest	10,740	163.93
Total	120,000	1,269.82
Infrastructure	-	1,187.05
Grand Total (A+B+C)	120,000	2,526.99

Source: NLUP Project, Detailed Action Plan (Short and Long Term)

Once the funds are received from the NIB, whether the assistance shall be provided in cash or in kind is taken care by the concerned departments. The beneficiaries who have difficulty in arranging materials are assisted under in kind terms and these inputs are provided by departments.

(5) Progress and Achievement

Though the NLUP had been approved in 2009, its actual start was delayed to January 2011. Thus, the whole project period was changed from 2009/10-2013/14 to 2010/11-2014/15. Table 3.4.3 shows the targets for the first three years, and the actual achievements by the end of March 2013 with financial terms as well cumulative number of beneficiaries by the end of June 2013.

Against the fiscal targets of INR 1,463.57 crore, INR 1,061.15 million (72.5%) had been disbursed by the end of March 2013. Regarding physical achievements, 63,497 families had benefited by the end of June 2013 against a target of 120,000 families for the whole project period (five years). The progress and achievements in respective sectors are described in the latter chapter.

Table 3.4.3 Target and Cumulative Achievement (2010/11-2012/13)

	Targets for 2010/11-2012/13 (Financial) INR crore			Cumulative Achievements of 2010/11-2012/13 (31 March 2013) (Financial), INR crore			Cumulative Achievements up to 30 June 2013 (Beneficiaries)
	CSS	ACA	Total	CSS	ACA	Total	
A Management	-	35.62	35.62	-	35.62	35.62	
B Development							
Agriculture	11.30	138.08	149.38	2.54	89.13	91.67	13,603
Horticulture	31.77	152.41	184.18	29.08	86.86	115.94	19,427
Sericulture	2.00	14.76	16.76	3.57	8.39	11.96	1,096
Fishery	15.00	21.70	36.70	1.68	21.70	23.38	2,578
Soil and Water Conservation	4.51	74.07	78.58	0.75	62.04	62.79	3,551
AH and Veterinary	-	168.36	168.36	-	101.56	101.56	9,919
Industries	-	159.75	159.75	-	101.20	101.20	10,736
Environment and Forest	2.14	23.56	25.70	3.51	22.48	25.99	2,587
Total	66.72	752.69	819.41	41.12	493.37	534.49	63,497
C Infrastructure	558.92	50.52	608.54	445.78	45.25	491.03	
Grand Total (A+B+C)	624.740	838.83	1,463.57	486.91	574.24	1,061.15 (72.5%)	

Source: Status on the Progress of the Implementation of NLUP Project Cumulatively as of 30 June 2013, NLUP Implementing Board.

(6) Assessments

In order to review the progress of the NLUP and identify scopes for performance improvements and strengthening service delivery mechanism, a midterm assessment was conducted from December 2012. The study was conducted by synthesizing existing data/information, and conducting household-level surveys and focus group discussions. The major findings of the assessment are as follows:

- Awareness among stakeholders and villagers on the NLUP was very high.
- Some of the beneficiaries' livelihood means had been advanced, and their income enhanced because of the project. Also, people's exposure to project management and integration with the market were enhanced.
- The stakeholders' capacity to arrange input supply under in kind terms had been enhanced. Assistance-related cash transactions were done through banking systems, which facilitated financial inclusion of people.
- Physical structures, which would be useful for the communities even after project withdrawal, were created.
- It seemed that there were disappearing boundaries between the village level committees and VCs.