STATE DEVELOPMENT REPORT OF MIZORAM

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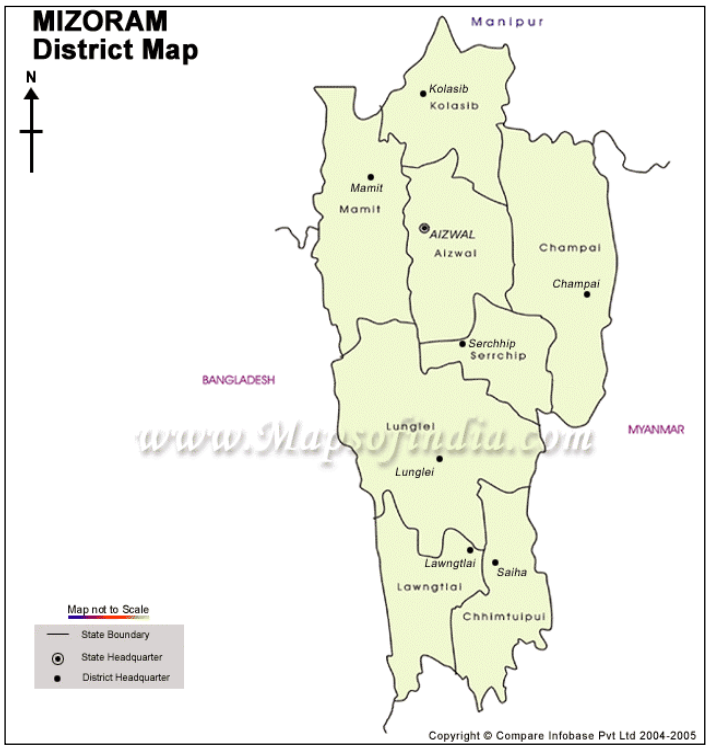

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PREFACE

This Report is the result of a study undertaken by the National Institute of Public Finance and Policy. The study was commissioned by Planning Commission, Government of India (vide letter No. N-11016/1(10)/2004 dated 25.11.2004).

The Report has been prepared by Dr (Mrs) R Kavita Rao, Dr Gautam Naresh and Dr (Mrs) Indrani Roy Chowdhury. Opinions expressed here are those of the authors. The Members of the Governing body of the National Institute of Public Finance and Policy are in no way responsible for the opinions expressed in the report.

Dr M Govinda Rao
Director

New Delhi
March 2010

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THE STUDY TEAM would like to place on record its gratitude to the large number of people both in and outside Mizoram, who helped us understand the structure of the economy, the issues and challenges it faces and the contradictions it embodies.

The Study Team initiated discussion on the subject with Shri B. N. Yugandhar, Member, Planning Commission in New Delhi and with Pu H.V. Lalringa, Chief Secretary, Government of Mizoram in Aizawl. Both gave interesting insights into the issues and challenges facing the State.

We had the occasion to present its preliminary findings and an outline of the proposed development strategy to the Hon'ble Chief Minister, Pu Zoramthanga. This interaction was crucial in giving shape and direction to the Report. We are grateful for this opportunity for discussion.

The Team interacted with officers in charge of various departments and other functionaries to cover wide-ranging issues. They spared no effort in providing available material and willingly engaged in involved discussions helping us get a feel of the issues.

Discussions with the representatives of commerce and trade, artisans, students, YMA, association of senior citizens, church elders, and other social and cultural bodies at Champhai and Aizawl were useful in getting different perspectives on a potential development path for the State. The central role of social institutions such as the Church and the warm hospitality of the Mizo people were apparent through these interactions, and invitations to services in Church.

Interactions with the academia of North-Eastern Hill University, Shillong and Mizoram University, Aizawl helped consolidate our views on the options available to the State. The academic community also gave us an opportunity to present our views on a vision for Mizoram. A paper titled *An Approach to Vision Mizoram: Year* 2020 was submitted for a Seminar on NER Vision 2020 organized by the Department of Economics, Mizoram University, Aizawl (November 23-24, 2005).

An attempt is made here to compile a list of people from various walks of life, who helped us understand Mizoram.

1. Pu H. Rammawi, Minister (Agriculture, Horticulture, Law and Judicial, Parliamentary Affairs)
2. Pu Lalhmingliana, MP (Rajya Sabha)
3. Pu Lalmalsawma, IAS, Commissioner Finance and Planning
4. Pu Yogaraja, IAS, Director (Department of Industry)
5. Pu M Lalmanzuala, Retd IAS
6. Pu Rual Zakhuma, Retd IAS, Adviser (Agriculture)
7. Pu Denghnuna, Retd IAS
8. Pu L.T Pudaite, ex-Ambassador to Myanmar
9. Mr P Krishnamurthy, IAS, Mizoram House, New Delhi
10. Pu Lalbiakthuama, Advisor, Planning Board, Mizoram
11. Pu Rochila Saiawi, IA&AS, Financial Commissioner
12. Mr P. Chakraborty, Secretary (Department of Law & Judicial, Parliamentary Affairs and District Council Affairs)
13. Pu Sangliankhuma, Additional Secretary, LAD
14. Pu Lalthansanga, Addl. Secretary (Finance Department)
15. Pu Lalrikhuma Sailo (MPE & SS), SRO (State Planning Board)
16. Pu C.L. Thangliana, Chief Engineer (Power)
17. Pu C. Ramhluna, IFS, PCCF

18. Mr J.P. Sinha, Chief Engineer (PHE)
19. Pu Ngurliana Sailo, Director (Soil and Water Conservation Department)
20. Pu Vanchungnunga, Director (Social Works Department)
21. Pu Rosanga Colney, Director (Sericulture)
22. Mr Ziley Singh, Rtd. IES, Adviser (Planning and Finance)
23. Pu Samuel Rosanglura, Director (Horticulture)
24. Pu Lalengmawia, Director (Trade and Commerce)
25. Pu C Lalzarliana, Project Director (MIP Executive Authority)
26. Er Pawan Kumar, Superintending Engineer (PHE)
27. Er H. Duhkima, Executive Engineer, (PHE)
28. Er Liansanga, Engineer-in-Chief and Secretary (PWD)
29. Er Valbuanga, Superintending Engineer (PHE)
30. Dr H. Saithantluanga, Dy. Director (Planning in Agriculture Department)
31. Pu P. Lalthlengliana, Director (Labour and Employment)
32. Dr R.K. Lallianthanga, Project Director (State Remote Sensing Centre)
33. Dr C. Sangnghina, Director (Animal Husbandry)
34. Pu Lalrokima Lianhna, Chief Engineer (Roads)
35. Pu Yograj Chhetri, Director (Economics and Statistics Department)
36. Pu C Lalzirliana, Jt Director (Trade and Commerce)
37. Pu Donatus Enga, Dy. Director (Sericulture)
38. Dr Lalnilawma, Rural Development
39. Pi Malsawmdawngliani, Finance & Account Officer (Agriculture & Horticulture)
40. Pu V.L. Hmangaihchhunga, Agriculture Extension Officer
41. Dr Lalmuanzovi, Asst. Project Director (MIP Executive Authority)
42. Pu H. Manthianga, Dy. Director (Horticulture)
43. Pu T. Liankunga, (Horticulture)
44. Pu Lianmawia, Research Officer (Animal Husbandry)
45. Pu P.K. Deka, Executive Director (Project), NEEPCO, Guwahati
46. Pu Ngunlala Chizah, Jt. Director (Economics and Statistics Department)
47. Mr H. Vanlalkeuva, Jt Director (Higher and Technical Education)
48. Pu B. Lalchhuanliana, Dy. Director (School Education)
49. Pi Aileen Vanlalzawni, Dy. Director (Social Works Department)
50. Dr R.K. Lallianthanga, Sr. Scientific Officer (Remote Sensing)
51. Pi Laldikkimi, Programme Officer, District ICDS Cell
52. Dr Zothankhuma Chhakchhuak (Health Department)
53. Pu Lalthangbika, Dy Protocol Officer
54. Pu Lalbiaksanga, RO, Planning Board
55. Pu David Liansanglura, Liason Officer
56. Pu Lalthanchani Sailo, Project Officer, DTE, R.D.
57. Mr Dinabandhu Baishya, DM (E/M), NEPCO, Guwahati
58. Mr B. Darkhuma, Director, LAD
59. Mr K. Thanhlira, Joint Director, LAD
60. Pu Ramchuana, Finance & A/Cs Officer, Land Revenue & Settlement Department
61. Dr Lalnilawma, Rural Development, DRDA
62. Dr R.K. Lalianzuala, Senior Scientific Officer, Planning Board
63. Dr A.K. Sharma, Vice Chancellor, Mizoram University, Aizawl

64. Dr A.K. Agarwal, Dean SEMIS, Mizoram University, Aizawl
65. Dr Amaresh Dube, Department of Economics, NEHU, Shillong
66. Dr Nirankar Srivastava, Economics Department, NEHU, Shillong
67. Prof. Lianzela, Head, Department of Economics, Mizoram University, Aizawl
68. Pu V.L. Chhawna, Mizoram University, Aizawl
69. Dr Purusottam Nayak, Professor and Head, Economics, NEHU, Shillong
70. Pu Zotinkhuma, (Journalist) , Aizawl
71. Mr Avinash Mishra, Dy. Adviser (Water Resources), Planning Commission, New Delhi
72. Mr Surinder Kumar, Dy. Adviser (Power), Planning Commission, New Delhi
73. Mr Tarun Kumar Arora, EO, Planning Commission, New Delhi
74. Mr Sanjoy Hazarika, New Delhi
75. Prof. R.N. Prasad, HoD, (Public Administration) , Aizawl
76. Dr Amiya K. Sharma, DGM (Economist), NEDFi Corporation, Guwahati
77. Mr Rajeev Mathur , IOFS, Deputy Secretary, NEC, Shillong
78. Pu P.L. Thanga, NEC, Shillong
79. Pi Angela Ralte, (Social Activist)
80. Dr S.K. Ghosh, Regional Director, (IGNOU) , Aizawl
81. Pu Lalramsanga Sailo, Lecturer in Sociology, Aizawl
82. Dr S. Hom Chowdhury, Pachhunga University College, Aizawl
83. Dr P.K. Singh, HoD (Commerce) Pachhunga University College, Aizawl
84. Dr Rualkhuma Colney, Hrangbna College, Aizawl
85. Dr K.C. Kabra, Department of Commerce, NEHU, Shillong
86. Dr Gurudas Das, Economics Department, NEHU, Shillong
87. Dr C. Thanthianga, Pachhunga University College, Aizawl
88. Mr Rajesh Prasad, Zopar Exports (P) Ltd (Floriculturist)
89. Mr Nitin Sethi, Journalist, Down to Earth
90. Pu Lalhruaitluanga, Vice President, Student Union, Mizoram Law College
91. Pu Bawitluanga, Secretary, Mizo Zulan Pawl
92. Pu K. Malsawma, President, Sr. Citizen Association

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R Kavita Rao
Gautam Naresh
Indrani Roy Chowdhury

New Delhi
March 2010

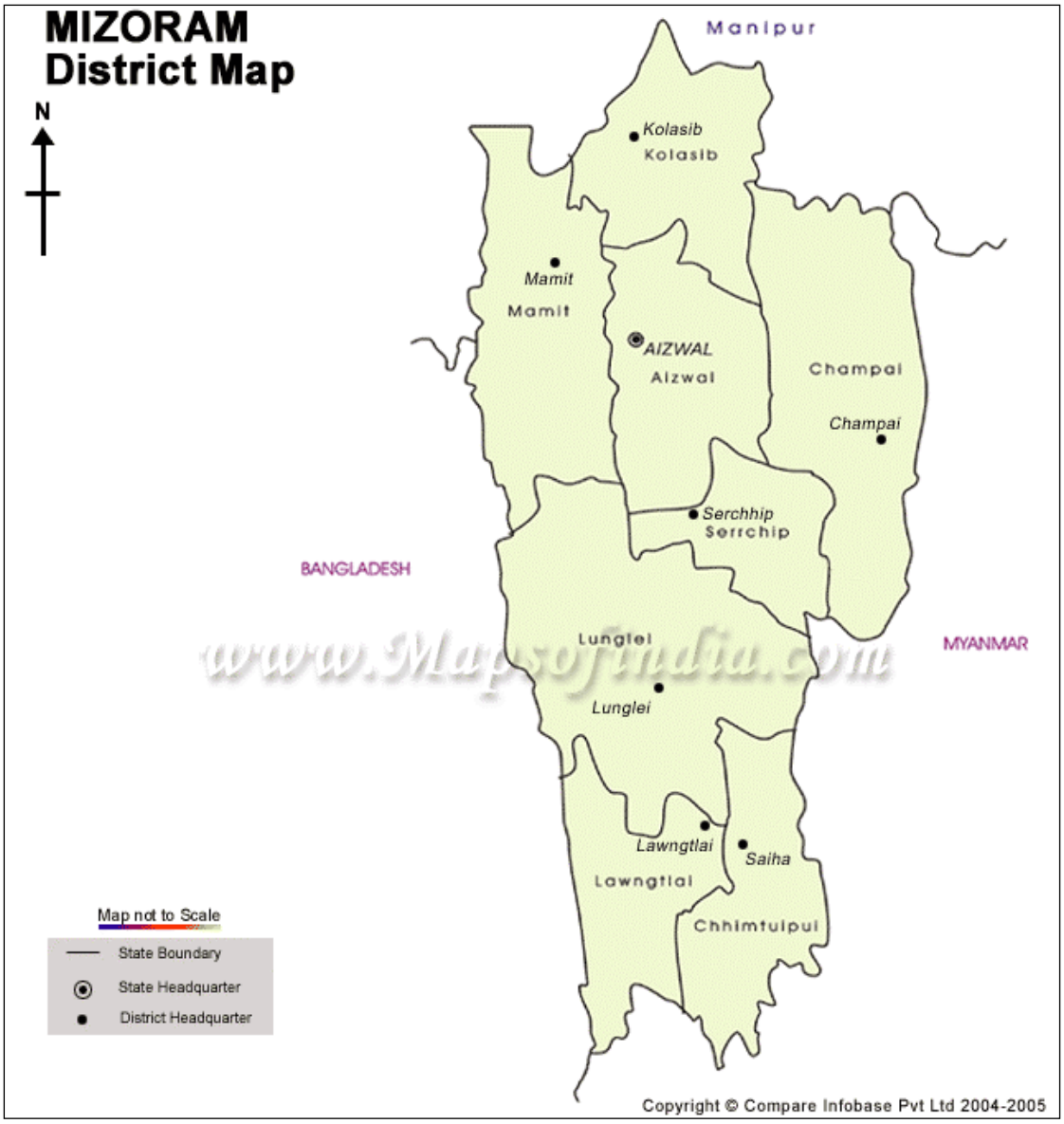
TABLE OF CONTENTS

List of Text Tables

Page

List of Appendix Tables

List of Annexures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District Map
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Map not to Scale
State Boundary
State Headquarter
District Headquarter
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Chapter 1

A Profile of Mizoram

Fundamental Principles

1. *People should develop along the lines of their own genius and we should avoid imposing anything on them. We should try to encourage in every way their own traditional arts and culture.*
2. *Tribal rights in land and forests should be respected.*
3. *We should try to train and build up a team of their own people to do the work of administration and development. Some technical personnel from outside will, no doubt, be needed, especially in the beginning. But we should avoid introducing too many outsiders into tribal territory.*
4. *We should not over-administer these areas or overwhelm them with a multiplicity of schemes. We should rather work through, and not in rivalry to, their own social and cultural institutions.*
5. *We should judge results not by statistics or the amount of money spent, but by the quality of human character that is evolved.*

- Pt Jawaharlal Nehru

THE NER (North-Eastern Region) of India home to numerous diverse communities and located strategically with borders with Bhutan, Tibet, China, Myanmar and Bangladesh, has seen much violence and bloodshed over the past. Each of the States of this region was either created to address the specific aspirations and needs of a specific group of people or is currently combating issues of insurgency, another manifestation of the differing demands of people in the region. The heterogeneity of the region is both its strength and its weakness – it will remain a contentious issue and a weakness until a mechanism for self-determination can be evolved within an overall framework of co-existence.

Mizoram, the last frontier of India, facing Myanmar and Bangladesh, is now considered a peaceful region. Its inception was through a similar and violent process. The tribal ethos, as well as the struggle for self-determination, has forged a significant bond of cohesion within the people of the State, although they come from a number of different tribes. The demands for a separate State embodied the perception that such a move would focus on the needs of the people and thereby generate a process for

improving the lives of the people in the State.[1] Since the attainment of statehood, the State has made enormous leaps of progress, especially in terms of social sector development. For instance, it ranks second only to Kerala in terms of literacy, has exceptionally good performance in terms of low infant mortality and death rates, has seen a decline in the decadal rate of growth of population by 9.8 percent during 1991-2001. However, these achievements are only the beginning – improvements in the standards of living and expanded opportunities for employment are the next logical step in satisfying the aspirations of the people of the State. The State Development Report is an attempt to identify a comprehensive strategy/ strategies with this goal in perspective.

The chapter is set up as follows: Section 1.1 outlines the objectives of the Report. In section 1.2 a brief profile of Mizoram is presented. Any discussion about Mizoram is incomplete without reference to the various social institutions and regulations, which bring the people of Mizoram together. Section 1.3 dwells on this aspect. Finally in section 1.4, the trends in sectoral performance have been presented leading up to a discussion on the chapter profile of the Report.

1.1 OBJECTIVE OF THE REPORT

Any attempt to build a framework for development, per force depends on capitalizing on the strength and correcting for the weaknesses in the underlying economy. The discourse on economic development contains a number of debates on appropriate developmental strategies. The strategies discuss a number of contributory combination factors such as enhanced trade, improved infrastructure, greater openness and flexibility in the investment climate and in labour market and improved regime of Intellectual Property Rights. The identification of the constraints to development would guide the discussion on a suitable strategy for any given case.

It is to be noted that Mizoram is very different from mainland States in India as also from most of the other States in the North-East. Therefore, while the report draws on the generalised format provided by the Planning Commission, it does not adhere to it completely. This report undertakes an assessment of the constraints faced

[1] Similar demands for self-determination have seen the creation of autonomous district councils in the southern part of the State, as well.

by the Mizo economy, both sectorally and globally. This chapter provides a brief overview of the Mizo economy and society and through this discussion derives a suitable design for this report. Each of the individual chapters in the report focuses on one selected aspect or sector and develops a strategy for that sector. These strategies are integrated into an overall strategy for development in the last chapter of the report.

1.2 A BRIEF PROFILE OF MIZORAM

Geographical Location and Topography

Mizoram became the 23rd State of India in February 1987. Earlier, it was one of the districts of Assam till 1972 when it became Union Territory. It is located in the remote North-East corner of India sandwiched between Myanmar and Bangladesh. Its geographical location is longitude 920.15' E to 930.29' E and latitude 210.58' N to 240.35' N. Its length from North to South is 277 kms; East to West is a maximum of 121 kms. It shares a common international boundary with Myanmar stretching 404 kms, and with Bangladesh of 318 kms. Its inter-State border with Assam extends to 123 kms, with Tripura to 66 kms and with Manipur to 95 kms. Its total area is 21,081 sq. km. (Table 1.1).

The topography of Mizoram is dominated by mountainous terrain with parallel ranges forming deep gorges culminating into several streams and rivers. Its hills are steep and are separated by rivers. The average height of the hills is about 900 metres. The elevation ranges from 40 metres at Bairabi Valley to Phawngpui Mountain (Blue Mountain) where the height of its peak is 2,157 metres.

The terrain is young and immature, and is still in the process of denudation in response to various exogenous forces. The rock system is weak and loose and prone to frequent seismic influences. The soil is porous with poor water holding capacity, deficient in potash, phosphorous, nitrogen and even humus. The soil structure has exceptionally high rate of seepage. Less than 5 percent of the landmass is flat or in gentle slopes. The single largest flat stretch is Champhai stretching about 11.27 sq km., other small patches of plains are found is N. Vanlaiphai, Thenzawl and Chamdur. Most of these flat lands are now covered under wet rice cultivation. Due to loose formation of soil and heavy monsoon rainfall, the State is susceptible to severe soil erosion and terrible landslides.

Table 1.1: Mizoram at a Glance

Items	**Unit**	**Value**
1. Geographical Area	**Sq. Km.**	**21,087**
2. Geographical Location		
a. Longitude	Degree	920.15' E to 930.29' E
b. Latitude	Degree	210.58' N to 240.35' N
c. Length North to South	Kms.	277
d. East to West	Kms.	121
e. International Borders		
i. With Myanmar	Kms.	404
ii. With Bangladesh	Kms.	318
f. Inter--State Borders		
i. With Assam	Kms.	123
ii. With Tripura	Kms.	66
iii. With Manipur	Kms.	95
3. Administrative Set-up		
a. No. of District	No.	8
b. No. of Autonomous District Council	No.	3
c. No. of Sub-Division	No.	23
d. No. of R.D. Block	No.	26
e. No. of Villages (2001 Census provisional)		
i. Inhabited	No.	732
ii. Uninhabited	No.	108
4. Population (as per Census 2001)		
a. Total Population		
i. Persons	Nos.	8,88,573
* Male	Nos.	4,59,109
* Female	Nos.	4,29,464
b. Decadal Population Growth (1991-2001)		
i. Absolute	Nos.	1,98,817
ii. Percentage	percent	28.8
c. Population Density	Per sq. km.	42
d. No. of females per 1000 males	Nos.	935
e. 0 – 6 Population		
i. Persons	Nos.	1,43,734
* Males	Nos.	71,176
* Fmales	Nos.	70,558
f. Literacy		
i. Persons	Nos.	6,61,445
* Males	Nos.	3,50,105
* Females	Nos.	3,11,340
g. Rate	percent	88.8
h. Total Workers		4,67,159
i. Main workers	Nos.	3,62,450
ii. Marginal workers	Nos.	1,04,709
j. Percentage of workers (Main + Marginal workers to total population percent)		52.27
ECONOMIC INDICATORS		
1. State Income		
At Current Prices		
GSDP (2007-08)	Rs. in lakh	3,28,789
Per Capita Income (2007-08)	Rs.	27,437
At Constant 1999-2000 Prices		

Items	Unit	Value
GSDP (2007-08)	Rs. in lakh	252,788
Per Capita Income (2004-05)	Rs.	21,400
Average Monthly Per Capita		
Consumer Expenditure (1999-00) as per 61st Round NSS Quick Tabulation		
a) Rural	Rs.	778.35
b) Urban	Rs.	1200.51
2. Agriculture (2006-07)		
a) Gross Cropped Area	'000 ha	105.575
b) Net Area Sown	'000 ha	94.187
c) Gross irrigated area	'000 ha	16.360
d) Area under Principal crops (2000-01 khariff)		
i. *Jhum* (Rice)	Ha	41,465
ii. WRC (Rice)	Ha	9,147
iii. HYV	Ha	2,241
iv. Maize	Ha	10,775
v. Pulses	Ha	5,055
vi. Oilseeds	Ha	4,077
e) Production of Principal crops (Kharif 2000-01)		
i. *Jhum* (Rice)	M.Tonnes	13,658
ii. WRC (Rice)	- do -	12,131
iii. HYV	- do -	3,675
iv. Maize	- do -	20,969
v. Pulses	- do -	5,833
vi. Oilseeds	- do -	3,757
f) Agricultural Census (2005-06)		
g) No.of operational holdings	Nos.	97,223
h) Total operated Area	Ha	1,16,645
i) Average size of holdings	Ha	1.20
j) Livestock Census (2003)		
i. Total Livestock	‘000	280.00
ii. Total Cattle	‘000	36
ii. Total Pigs	‘000	217.00
ii. Total Poultry	‘000	1,125
k) Forest		
* Area under dense forest	Sq. km.	7,488
* Area under open forest	Sq. km.	10,942
* Value of forest produce	Rs. in lakh	125.84
3. Electricity (2006-07)		
Installed Capacity	MW	37.17
Generation	MKWH	14.22
Total Consumption	MKWH	151.22
Per Capita Power Consumption	KWH	155.69
4. Industries		
Registered SSI units (up to March 2007)	Nos.	6,490
Nos. of farmers engaged in Sericulture (January 2008)	Nos.	7,293
No. of enterprises (as per 2005 economic census)	Nos.	47,378
5. Cooperation (2005-06)		
No. of enterprises	No.	1,354
Membership	No.	46,453
Working Capital	Rs. in lakh	3410.28
No. of PACS	Nos.	618
Membership	Nos.	24,928

Items	Unit	Value
6. Banking (2007)		
No. of Banking Offices	Nos.	96
Total Deposits	Rs. Crore	1345.12
Total Advance	Rs. Crore	760.24
Credit Deposit Ratio	percent	56.52
7. Education (As on 30th Sept 2006)		
No. of Primary School	Nos.	1,700
Enrolment in Primary School	Nos.	1,30,342
No. of Middle Schools	Nos.	1,081
Enrolment in Middle School	Nos.	58,533
No. of High Schools	Nos.	502
Enrolment in High Schools	Nos.	44,322
No. of Higher Secendary Schools	Nos.	80
Enrolment in Higher Secendary Schools	Nos.	11,762
No. of Colleges (2006-07)	Nos.	26
Enrolment in Colleges (2006-07)	Nos.	6,137
8. Health (2007)		
No. of Hospitals	Nos.	10
Community Health Centres	Nos.	10
Primary Health Centres	Nos.	56
Sub-Centres	Nos.	366
Birth rate (based on CRS, 2000)	Per '000	22.34
Death rate (based on CRS, 2000)	Per '000	5.10
Infant mortality rate (2000)	Per '000	12.70
9. Transport (2007)		
Total road length	Kms.	5,948.15
National Highway	Kms.	886.00
State Highway	Kms.	698.94
Surfaced Road	Kms.	3,938.95
Unsurfaced Road	Kms.	1844.56
Total Motor Vehicles (Oct 2007)	Nos.	58,613
10. Communication (2006-07)		
No. of Post Offices	Nos.	405
Rural	Nos.	347
Urban	Nos.	58
No. of telephone exchange	Nos.	76
No. of Telephone connection (Landline) (January 2008)	Nos.	55,370
No. of Mobile connection	Nos.	1,71,296
11. Water Supply (2007)		
No. of villages / Habitations fully covered with piped drinking water supply	Nos.	649
No. of villages / Habitations not covered with piped drinking water supply	Nos.	128
No. of houses connected installed (As on 1.4.2006)	Nos.	34,471

Source: Government of Mizoram, Economic Survey, 2007-08.

Mizoram has a pleasant climate with heavy rainfall for over 6 months in a year. Due to this, the State is endowed with natural beauty and with immense diversified landscape and is very rich in flora and fauna. Almost all kinds of tropical trees and plants thrive in Mizoram. The hills are marvelously green.

The State of Mizoram is drained by a number of rivers, streams and rivulets. Most of the drainage line originates in the central part of the State, and flows either towards north or south. The rivers at various places form deep gorges and cut across the striking ridges forming water fills. The northern portion of the region is drained by river Tlawng, Tuivawl, Tuirial, Langkaih and Tuivai, all flowing northward and fall into Barak River in Cachar plains of Assam. The southern region is drained by river Chhimtuipui and its tributaries, Tuichawng, Kau, De, Phairuang and Tuilianpui, which form the western drainage system. All the rivers in Mizoram are rain-fed and their volume is very limited during dry season.

The low population density and generous rainfall sustain a large forest cover in Mizoram. The climatic conditions favour luxuriant growth of vegetation. Roughly speaking, about 85 percent of the total area of Mizoram is under forest cover of either dense forest or open forest. The forest supports variety of flora and fauna. More than 400 medicinal plants have been reported to exist in Mizoram of which 62 were categorised as new medicinal plants, 22 species of bamboo are also found in the State. Important forest produce of Mizoram mostly in the form of raw-materials are bamboo, timber, firewood and charcoal, sungrass, broomsticks, cane, sand, stone and poles.

This topography and soil structure inhibits intensive agriculture using modern technology and use of fertilizers. Further, the State lacks mineral resources.[2] So there are no natural advantages which could work towards attracting big industry to the State. Due to these factors, there is not much scope for heavy industries to locate here.

Low Population Pressure on Natural Resources

According to the provisional results of Population Census 2001, the population of Mizoram as on 1st March 2001 stood at 891,058 out of which there are 459,783 males and 431,275 females. It constitutes 0.64 percent of India's total area and merely 0.09 percent of the India's total population (Table 1.2). The decadal growth rate during 1991-2001 is 29.2 percent, which is 9.8 percent lower than the growth rate of the previous decade of 1981-91. The population density in Mizoram is

[2] At present, Mizoram has no recorded mineral resources. This is in contrast to neighboring States like Meghalaya and Assam, which are rich in mineral resources and earn revenue from such resources. ONGC has traced some oil seepage, although it has not reached an extraction level. The success of ONGC in this field will help Mizoram to earn rich dividends in the future.

42 persons per sq. km in 2001 as against 33 persons per sq. km in 1991. The density is much lower, compared to All-India figure of 313 and 149 of all-NER.

Table 1.2: Mizoram and India: Demographic at a Glance

		Mizoram	India	State
1	Population	888,573	1,028,610,328	
	As percent to India	0.09		
2	Males	459,109	532,156,772	
	As percent to India	0.09		
3	Females	429,464	496,453,556	
	As percent to India	0.09		
4	Growth rate (percent)	28.8	21.2	
5	Sex-ratio	935	933	
A	Highest (Serchhip)	967	1058	Kerala
B	Lowest (Mamit)	896	710	Daman & Diu
6	Density			
A	Highest (Aizawl)	91	9340	Delhi
B	Lowest (Mamit)	21	13	Arunachal Pradesh
7	Literacy rate (percent)	88.8	64.8	
A	Highest (Aizawl)	96.5	90.9	Kerala

Source: Census 2001.

The literacy rate of Mizoram (excluding children in the age group 0-6 years) has been recorded at 88.5, the second highest in India only next to Kerala, with males at 90.1 percent and females at 86.1 percent (Census 2001). These figures reflect only minor gender differentials, suggesting reasonable gender balance. This is also captured in the improvements in sex ratio. There were 935 females per 1,000 males in 2001 as compared to 921 females per 1,000 males in 1991Census.

Administrative Structure

Administratively, the State is divided into 8 districts, namely, Aizawl, Champhai, Kolasib, Lawngtlai, Lunglei, Saiha and Serchhip. Three Autonomous District Councils (Lai, Lawngtlai, Mara, Saiha and Chakma, Chawngte) are carved out from two districts, namely, Lunglei and Saiha. At grass root level, these districts are composed of 743 Village Councils (VCs). In 6 districts, there are 531 VCs and in 3 Autonomous Districts their number is 212.

1.3 SOCIAL COHESION

Mizo society is a closely integrated society, with a very dominant role for the community. This feature arises from the tribal and village community-based

background of most of the Mizos and is further strengthened by various social institutions prevalent in the State. Church on the one hand and various Non-Government Organizations (NGOs) on the other have wide presence in the State and contribute towards maintaining social balance. The implicit social capital associated with the presence of such institutions provides significant gains in terms of standards of living, especially for the poorer sections of the population. They also provide useful routes for actively advocating policies considered useful for the State and the economy. Some of the important organizations and pillars of Mizo society are discussed below. Slow growth in employment and livelihood options leads to struggle to ensure a share in developmental process. In such cases, while these institutions bring internal cohesion within the community, some of them tend to encourage and sustain insulated communities as well. The entry barriers through the inner line permit requirements consolidate their position. There are gains from such cohesion as well as costs. The dynamics of transformation for such societies has to be built up from within, rather than from external stimulus. For instance, while the entry restrictions would appear to be a constraint to the inflow of investible resources, allowing for free entry would be mightily resisted since the local population may not be able to appropriate a share in the enhanced economic activities. These features therefore need to be kept in focus, while exploring alternatives for development of specific sectors or the entire economy. Some expansion in economic opportunities may reduce the demands for an insulated and closed society.

Role of Church

Eighty seven percent of people in Mizoram are Christians. Churches therefore play a very prominent role in the society, which have their presence practically in all the villages. There are five major denominations of Christianity in Mizoram, namely, Presbyterian Church; Mizoram Baptist; Roman Catholic, United Penticostal Church and Salvation Army. Among them Presbyterian Church has wider influence on Mizo society.

Church may have entered the NER and in particular Mizoram, to ease administrative concerns of the early British rulers. Over time, it has contributed vastly to progress in the State. It is now an integral part of social, political and economic life in Mizoram. The Church in Mizoram is actively involved in providing education and

health care, as well as in supporting poor and destitute people. There are a number of different denominations of Church here, with the predominant ones being Presbyterian, Baptist Church of Mizoram, Salvation Army, Seventh-day Adventist Church, Roman Catholic, and the Pentecostals. Mizoram Presbyterian Church, for instance runs two schools, one school providing education up to middle school for girls and the other a Higher Secondary School. The former caters to 523 students while the latter has 805 students with 40 percent of the seats reserved for students from rural areas. Similarly, the Baptist Church runs 4 high schools, 6 middle schools and 24 primary schools. The Church also established a hospital - Presbyterian Hospital, with 300 beds. This hospital has provisions to provide free treatment to some poor people, through a Charity Fund set up by the hospital. It runs a rehabilitation centre at Durtlang, about 10 kms. from the heart of Aizawl.

The role of Church in Mizoram however is not limited to this conventional role. This is illustrated by the initiatives taken by the Mizoram Presbyterian Church.[3] Going beyond this conventional role, way back in 1960s, the Mizoram Presbyterian Church Synod constituted a Commission to look into the working of the Church in general and the Theological Education Board in particular, and the commission felt the need to strengthen and widen the Ministry of the Church especially in the Society. The recommendations submitted by the Commission included a proposal to set up a Christian Social Front to provide guidance in social, political and economic perspectives.

The Synod Social Front evolved out of such initiatives and is the main organ of the Mizoram Synod in reaching out to the people and is involved in solving and tackling the problems faced in everyday life. It strives for the prosperity, solidarity, and harmony of Church, Economics, Politics, Education, and Society in all its aspects. The following are listed as the major objectives of the Front:

- To give guidance, generate awareness and educate people on issues of politics, economics, education and the physical and mental effects of alcoholism and substance abuse.
- To educate the members of the Church to become good citizens.
- To help and provide support to the victims of sexual abuse.

[3] See http://mizoramsynod.org/index2.php?bawm_static&read_bawm_static&bawm_static_id=11 for details of initiatives taken by the Presbyterian Church.

- To help mentally, spiritually, and physically handicapped people.
- To initiate and activate community participation in the social defense programme.

Apart from organising seminars and consultations to evolve suitable policy for the selected areas of interest, the Social Front also undertakes the role of civil society in monitoring the performance of various public institutions, thereby improving quality of service delivery. The Social Front is officially involved in such monitoring capacity with the Tribal Development Division of Social Justice and Empowerment Department. It is a member of State Mental Health Authority, and works with Social Defence and Rehabilitation Board. In addition, there are selective interventions undertaken to enhance specific objectives. Some of them, captured below, illustrate the dimensions of the interaction between Church and the Mizo society and economy.

- In order to encourage education, the Front has given awards to successful students and helped weaker ones in their studies. Further, there is now an emerging focus on "Reform of Work Culture".
- Political education for improving the political culture and climate in the state has been high on the agenda. It is proposed that Mizoram Peoples Forum be setup to strive for political reformation in full swing, involving all denominations and NGOs. Many NGOs and some denominations of church got associated with this effort. In 2005 efforts were made to formalise this Forum.
- On the economic front, during the nineties, the Synod chose to focus on self-sufficiency and worked towards identifying measures for improving agricultural productivity and output. Recommendations included encouraging terrace farming, giving priority to rice plantations, using organic fertilizers as far as practicable, using indigenous methods of storing agricultural products and introducing "Contour Trenching" combined with "Hedging" as a new method of farming. Further, since markets would be a constraint, the Synod Executive Committee has approached leading companies and Government Agencies outside Mizoram in search of suitable markets. There is a new initiative emerging on Land Reforms – the form and content suitable for Mizoram. The Front has also undertaken a survey on "Economic Disparity" in rural and urban Mizoram.
- Being acutely aware of the inroads made by Alcoholism, Substance Abuse and the AIDS menace in the State in particular and the country in general, the Social Front has undertaken strategic campaigns at the grass-roots level. It also organises training for counsellors in Substance Abuse Prevention - a one-week intensive certificate training course which was started in 1998. The Front also lists as one of its major developmental work, the "Mizoram Total Liquor Prohibition Act" which was enacted and enforced in the year 1996 due to the Committee's repeated pressure. The Synod Rescue Home is another major project for rehabilitation of substance abusers.

- Efforts to encourage preservation of environment have been initiated in January 2006.

The Salvation Army has well established clinics and community health programmes to provide holistic health care. The bulk of beneficiaries of these services comes from the poorer sections of the society. Vocational training centres provide basic trade skills to the physically challenged. The Salvation Army Community Health Action Network(CHAN) a non-governmental organization, provides support groups for dealing with various social and health issues with a special focus on HIV/AIDS.

Role of NGO's

Apart from church, some major NGOs also influence the Mizo society. In Mizoram there are four key NGOs: Young Mizo Association (YMA), Mizo Hmeichhe Insuihkhawm Pawl (MHIP), Mizoram Upa Pawl (MUP), Hmeithai Association and Human Right & Law Network. Of the above, YMA has the largest coverage and influence.

1. Young Mizo Association (YMA)

YMA is a registered non-political, voluntary organization established on the 15th June 1935 at Aizawl, Mizoram. It is an all-India organization with 702 branches in Mizoram, Assam, Manipur, Meghalaya, Nagaland and Tripura. Most Mizos in the age group 8-80 are members of the YMA As of 1999, it had 2.5 lakh members. Given the population of Mizoram, this is phenomenal size. Main activities and achievement of YMA are as follows:

1. Opening and running of the Adult Education Centres all over the State of Mizoram.
2. Afforestation of the State: 'Green Mizoram' Project has been taken up by YMA since 1974. The YMA branches take up tree plantation programme during the month of June every year since then.
3. Construction of houses for the rural poor. In this, there are two types of construction - the first is that if somebody in a village cannot construct his/her own house, members of YMA and the community would help them construct their house. The other is the houses constructed by YMA on its own or community land. These houses are being maintained by the YMA members and used for accommodating the poor and needy families on a free-rent basis.
4. Conservation of Mizo Culture and heritage.
5. Cleanliness drive and campaign on health and sanitation.

6. Opening and running of more than 250 Public Libraries all over Mizoram.
7. Campaign against the evils of drugs and alcohol.
8. Construction of more than 2500 Public Latrines and Urinals in almost all the towns and villages of Mizoram.
9. Organising mass participation programmes of Sports, Social and Cultural activities.
10. Setting up of Youth Development and Training Centre Zawlbuk Ram at Thingsulthliah for the youth of the country.

A highly notable achievement of YMA has been in co-ordinating all the political parties of Mizoram for a free and fair election, peaceful atmosphere and lowering of the election expenditures in the State Assembly and MP Elections.

Amongst the programmes and activities of YMA, the special one has always been, since its inception, helping the poor and the needy. Most important among them is during the occurrence of death in the community. YMA members would make all arrangement in the house so as to accommodate the relatives and friends. They would normally spend a minimum of three days and nights consoling the relatives of the dead. Digging of the graves and burying of the body are done by members of YMA on a voluntary basis - in consonance with the customs and traditions of the Mizos. Most of the YMA Branches have utensils, benches, parachute and other necessary tools and equipment to be used in times of death, wedding, festivals etc.

The current special programme taken up by YMA is regarding AIDS/HIV. Awareness campaign, seminars, publication and distribution of brochure and leaflets about the dreaded disease is taken up throughout the length and breath of the State and among all the youth.

For various activities and achievement, YMA has been conferred the following Awards:

1. *Indira Priyadarshini Vrikshamitra Award* 1986 by the Government of India.
2. *Excellence Service Award* by the Government of Mizoram for the three consecutive years of 1988-90.
3. *Indira Gandhi Paryavaran Puruskar* 1993 by the Government of India.

In recent times, YMA has come into some controversy, regarding low tolerance for non-Mizos in general and Chins in particular. This is a reflection of economic stress in Mizoram.

2. Mizo Hmeichhe Insuihkhawm Pawl (MHIP)

The Mizo Hmeichhe Insuihkhawm Pawl (MHIP), a registered body, was established on the 6th July 1974. It is one of the biggest voluntary organizations in Mizoram, solely engaged in social welfare works covering the entire State. It is a strong social organization devoted solely for the welfare and upliftment of the weaker section of the society, particularly women and children.

The basic principles of the MHIP are based on philanthropic social work with no expectation of any returns. It aims at creating a state of welfare in which every individual is cared for irrespective of caste or creed. However, since it is a women's organization, most activities emphasize on upliftment of women and children. Some of these activities may be highlighted below:

1. The MHIP is a mother of all women, the destitute and down trodden women, fighting for their rights in all aspects of life. During the recent years, in Mizoram there are several rape and murder cases involving minor girls and adult women. The Mizo society is by custom a patriarchal society. Women and children in this society were generally considered inferior to man. However, in the wake of modernization such consideration has become controversial. A Mizo man may divorce his wife as and when he fancies and drive her out empty handed without any means of supporting herself. Women are often left socially and economically neglected. The MHIP is taking up the issue strongly as discriminatory and unjust for the destitute women in general.
2. The MHIP involve themselves wherever there is a social injustice in the day to day family life of the community within their respective branches/jurisdiction. The MHIP seek justice for women who are beaten by their drunken husband, a child who is neglected in nutrition or in other family and social life. An unmarried mother would be given the proper guidance and counseling sometimes even provided monetary or material support. In some extraordinary cases where some families needed medical treatment outside Mizoram, but too poor to proceed MHIP lends a helping hand.
3. With a view to achieving a welfare state, block level leadership training is held periodically. The theme of such training is Women in Mizo Society. The declaration of Women's Year and its consequences has made the general populace aware of the importance of uplifting the status of the Mizo women.

The activities of the organization in helping the destitute, the down-trodden and the weaker sections of society in the social, economic and cultural life of the community has been widely appreciated and recognized. While aiming for upliftment of women in the society, also inculcate the role and responsibility of women in the Mizo society.

3. The Human Rights and Law Network

The Human Rights and Law Network (HR&LN) was founded in September 2003, is the only organization in Mizoram dedicated solely towards the protection and promotion of human rights. The rights of women, children, destitute and prisoners are the thrust areas of this organization.

Despite the United Nations Declaration of Human Rights (1948) after the Second World War and subsequent worldwide efforts to implement it, today, the basic rights of thousands of people all over the world are still being negated and encroached upon mainly due to ignorance and helplessness. The picture that we have in developing countries such as India is no different. The concept of human rights and its significance is yet to be entrenched into the minds of not only the general masses of the population but even among the intellectuals as well. The establishment of the HR&LN and its activities to create awareness among the Mizo people have been nothing but monumental in a State where mob rule is still the order of the day. Ever since its inception, the HR&LN has stood as a vanguard for the promotion and protection of human rights as well as for dissemination of the knowledge of human rights in the State.

Inner Line Regulations: A Policy of Segregation through Entry Barriers

Historically, the British learnt from experience that the policies that appeared to be beneficial and profitable to the plains were often perceived by the hill tribes as threats to their existence.[4] It became clear to the British that as long as encroachment of tribal lands by the planters and cultivators continued, it was impossible to ward off tribal attacks on British subjects and property. All these factors contributed to the pursuit of the colonial policy of segregation through the enactment of the Inner Line Regulations in 1872-73. The said Act gave powers to the Lieutenant Governor to prescribe a line, to be called 'the inner line', in the frontier districts beyond which no British subject or foreign residents can pass without a licence. The pass or licence, even when given, would be subject to such conditions as may appear necessary. The regulations prescribed rules regarding trade, possession of land and other matters. The planters – both Indians and British, were not allowed to acquire land beyond the Inner

[4] Srikant, H (2006), British Colonialism and the Hill Tribes of Composite Assam. Man and Society: A Journal of North-East Studies, Vol III, Spring.

Line, either from the Government or from any local chief or tribe. It was left to the authorities to decide as to what part of the districts comes under the regulations.

The Inner Line Regulations were invoked in the North-East Frontier Tracts of Sandiya, and Lakhimpur and in the Naga and Lushai Hills. The areas coming under the Inner Line were exempted from normal administrative procedures and legal codes which applied in other parts of the country.

The policy of segregation pursued through the Inner Line Regulations helped the colonial administration in so many ways. By pursuing the policy of least interference and by allowing the hill tribes to govern themselves according to their own traditions and customs, the British created a sense of security among them and contributed to the mitigation of tensions between the frontier tribes and the plainsmen. By precluding even positive interactions with the people of the rest of India, it is often argued, the Inner Line policy helped the British officials, anthropologists and the Christian missionaries in convincing the hill tribes, that racially, culturally and historically they had nothing to do with the rest of India and the Indians.

Till date the entry of non-Mizos is highly restricted either for settlement or even touring purposes. All non-Mizos seeking to enter Mizoram need to take a permit. Permits are of two kinds

- Temporary permits – 15 days extendable by another 15 days
- Normal permit – issued for 6 months and can be extended for another 6 months.

If someone in Mizoram wants to bring in people from outside, the local sponsor has to get a permit. Such a permit is issued for a maximum of 18 months but requires to be renewed after every 6 months.

Foreigners require a further restricted area permit to visit some parts of Mizoram. Such visits are permitted for a maximum of 10 days and in groups 4 or more persons. There are fewer restrictions on married couples.

By its very character, these regulations and the Sixth Schedule status of the State precludes the possibility of non-Mizos working on regular/extended basis in the State. It also eliminates the possibility of investment from such sources, since non-locals cannot own property in the State. Major business activity in the State therefore lies with Mizos. Non-Mizo’s can penetrate this system by tying up with the locals, in

various partnership arrangements, which tend to reduce the incentive for outsiders to invest.

Other States in the NER acknowledge that the ILP regime is implemented more rigorously in Mizoram. This can be a boon, in that local people benefit from any expansion in economic activity. It can also be a limitation, since all impetus to development has to be endogenously sourced. The State loses out on the opportunity to engage external sources. After Independence, these areas are listed as Sixth Schedule areas, where the regime of segregation continues. But recent Government policy initiatives have softened on this stand and land can be transferred to a non-tribal with the permission of the Government. These initiatives are geared towards attracting investment by non-locals, and largely focused on potential large investments. Such a transition to accommodating non-locals however is not expected to be smooth. In recent times, the ILP system was challenged in court. In response to a public interest litigation filed by the North East Plains People Traders Association, the Guwahati High Court issued an interim order on June 12, 2008 barring the Government of Mizoram from arresting and deporting Indian nationals without ILP. This intervention by the judiciary has evoked strong protests within the state and in other neighbouring states where the ILP applies. The government has taken a public stand that it would resist such a change in status and even appeal to the Supreme Court. It is felt that the ILP is an important instrument for checking illegal immigrants from across the internal border via Assam and Tripura. While this conflict does place limits on the ability of the government to relax ILP restrictions in the case of entrepreneurs coming to the state, it does point towards the emerging attractiveness of Mizoram as an investment or economic destination. In the absence of such a perception, the traders association would not have attempted such a measure to open up the hitherto closed economy. This augurs well for the economic prospects of Mizoram.The government does express an intention to make the process of issue of ILP for genuine Indian citizens as hassle free as possible.

1.4 STATE ECONOMY: TRENDS AND TRANSFORMATION

Gross State Domestic Product (GSDP) is one of the single most important economic indicators to measure the overall economic development of a State. It estimates of the value of all goods and services produced within the State during a

reference period of one year. In the year 1999-00 the estimated GSDP was Rs 1,550.06 crore which increased to Rs. 3662.63 crore in 2008-09. Its annual growth rate during this period was 10.03 percent in nominal terms. However, in real terms at 1999-00 prices its annual growth rate was 5.43 percent. Table 1.3 presents a comparative picture of Mizoram with other States in the North-East, in terms of GSDP performance in terms of sectoral shares. Only the States of Assam and Manipur registered lower growth rates when compared to Mizoram among the NER States.

Compared to other NER States, the share of primary sector in Mizoram is among the lowest, and the same holds for secondary sector as well. Nagaland, Tripura and Meghalaya record shares of secondary sector some what comparable to those observed in Mizoram. As a result, in tertiary sector, it is the highest compared to all other NER States.

Table 1.3: Composition of Nominal GSDP at 1999-00 Base: 1999-00 to 2008-09

(As percent of total)

State/ Sector	1999-00	2003-04	2005-06	2006-07	2007-08	2008-09	GR
Arunachal Pradesh							
1. Primary	35.10	28.56	26.00	25.52	25.67		3.31
2. Secondary	18.60	27.48	32.30	32.40	31.81		14.88
3. Tertiary	46.30	43.96	41.70	42.08	42.52		6.30
4. Total Real							7.43
5. Total Nominal							11.64
Assam							
1. Primary	40.74	34.29	32.28	29.95	28.02	28.05	0.83
2. Secondary	25.07	32.03	31.94	29.78	29.57	29.04	6.82
3. Tertiary	46.50	48.27	50.38	52.19	54.09	55.30	7.14
4. Total Real							5.09
5. Total Nominal							9.29
Manipur							
1. Primary	26.91	29.21	25.81	24.27	23.45	22.71	2.68
2. Secondary	22.29	26.55	30.47	31.78	32.67	33.47	9.46
3. Tertiary	50.80	44.24	43.72	43.95	43.87	43.82	2.92
4. Total Real							4.63
5. Total Nominal							7.68
Meghalaya							
1. Primary	31.85	31.59	29.56	28.90	28.02	27.73	5.15
2. Secondary	14.39	15.82	18.83	19.02	20.94	22.03	11.95
3. Tertiary	53.76	52.58	51.61	52.08	51.04	50.24	5.98
4. Total Real							6.78
5. Total Nominal							11.60
Mizoram							
1. Primary	*23.02*	*17.30*	*17.23*	*16.66*	*16.27*	*15.68*	*1.03*
2. Secondary	*15.62*	*18.11*	*19.45*	*19.92*	*20.21*	*21.11*	*9.02*
3. Tertiary	*61.35*	*64.59*	*63.32*	*63.42*	*63.52*	*63.20*	*5.78*
4. Total Real							*5.43*
5. Total Nominal							*10.03*

State/ Sector	1999-00	2003-04	2005-06	2006-07	2007-08	2008-09	GR
Nagaland							
1. Primary	28.10	33.05	34.29	32.90			10.17
2. Secondary	13.32	14.60	15.05	16.29			11.31
3. Tertiary	58.58	52.35	50.67	50.81			5.97
4. Total Real							8.15
5. Total Nominal							11.43
Sikkim							
1. Primary	21.98	21.33	19.86	18.96	18.22	17.49	5.09
2. Secondary	19.10	25.50	26.67	27.51	28.13	28.81	11.84
3. Tertiary	58.92	53.18	53.48	53.53	53.66	53.69	6.66
4. Total Real							7.76
5. Total Nominal							12.63
Tripura							
1. Primary	31.09	26.24	25.34	25.48	24.62		3.90
2. Secondary	14.12	22.62	21.91	20.25	20.02		19.66
3. Tertiary	54.79	51.14	52.75	54.27	55.36		7.12
4. Total Real							6.98
5. Total Nominal							10.50
NER States							
1. Primary	36.73	31.99	30.20	28.52	26.71	27.88	1.72
2. Secondary	21.65	27.38	27.78	26.45	27.24	28.99	8.53
3. Tertiary	49.27	49.33	50.51	51.85	53.23	55.94	6.24
4. Total Real							5.47
5. Total Nominal							9.57

Source: Computed by using New GSDP series at 1999-2000 base from Central Statistical Organisation.
Note: Real GSDP at 1999-2000 prices. GR is growth rate inpercent per annum.

Sectoral growth trends are worth noticing of Mizoram (Table 1.4). While secondary sector still accounts for a very small part of the total GSDP of the state, its growth rate in both nominal terms and real terms has been commendable. While in the initial years of this data period, tertiary sector leads the growth story, if one considers the entire period, the picture balances out. However, it should be noted that bulk of the contribution to growth in the secondary sector comes from the only visible activity – construction with a growth of over 11 percent in real terms. With these average growth rates, the share of services sector in the Mizo economy has increased while that of agriculture has declined. In the year 2008-09, the sector-wise relative contributions were as follows: primary 15.68 percent, secondary 21.11 and tertiary 63.20 percent. In the tertiary sector, major contribution was that of public administration (19.97 percent) and real estate (18.18 percent) and other services (10.27 percent). These three accounted for over 48 percent of GDP, i.e., close to half of the economy is due to them.

Table 1.4: Sectoral Composition of GSDP of Mizoram: 1999-00 to 2008-09

(Percent)

Sector		1999-00	2003-04	2005-06	2006-07	2007-08	2008-09	GR (percent pa)	
								Nominal	Real
1	Agriculture	20.51	14.97	14.98	14.43	14.05	13.50	3.91	0.64
2	Forestry & logging	0.96	0.93	1.04	1.01	1.02	1.00	7.15	5.92
3	Fishing	1.05	1.05	1.00	1.00	0.97	0.93	8.14	4.07
4	Mining & quarrying	0.50	0.35	0.21	0.22	0.24	0.25	0.13	-2.36
a	**Sub Total of Primary**	**23.02**	**17.30**	**17.23**	**16.66**	**16.27**	**15.68**	**4.42**	1.03
5	Manufacturing	1.58	1.47	1.86	1.90	1.93	1.95	11.50	7.93
5.1	Manu-Registered	0.35	0.31	0.34	0.35	0.35	0.36	10.63	5.85
5.2	Manu-Unregistered	1.23	1.16	1.52	1.55	1.58	1.59	11.74	8.46
6	Construction	9.81	12.78	13.79	14.31	14.64	15.63	15.73	11.03
1	Electricity,gas and Water supply	4.24	3.86	3.79	3.72	3.64	3.53	7.29	3.32
b	**Sub Total of Secondary**	**15.62**	**18.11**	**19.45**	**19.92**	**20.21**	**21.11**	13.47	9.02
8	Transport,storage & communication	2.03	2.31	3.09	3.33	3.60	3.88	13.55	13.29
8.1	Railways	0.01	0.02	0.01	0.01	0.01	0.01	11.02	8.38
8.2	Transport by other means	1.35	1.70	1.79	1.88	1.99	2.09	15.13	10.70
8.3	Storage	0.04	0.03	0.03	0.03	0.03	0.03	6.29	2.51
8.4	Communication	0.63	0.57	1.25	1.40	1.57	1.74	9.89	17.97
9	Trade,hotels and restaurants	9.69	7.33	7.05	6.95	6.74	6.48	4.44	0.82
10	Banking & Insurance	2.50	3.28	3.96	4.12	4.29	4.43	15.95	12.36
11	Real estate,ownership of dwellings and business services	14.69	16.33	17.93	18.63	19.36	19.97	17.11	9.09
12	Public administration	17.72	22.35	19.58	19.16	18.74	18.18	9.50	5.73
13	Other services	14.72	12.99	11.72	11.23	10.79	10.27	5.11	1.30
c.	**Sub Total of Tertiary**	**61.35**	**64.59**	**63.32**	**63.42**	**63.52**	**63.20**	10.78	5.78
14	*GSDP (Rs. lacs)*	*155006*	*197429*	*210513*	*222057*	*234370*	*249516*	*10.03*	*5.43*

Source: Computed by using New GSDP series at 1999-2000 base from Central Statistical Organisation.

Note: Real GSDP at 1999-2000 prices.

In terms of per capita income, Mizoram was performing better than all the other states in the north eastern region in 1999-00. However, over the decade till 2008-09, the state failed to maintain its position of lead. It slipped to a middle rank in this region, lagging behind Arunachal Pradesh, Meghalaya and Sikkim. So, even in the NER, it has to catch up several other states.

Table 1.5: Trends of Per Capita GSDP: 1999-00 to 2008-09

(Rupees)

State	1999-00	2003-04	2005-06	2006-07	2007-08	2008-09	**GR (percent pa)**
Arunachal Pradesh							
1. Nominal	15063	20861	25093	28972	32620	0	10.14
2. Real	15063	18681	20328	22829	23995	0	5.99
Assam							
1. Nominal	13365	17066	20282	22068	24056	26131	7.73

State	1999-00	2003-04	2005-06	2006-07	2007-08	2008-09	GR (percent pa)
2. Real	13365	15006	15885	16763	17544	18367	3.60
Manipur							
1. Nominal	14633	16442	20109	21029	22326	23762	5.53
2. Real	14633	14867	16391	16670	17458	18349	2.55
Meghalaya							
1. Nominal	15995	23603	28809	32766	37870	0	11.38
2. Real	15995	18647	21045	22151	23712	0	5.04
Mizoram							
1. Nominal	*18083*	*24510*	*27266*	*29269*	*31483*	*0*	*7.18*
2. Real	*18083*	*20813*	*21096*	*21696*	*22325*	*23177*	*2.80*
Nagaland							
1. Nominal	15154	21332	22028	22791	0	0	6.00
2. Real	15154	18544	18269	18490	0	0	2.88
Sikkim							
1. Nominal	17428	25395	31661	34787	39138	43909	10.81
2. Real	17428	21382	24450	25832	27702	29512	6.03
Tripura							
1. Nominal	15285	22832	27694	30076	31151	0	9.31
2. Real	15285	20026	23049	23364	0	0	6.25
NER							
1. Nominal	**14051**	**18492**	**21888**	**23798**	**25982**	**31670**	**7.82**
2. Real	**14051**	**16205**	**17390**	**18222**	**19064**	**21379**	**3.78**

Source: Computed by using New GSDP series at 1999-2000 base from Central Statistical Organisation.

Note: Real GSDP at 1999-2000 prices.

While the share of primary sector in GSDP was only 18 percent in 2004-05 with agriculture contributing 16 percent, 2001 Census reports that 43.4 percent of the working population reported to be cultivators while 2.3 percent were classified as agricultural labourers. In other words, there is high dependence on this sector for livelihood. In Mizoram, agricultural production consists mainly of Kharif crops. The contribution of Rabi crops is negligible possibly owing to climatic conditions and rainfall cycle. There is considerable impetus being provided to expand the cultivation of horticultural crops.wever, in terms of area covered, the impact is still marginal. The high dependence on agriculture and allied activities for earning livelihoods coupled with limited irrigation potential in the State results only in single crop on most lands and suggests the need to explore options for improving income earning potential from this sector.

Jhum or Shifting Cultivation continues to be the principal and prevalent method of cultivation. Over 35,000 hectares of land, which is about 34 percent of the total cropped area, has been put under *Jhum* for cultivation of rice alone during 2000-01. Out of the total production of 1,09,205 MT of paddy, *Jhum* systems contribute 67,076 MT. The long association with this cultivation practice and the associated

structure of the economy and society create some problems for the Mizo economy as well as for the individual agents within this economy. Numerous attempts by the State Government to induce a transition from *Jhum* to settled agriculture have not met with much success. It is essential therefore to explore the implications of *Jhum* on decision making within the economy. This report begins with such a discussion (chapter 2). This chapter seeks to explain the all pervading practice of *Jhum* and its implication for the economy, society, politics, culture, psychology etc, affecting the options and choices of people in the State.

Within the perspective built up in this chapter, chapter 3 goes on to explore the structure of the agricultural sector and proposes a strategy for making a transition from self-sufficiency oriented shifting cultivation practices to one based on settled agriculture. Given that there are a large number of technical reports available on the kinds of crops suitable for the State, this report refrains from exploring this route in any great detail. It explores two other issues.

- It seeks to identify institutional mechanisms for helping in the transition to settled agriculture.
- Given that the present structure is oriented towards self consumption, and infrastructure too does not permit complete market orientation, it builds a case for choice of activities which have synergies so as to improve livelihoods, without necessarily accessing the market route. Stability in this regime can make the next step easier.

Mizoram has a vast area of forest: covering 18,338 sq. km., this forms about 87 percent of the total geographical area of the State. About 20 percent of the geographical area is under dense forest while 68 percent are open forest. Conventionally, changes in the pattern of economic activity often tend to impinge on forest resources, thus forcing a discussion on trade-offs. In Mizoram however, it is possible to build a case for complementarity between expansion in livelihood options and forest conservation or even afforestation. The practice of *Jhum* requires the maintenance of some lands as fallow or social forests by each village community. In the process of transition from *Jhum* to settled agriculture, these lands become available for alternative uses. Chapter 4 explores the status of forests in Mizoram and builds a case for using these resources as a mechanism for expanding livelihood

options. Issues of conservation therefore do not remain external to the interests of the community – they can in fact be made central to such interests as well.

Turning from primary to secondary sector, the composition of GSDP in the State reflects the miniscule role played by industrial activity in the State. These activities are largely within the small scale sector and have not experienced rapid growth in investments or in outputs. The State Government as well as Government of India has announced a number of policy initiatives to encourage investment in the State. Measures to enhance the quality of infrastructure too were undertaken. Given the record of poor performance, in spite of all these efforts, chapter 5 explores the needs of the State as well as the constraints to the expansion of industrial activity in the State, and identifies an approach for addressing the needs of the State.

All expansion in productive activities places stress on existing infrastructure. In some cases, the strategies available to an economy may be constrained by the available infrastructure and possible augmentation of the same. Chapter 6 assesses the status of economic infrastructure in the State. Given the limited resources at the command of the State, and the large dimension of demands on the same, it is imperative to prioritise and explore alternative mechanisms of service provision. This chapter attempts to use non-conventional solutions in some of the cases, in its attempt to explore alternatives.

One of the goals of economic development is to improve the standards of living of the people. These can be achieved through the generation of higher incomes or through the explicit delivery of services. While traditional physical capital was the only recognised asset vis-à-vis production, now the scope has been expanded to include human capital as well. Apart from enhanced productivity and improved job options, improved education systems have a number of externality benefits – the synergistic relationship with preventive health care tends to improve the quality of life. Improvements in health care in turn contribute to improved productivity. A development vision, therefore, is not complete if it does not address issues of human development. This is the focus of the chapter 7.

Mizoram is intrinsically a decentralized system. The importance of the village communities and the existence of the autonomous district councils document the culture of decentralized decision making. Chapter 8 examines the overall service delivery of local services. While the level of services does not appear dismal

especially when compared to the rest of the North-East, there is a rising demand for autonomy from various segments of the society. This chapter therefore examines the option of strengthening decentralization as a mechanism to capture the local needs and aspirations. In the process it emphasizes the need for Mizoram to explore suitable institutional arrangement.

Any initiative to be undertaken by the government has to be financed out of the budget. The scope for government intervention therefore is limited by the finances available. While States like Mizoram are highly dependent on Central assistance, if these can be augmented by resources mobilized from other quarters, the scale of operation can clearly be expanded. Two sources available to the Government are: raising additional taxes and non-tax revenue, and raising loans from the market. Interestingly both these measures are interlinked in a sense. The ability of the State to find takers for its bonds in the open market is closely related to the fiscal health of the State. On the other hand, among the few instruments available to the Government for improving its fiscal health, is raising additional resources in terms of own revenue receipts. Chapter 9 provides an assessment of the fisc of the State and highlights measures for improving the same. The State has initiated measures for consolidation of the fisc like th FRBM Act. Some of these measures are analysed as well.

Finally, chapter 10 draws in the sector specific strategies proposed, into an overall framework for development of the State. It however refrains from spelling out a road map, with clear time lines, since the resource base on one hand and the speed with which people adapt to change on the other would determine the pace of progress.

Subsequent to the completion of the work on this project, certain new developments have been initiated. The most important and most visible of these is the reincarnation of the NLUP. Since such an initiative is intended to have far-reaching consequences for the economy, an Epilogue to the report provides a discussion of the main features of the programme and attempts to identify the potential weaknesses of the programme which need to be addressed to ensure the success of the programme.

Chapter 2

Jhum Cultivation: Implication for the Mizo Economy and society

SHIFTING CULTIVATION or *Jhum* is a typical subsistence form of cultivation. It is a year long operation with inter-cropping as an inherent feature. In difficult terrain, local conditions constrain the options available. *Jhum* is sometimes considered a response to such terrain with fragile topsoil where persistent cultivation may appear naturally unviable. It has its origin in the early evolutionary stage of agriculture, following that of hunting and gathering, and proceeding to settled cultivation. There are wide range of variations in the practice and techniques across region and culture in countries wherever it continues to be pursued depending upon the geo-physical conditions of the region.

In major part of the North-Eastern Region (NER), including Mizoram, *Jhum* is still the predominant mode of agricultural production. In a subsistence agricultural economy where nature plays a dominant role, there is an inherent element of uncertainty in the operation and hence is associated with various kinds of beliefs and rituals (varying from tribe to tribe), which embody the accumulated knowledge base of the community on the one hand and ensure sustainability and continuity on the other. In the course of time the all pervading practice of *Jhum* in the State has developed into a cultural significance for the tribal people. All functions, celebrations, festivities of the tribal people focus on various operations associated with *Jhum* cultivation. In other words, *Jhum* represents a way of life, intrinsically interwoven with the ethos of the tribal society, social relationship, cultural values and beliefs in Mizoram.

Shifting cultivation or *Jhum* basically involves selection of a piece of land, where vegetation is cleared, dried and burnt and is brought under cultivation. The nutrient cycle is replenished and maintained through the burnt and decomposed ashes of the bio-mass. The productivity of the virgin lands is quite good for the initial years and thereafter the yield starts declining. The land is abandoned after a couple of years

of successive cultivation for regeneration, while the cultivators shift to new patches and repeat the same process. The distinguishing feature of this system is that cropping is periodic, continuing for only a few seasons, after which the land is left as fallow. As the land and the vegetation regenerate, the land reaches a stage when it can once again be cultivated.

The Table 2.1 confirms the predominance of the *Jhum* in the State even in recent years. During 2000-01, over 35,798 hectares of land (which is about 34 percent of the total cropped area), was put under *Jhum* cultivation of paddy and the production was 59,560 MT. During 2003-04, about 43,447 hectares (34.46 percent of the total cropped area) of land was put under *Jhum* cultivation of paddy, which contribute 72,181 MT of paddy. The WRC which is rather a selective practice extended to an area of 13,668 hectares (10.84 percent of the total cropped area), with a production of 36,738 MT WRC/HYV in 2003-04[5]. With the impact of bamboo flowering setting in, while the area under paddy remains largely unchanged, the production of paddy has declined very sharply in 2006-07, in both categories.

Table 2.2 shows the district wise statistics of *Jhum* cultivation, establishing a strong evidence of high predominance of this agricultural practice in the State. The only exception is the district of Aizawl where a major portion is the urban area with a strong presence of Government sector and trading activity. But apart from Aizawl, the other districts do not have any alternative to cultivation as a means of livelihood, and further to *Jhum* as a way of cultivation.

Table 2.1: Area and Production of Paddy under Jhum and WRC during 1998-1999 to 2005-2006

Year	***Jhum***			**WRC**		
	Area (in Ha.)	**Production (in MT)**	**Yield/Ha.**	**Area (in Ha.)**	**Production (in MT)**	**Yield/Ha.**
1998-99	46,634	58,849	1.26	16,814	38,332	2.28
1999-00	36,285	53,930	1.49	10,361	29,281	2.83
2000-01	35,798	59,560	1.66	12,953	34,885	2.69
2001-02	40,306	63,568	1.58	12,690	33,845	2.67
2002-03	41,356	67,076	1.62	12,905	33,725	2.61
2003-04	43,447	72,181	1.66	13,668	36,738	2.69
2005-06	40,100	63,100	1.57	16,360	44,640	2.73
2006-07	41,465	13,659	0.33	11,388	15,806	1.39

[5] Total cropped area of the State in the year 2003-04 was 1,26,069 Hectares

Source: Statistical Abstract (2003-04), Department of Agriculture, Government of Mizoram and Economic Survey, Planning and Programme Implementation Department, Government of Mizoram

Table 2.2: District-Wise Statistics on Jhum Cultivation (as on 1.4.2004)

Districts	No. of Villages	No. of Households	No. of *Jhum* Cultivators	No. of WRC Cultivator Families	No. of Cultivator Families	Percent of Cultivator Families	Percent of *Jhum* Cultivator Families
Aizawl	147	49,596	15,806	946	16,732	34	32
Mamit	58	10,034	6,149	655	6,804	68	61
Kolasib	25	12,712	7,930	1,648	9,578	75	62
Lunglei	138	24,550	13,295	1,049	14,344	58	54
Saiha	76	17,009	12,541	544	13,125	77	74
Champai	105	20,038	12,394	3,101	15,495	77	62
Serchhip	33	8,947	4,737	1,388	6,125	68	53
Lawngtlai	156	11,757	5,343	1,970	7,313	62	45
Total	738	1,54,643	78,195	11,301	89,454	58	51

Source: Statistical Abstract, Department of Agriculture, 2003-04.

Thus this chapter will make an effort to analyse the extent and impact of *Jhum* on various aspects of the economy as well as on decision making of agents. Section 2.1 discusses the dependence and extent of *Jhum*, while section 2.2 highlights its characteristics and section 2.3 focuses on its impact on labour market. Finally, section 2.4 sums up whether it is a viable mode of production.

2.1 DEPENDENCE ON *JHUM*

Although a declining trend in the *Jhum* operation has been evident from the past Census figures but the rate of fall has been declining over the last decade. From the Census data of occupational statistics in the State the share of the cultivators (which can be approximated by the shifting cultivators), to the total main workers fell from 71 percent to 61 percent between 1981 and 1991. It further falls to 55 percent in 2001. The fall actually began in the 70's, but the data is not comparable. Table 2.3 also shows that the percentage of agricultural labourer which was very negligible (0.37 percent in 1971) in the State (because of predominance of *Jhum*) is slowly rising (5.7 percent in 2001) because of New Land Use Policy (NLUP), with State emphasis on agro-forestry, plantations etc. It is estimated in 1991, shifting cultivation comprised 82 percent of rural main workers and 33 percent of urban main workers. The significant decline in the dependence in shifting cultivation during 1980's and early 1990's can be attributed mainly to occupational mobility (due to expansion of Government sector and urbanization). In 1991 urban population represents 46 percent of the total population, which gave an impetus to the recruitment in Government jobs,

administrative services, trading etc. But with the saturation in the Government recruitment, these factors can not exert that effect much longer. The lack of occupational mobility and the current demographic pattern (population has so far proceeded at a pace above the national average) virtually restrained the other augmenting economic activities rather than *Jhum*.

Table 2.3: Percentage Distribution of Main Workers by Occupation

Category	1961	1971	1981	1991	2001
Cultivator	87.14	83.53	70.63	61.34	54.9
Agricultural labourers	0.03	0.37	2.49	3.28	5.7
Household Industry	4.04	0.32	0.85	1.02	1.5
Other Workers	8.79	15.78	26.03	34.36	37.9

Source: Constructed from Census of India, various years.

2.2 CHARACTERISTICS OF *JHUM*

Analysing *Jhum* is somewhat difficult in the State as there are no notable empirical studies on shifting cultivation. However the basic characteristics and its implications are discussed in the following two subsections on general aspects and economic implications of *Jhum*.

General Aspects

Legal Provisions: *Jhum* land qualifies as common pool resources, where the village community has the collective user right. In Mizoram the Village Council Acts vest the village council with the power to distribute land for and to regulate *Jhum*. The Forest Acts conceded the right of the people to *Jhum* in unclassed forests subject to regulations by village council. There are *Jhumming* rules and regulations regarding the distribution of *Jhum* lands, control of *Jhum* fires (through fixing the date of cutting and burning and various other precautions). Although LAD is supposed to act as an umbrella to the village council but their role in this regard is very much instrumental, leaving the village council as the sole decision-maker. NLUP villages, town and sub-towns, do not formally recognize *Jhum* as an institution and hence the responsibility of regulation too is not assigned. In Chakma Autonomous District Council, villagers in informal sub groups organize themselves for *Jhum*.

***a. Mode of Operation of Jhum*:** *Jhum* in Mizoram is almost a uniform practice among the larger tribes like Mizos, Maras, Lais and Chakmas.

The selection of the plot is done through the lottery system. By October each family has demarcated its plot and the village council is supposed to keep a record. Clearing the vegetation in the autumn allows for better decomposition, which increases the productivity. Since it coincides with the harvesting of early paddy, so normally clearing of new fields is done later between January and February. Although, *Jhum* is a family-based operation, but the clearing of the forest is exclusively done by men. The cutting operation could last anywhere from a week to nearly two months, depending upon the nature of the forest.

The right timing of burning is of utmost importance in *Jhum*ming. The timing is crucial in the sense that the felled trees and bamboos in the field are to be sufficiently dry, so that it burns very well. Generally most plots are fired by the 15th or 20th of March (as declared by the village council), depending on local weather conditions. The village elders from their traditional knowledge on cloud formation decide the suitable date of burning. Late burning as in April increases the risk of fire spreading to the surrounding dry vegetation, or early rain can upset drying and burning. If rain soaks the unburnt *Jhum* land, ideal *Jhum* cultivation is not possible.

The crops cultivated are generally mix of paddy and other crops. Paddy is the dominant crop, supplemented by varying degree of maize, sesamum, chillies and vegetables, according to the family's preference. The hoe is used to make small notches to sow seeds. The seeds are indigenous variety, which is recycled from last year's production.[6]

Of all steps, weeding is the most laborious job. Generally three and four rounds of weeding are required in a season. Short *Jhum* cycle and burning delays are associated with greater weed growth, and site factor also affect their intensity.

The harvesting of multiple crops in a *Jhum* field is a successive process. Mustard leaves, followed by other vegetables such as cucumber and melon start maturing by June. There is steady inflow of vegetables through out the period. Early paddy is harvested from the end of September-October, and late paddy during

[6] There are numerous indigenous varieties of every crop. Indian Council of Agricultural Research has studied 15 rice genotypes cultivated in Mizoram, even without the listing being exhaustive.

November-December. Sesamum is harvested during December, and chillies and cotton during December and January.

b. Choice of Jhum Lands: The bamboo sites are generally preferred over tree forests for *Jhum*. Trees take longer to cut and dry, and do not burn as well. It is a tribal belief that trees extract much more nutrients from the soil, than bamboo and thereby leaving it less fertile for cultivation. They also believe that bamboo ash is better for crops. Singh (1996) documents through studies of villages like Bilkhawthlir, Sairep, Zawngling, Tuipang this preference. For instance the villagers in Sairep find that clearing of bamboo takes a third of the time taken for tree site, and the paddy yields could be 8-10 times higher in the 6th year bamboo fallow in comparison to the six year tree fallow (Singh, 1996).

Regarding the terrain, people had an identical opinion in favour of low hills than high hills, as it lacks soil moisture. Generally hill tops are preferred (which are open and airy) over the foothills. The preference for slope is gentle, in a regular, contiguous stretch. Terrain influences the choice of crops and the varieties grown.

c. Jhum Cycle: A pattern that has been observed despite the limitation of data is that the blocks with high population pressure have shorter *Jhum* cycles. But the correlation is not the other way round (Singh, 1996). There are cases where sustainable *Jhum* cycle exists, however at the cost of over riding the safety reserves. The duration of *Jhum* cycle is influenced by several factors others than population density. This is basically because all available land is not always bought into the cycle. Moreover distance, altitude or even the passive attitudes of the village councils are some other factors that lead shorter *Jhum* cycle.

d. Jhum Land Management: In the earlier days under chieftanship the common pool resource management was under the recognition that it is the only source of livelihood. Besides, low population pressure and pure inflow of indigenous knowledge (with virtual absence of market interference) were some of the important factors behind the better functioning of the indigenous system of management of *Jhum*ming land. The short term of 3 years of the village council results in frequent change of hands of managers with lack of continuity and emergence of free riders.

This also fails to build up appropriate contract for monitoring the end results[7]. Hence *Jhum*ming is often affected by serious negative externalities of passive management, vested interest, free riding etc.

e. Productivity: There are numerous obstacles to assessing productivity in the system of mixed cropping under *Jhum* cultivation. The village level generally does not maintain records of crop production. But the common perception is that, the productivity is very much positively associated with longer *Jhum* cycles and healthy forest cover, which produces more ash on burning and less weeds. In the bamboo forest lowering the *Jhum* forest below 5 years would drastically reduce yield. Increasing it above the duration would boost yields, but at a decreasing rate. For the tree forest the pattern is same but the pivotal *Jhum* cycle would be 8 years (Singh, 1996).

There are two critical variables evolved around the productivity and soil nutrient cycle. One is the number of consecutive years for which the land is cultivated, and the other is the *Jhum* cycle, i.e., the number of years of the fallow periods. In Mizoram the land is customarily cropped for a single year, after which it is allowed to remain fallow. The fallow period depends on the total land available for shifting cultivation in a particular village and the density of population in that village (ranging from 3-20 years). The survival of this *Jhum* practice is deeply embedded to the resilience of the production system itself apart from age old social and cultural tradition.

There is a wide spread perception that *Jhum*ming is an unproductive activity. This general view has been countered by some rigorous primary studies in different parts of North-Eastern India. In a study for the Garo community in Burnihat in Meghalaya, Garos, Khasis and Mikris in Lailad also in Meghalaya, and the Nishis of Balijan in Arunachal Pradesh it has been shown that the outputs from *Jhum* exceeds the inputs (Ramakrishnan, 1993). A study of selected farmers in Sesawng and Khawruhlian villages in Mizoram also reports favourable output-input ratios (Tawnenga, 1990). Table 2.4 presents a comparable data on productivity with the length of the *Jhum* cycle in Burnihat in Meghalaya (as it shares a degree of similarity

[7] Although there are no strong evidence but some sources mention that in various Jhum lands people do not bother to construct fire-lines or control spreading fire. This leads to needless destruction of forest on almost as much land as the act of Jhumming itself.

with low elevations in Mizoram) and that of Mizoram. But the major concerns of those studies are the ecological aspects rather than economic. The productivity factor has several dimensions which are not addressed properly in those studies. The most important shortcoming of this system (which will be discussed in details in the next section) is that it provides no scope or incentive for further growth.

Table 2.4: Output-Input Ratios of Cultivation

	***Jhum* Cycle (years)**			**Settled Cultivation**	
Burnihat					
	30	**10**	**5**	**Terrace**	**Velley**
Monetary (Rs./ha/yr)	2.13	1.83	1.88	1.43	1.08-1.22
Energy (Mj/ha/yr)	34.1	47.5	46.7	6.7	17.8
Mizoram					
	20	**6**	-	-	-
Monetary (Rs./ha/yr.)	1.39	1.14	-	-	-
Energy (Mj/ha/yr)	20.01	16.8	-	-	-

Source: Singh, Daman (1996).

Economic Implications of Jhum

These are the critical aspects which need to be analysed in details in order to have a better understanding of the system itself and its implications for the labour market.

(a) Common pool resource and family based operation
(b) Slash and burn – total dependence on nature
(c) Inter-cropping - self contained system – no marketable surplus
(d) Extensive form
(e) Community decision or learned wisdom
(f) Perceived notion of abundance of *Jhum* land
(g) Denial of individual effort
(h) High inertia of persistence
(i) Stunted economic activities - incomplete labour market
(j) Sub-optimal practice –negative externalities.

As *Jhum* land basically follows allocation of common pool type of resource. The selection of the plot is done through the lottery system (Singh, 1996). Generally families get their desired size of plot which they appropriately decide depending upon

their family size, capacity to cultivate etc. The size selection is done optimally by each family in the sense that if land is selected in excess and left uncultivated then there is a threat that it would not get the chosen size next year.

It basically follows a family based system of cultivation which characterises almost total dependence on nature. The practice requires very simple tools and the usage of indigenous variety of seeds, which is recycled from the last year production. The slash and burn is followed by normal rejuvenation through leaving the land fallow; this provides a long period solution to stabilizing fragile top soil. It is a very much organic practice with virtually no cash inputs, no use of chemical fertilizers pesticides or organic manure and no mechanization. Moreover the use of burnt vegetation makes far more economic and financial sense than application of chemical fertilizer.

Low concentration of population and dispersed habitations imply that the focus of economic activity is on self sustenance. Markets are not accessible and does not play a major role in decision making, especially given the risk involved. The sources of risk in market reliance are basically price volatility implies incomes and level of living too can be volatile. Moreover higher degree of market reliance thrives well with individual optimization and decision making where risks are not shared within the community and hence traditional knowledge is only of limited use. Problems with market risks are compounded by bad infrastructure, poor connectivity, few and distant markets, poor record of Government procurement, poor storage facilities and poor technology base etc. Hence the scale of operation is generally low, meant for self-consumption only and not for marketable surplus. This ensures self-sustaining villages or village household without the need for market. Hence it is sustainable even in the remote inaccessible location.

The inter-cropping feature suggests different cycles for different crops. Hence all stages of cultivation, right from the preparation of soil to the cultivation and harvesting requires the physical presence. The harvesting of multi-crops *Jhum* field is a successive process. The form of cultivation is an extensive type where the increased demand is met through expansion in scale of production. Hence the individual's need is simultaneously met with those of the community. Learned wisdom is gleaned over generations in the entire operation of *Jhum*. Although uncertainty (both man made

and natural), is embedded into the system, collectivity assumes a special significance in sharing the risk.

The traditional system thrives on manual labour, simple tools and sustains well on the total dependence on nature. The steps of cultivation are very standardized, so are their timing and technique. All shifting cultivators are faced with same kind of choices. The characteristics of multiple cropping, production for self-consumption and extensive form of cultivation themselves suggest that sustainability is ensured not through yield productivity but through self-containment. The congenial climate inclined for a phenomenal high vegetation growth minimizes the uncertainty associated with production. The system works efficiently with the exogenous inflow of inputs right from the land to technology and information. The scope for individual decisions is limited to land capability, family priorities and capacities and opportunities for sale of produce. Unlike the private settled agricultural practices the success of *Jhum* lies in the high degree of collectivity and community control rather than a series of agronomic practices and individual choices and decision making. This blocked the incentive for investment, generation of marketable surplus, individual initiative and entrepreneurship development.

For the *Jhum* cultivator land available for *Jhumming* is not at all a scarce resource in the State. In Mizoram due to the high land man ratio an exceptional feature is noticed that each family has a freedom to cultivate as much land as it wants. With the increasing population, many times this has been achieved through the expansion into fresh forest.[8] Since supply is not a constraint, the amount of land bought under cultivation by a family is merely dependent on the demand (number of family members, access to the market etc). So the optimization exercise never takes place with constraints on land availability. This perceived notion of abundance of land intrinsically encourages the persistence of existing system and resistance to change denial of individual efforts.

Embedded in the system is the high inertia of persistence. This self-contained subsistence system of production is well suited to an insulated rural economy, where the generation of marketable surplus does not make sense and occupational options

[8] This suggests that the scale of operation of Jhum is still low in the State in relation to its area and density of population. Jhumming virtually takes place on not more than 4 percent of the geographical area annually and is distributed in small blocks rather than across long stretches.

are severely constrained. Moreover even when the outside economy is rapidly changing, viable alternatives have not emerged in this remote location. The system sustains uninterrupted with or without exogenous pull and push of Government assistance, market accessibility, infrastructure etc. Moreover despite a persistent effort on the Government side to denounce *Jhum* (*Jhum* Control Project, New Land Use Policy) as a livelihood option and also in terms of incentivizing alternate sources of livelihood - the system continues unabated. However the Government's initiatives under different policies and projects have not produced significant breakthrough in viable alternative livelihood option in the State so far. Moreover the ecological and environmental carrying capacity, demographic set up and occupational pressure in the State have still not reached a level where the sustainability of *Jhum* is undermined. The difficult choice of switching from shifting cultivation to market oriented form of production is constrained by the above mentioned risks. Such cultivators are small operators with a very insignificant share in the market, are therefore badly hit by the price fluctuations and time lags.

Jhum is a sub-optimal practice in an economic sense. One principal flaw in the system of shifting cultivation is that opportunity cost of this practice is very high in the national or global perspective. This implies that far more remunerative option exists in the present technological and economic context.[9] Due to the abundance of community land and relatively low density of population, productivity is not the yardstick for resource utilization. The customary land right does not confer incentive to invest in land. Moreover the virtual absence of market signifies that there is no driving force in that direction. As mentioned in the earlier section the system is subject to severe negative externalities.

[9] A study of the hill district of Central Himalayas, reports that collection of revenue from forest resources and milk products for purchasing food grains is more economical than cultivating the same lands for foodgrains (Ashish, S.M., A working paper presented to the task force for the study of eco-development in the Himalayan Region, Planning Commission, Government of India). Marginal benefit from the sustainable forest based activities is much higher than agriculture. In the hills of Mizoram, the typical geo-physical condition owing to its steep slopes, topography, elevation and other environmental constraints, even the eco-friendly Jhum cultivation (like terraced farming) will not be much economically viable. Even the introduction of modern agricultural practices like improved irrigation facilities, good seeds, fertilizers may prove to be counter-productive.

2.3 JHUM AND LABOUR MARKET

The extensive form of cultivation in this system implies that there is no optimization mechanism in respect to land (as the family can get as much land as it wants). Further, since the same plot of land does not return to the same family year after year, there is no incentive for investment in improving the land. The absence of a notion of 'scarcity' with respect to land implies labour becoming the only scarce resource in this system, and the pivotal factor for organizing production. The return to labour incorporates return to all factors of production and hence opportunity cost of labour is prohibitively high in the system. The system therefore does not permit the usage of wage labour. Since all *Jhum* families face the same consequence and risk, and should therefore get approximately the same productivity. There are no economies of scale perceived, and therefore there is no incentive to pool or consolidate resources. This particularly inhibits the development of regular labour market.

Hence, one of the drawbacks of the *Jhum* mode of production is its weak linkages with the labour market. The all pervasive phenomena of *Jhum* cultivation, the customary right of the soil, the lottery system of land allotment and family based system of cultivation imply that the opportunity cost of mobility of a villager to work as hired labourer elsewhere in the lean period is pretty high. The strong community bond of the Mizo society reduces the incentive for a village member to stay away from the village for economic reasons. Hence the entire economic activity is tangled around the subsistence activity of *Jhum* and leaves very limited scope for other economic activities to sustain.

The self-contained system completely blocks the role of intermediaries and trading community etc. and hence denies the role of market. The weak product market linkage has its reflection in the factor markets for both labour and capital. The system limits the role of capital investment and thereby undermines the risk bearing and entrepreneurship development. In the absence of local entrepreneurs and restrictions on entry of entrepreneurs from outside the state, employment opportunities in the state do not expand. Hence the predominance of *Jhum* compels the weakness of the labour market and the incomplete labour market reinforces the persistence of *Jhum*.

Evidence of distorted labour market in Mizoram is available from the fact that average daily wage rate of casual workers engaged in public as well as non-public works in Mizoram is unreasonably high when compared to the neighbouring States as well as Indian average. Given more or less the similar type of historical perspective, tribal base, fragile ecosystem, remoteness etc, the underdevelopment can be broadly defined in terms of poor labour market in the entire neighbouring region. But what can be argued is that the weakness is more pertinent in Mizoram and as compared to the national figures the contrast is sharply striking (the figures are two-three times higher).

The average wage of the rural casual workers engaged in public works is as high as Rs. 77.14 against the national average of Rs. 45.55 in 1999-00 (NSS 55th Round). The male wage is second highest in the entire North-Eastern region (Rs. 85.55), next only to Tripura. Similarly the average wage of the casual workers engaged in non-public works both in the rural and urban areas is fairly high. It is even more paradoxical that wage rate of the rural casual workers in the non-public work is highest among the North-Eastern States. In the rural areas it is Rs. 92.33 per person (with male-female variations at Rs. 97.77 and Rs. 64.22) against the national average of Rs. 39.04 (with male female variations at Rs. 44.84 and Rs. 29.01 respectively). In the urban areas male wage is the highest Rs. 86.67[10]. In the urban areas the average wage rate for the casual workers in the non-public works is Rs. 79.96 (with male and female wages as Rs. 86.67 and Rs. 64.22 respectively), against the national average Rs. 56.96 (with male-female variations at Rs. 62.26 and Rs. 37.71 respectively.

What is paradoxical is that average income per year in 1999-00 for people engaged in agriculture is about Rs. 11,300, which assuming 200 working days per annum, translates into Rs. 56 per day[11]. Interestingly, GSDP figures suggest that 1999-2000 was a bad agricultural year since GSDP from agriculture declined by 10 percent in nominal terms. Similar figures worked out for 2000-01 suggest averages of

[10] Actually the ranking for the highest wage rate of urban casual workers for non-public work is varying between Mizoram and Nagaland. Since the female wage for Nagaland (male wage rate Rs. 81.47) is not available so one can not conclude about the absolute ranking.

[11] This figure is derived by dividing the GSDP from agriculture in 1999-2000 by the number of workers, main and marginal, who are classified as cultivators. This latter figure does not taken into account the agricultural labourers. While the numbers are small in Mizoram, if these too are added to the number of claimants on agricultural incomes, the derived per worker income would be somewhat lower at Rs. 10,200 per annum or Rs. 51 per day.

Rs. 17,500 per year or Rs. 87 per day. If these numbers are considered reflective of the ground reality, the enhanced level of wages in wage employment would be a reflection of the perceived opportunity cost of leaving agriculture. While this is credible enough, the rapid pace of urbanization and the observed level of unemployment does not corroborate a picture of satisfaction with agriculture. It is in this sense that the structure of the labour market in the State appears to have kinks which prevent a smooth transition.

2.4 JHUM AS A VIABLE MODE OF PRODUCTION

The question remains to be answered whether *Jhum* is a viable mode of operation for sustainable development of Mizoram or not? Evidence from various sources suggests that this traditional practice is over-stressed by both external and internal forces. One thing certainly follows that, there are good deal of critical factors involved in it, which undermine *Jhum* as a viable mode of production. Subject to the present pattern of resource utilization and management on the one hand, and limitation in expanding the cultivable area from the forest land, and rising population pressure on the other, it will exacerbate the problem in the near future (if not at present).

Jhum is not sustainable and viable mode of operation in Mizoram, not due to ecological and environmental aspect but purely an economic one. There is an inevitable threat of economic and social stagnation under the current demographic trends in the post 1970's and severely constrained livelihood options. The present status of primary sector does not provide much scope for augmenting standard of living which thereby calls for a change in organizational structure in the primary sector itself. Hence in order to boost the economy and generate investible surplus there is a dire need to have marketable surplus in agriculture and primary activities. Thus there is a need to find an alternative to shifting cultivation, from subsistence farming to the market oriented production.

The population growth, which has so far proceeded at a pace above the national average may act as a major impediment in the sustainability of *Jhum* cultivation (in terms of shortening of *Jhum* cycle, lower productivity, degradation of forest etc) in the future. This calls for a fresh stimulus for occupational diversification

(either in the primary sector by way of alternate land based activities, or in the non-existent secondary sector or in the cramped tertiary sector).

As a consequence of the population pressure *Jhum* cycle (number of years for which land is left as fallow for regeneration) declines over time. This implies productivity of land declines. Two ways this can be avoided are:

(i) If there is scope for occupational mobility so that direct population pressure decreases. Given the existing situation there is very limited scope.

(ii) Total land available for *Jhumming* increases with increase in population. If the total area under *Jhum* is considered to be 6 percent, – the level being cultivated in any particular year - it appears imminently feasible to expand the coverage of area under *Jhum.* (6 percent is the figure for 2003-04.) However, if the fallows generated and essential for this practice also taken into account, then an additional 11.5 percent appears to be associated with *Jhum.*[12] An earlier study estimates a much higher figure of 45.62 percent of the total land in state being affected by shifting cultivation (Singh, 1996). These figures suggest that there are limits on the expansion of land under shifting cultivation.

The above is however only one perspective. There is a vibrant debate going on about the viability of shifting cultivation as a mode of production in the NER. A section of eminent researchers and ecologists believe that the fragile mountain ecology is distinct from the mainstream ecology and hence demands better appraisal, deeper understanding of the functioning of the eco-system, its resource regeneration and utilization. Hence there should be a proper understanding of the institutional mechanism ingrained in the age-old traditional practice of shifting cultivation, which is according to them is based on robust traditional and ecological knowledge. See Box 2.1 for an illustration of adaptive management of shifting cultivation in Nagaland.

Box 2.1

Nagaland's Experiments

Nagaland has pioneered an excellent method by introducing a strong and increasing component of agro-forestry through assisted tree planting of selected fast growing timber, the menu being a product of meticulous exercise in bio-diversity mapping, documentation and breeding of plants, material for wide spread propagation. Of Nagaland 1000 villages, 500 have already been covered with farmers planting upto 100 trees, each in their *Jhum* fields, calculated to yield a harvest of 1 lakh each on a ten year *Jhum* cycle. Each *Jhum* field being

[12] There are 5950 hectares of cultivable waste land, 194378 hectares of fallow lands other than current fallow and 38447 hectares of land is current fallow which together amount to 11.5 percent of the total land, in 2003-04. The figures for earlier years show higher levels.

cultivated for 2 years, tree plantation in first year with inter cropping of ginger, turmeric, black pepper, lemon grass, citronella and other suitable varieties could overtime results in a more ecologically friendly and viable agro-forestry cycle.

Source: Report of the Working Group on Agricultural Development in Eastern and North Eastern India for the Formulation of Tenth Five Year Plan.

On this issue Shillong Declaration 2004 is worth noting[13]. It has been declared that the shifting cultivation must be recognised as a key to production systems, both agriculture and forest. And therefore the Regional, National and Local Policies for shifting cultivation need to be re-appraised and where necessary adaptive management of traditional practice should be encouraged. The guiding principle is to support decentralised, participatory, eco-regional and adaptive management approaches that respect human and cultural diversity, gender equality, livelihood security and environmental sustainability.

[13] This is a declaration by the participants of a Policy Dialogue Workshop held on 6-8 October, 2004, on Jhum Cultivation of Eastern Himalayan Countries. The participants included Government agencies, international bodies, NGOs, farmers, academia, science and research institutions etc.

Chapter 3

Agriculture and Allied activities: Issues and Options

MIZORAM is a predominantly agricultural State, in terms of the level of dependence of the population on agriculture for livelihood. The latest Census 2001 places 63.2 percent of the worker, main and marginal put together, as dependent on the agriculture and cultivation in Mizoram as against 61.5 percent for all-India. The low population density of 42 persons per sq km in Mizoram in comparison with the rest of the North-East of 158 and with Indian average 313 suggests that the pressure of population growth be not yet felt on the sector. Land use statistics suggest that only 7 percent of total land is under cultivation, even as recent as 2002-03. Since the principal form of organization in agriculture is through shifting cultivation, the actual land under cultivation in principle should include the fallow lands as well. Including fallow lands, this figure climbs to about 19 percent.[14] While there are no firm statistics for the extent of land under *Jhum*, wet rice cultivation – the major settled agricultural operation – accounts for only 13-14 percent of the total land cultivated, suggesting the predominant importance of shifting cultivation in total land use. The chapter on *Jhum* highlights the limitations of such a form of organization. One of the primary limitations is that with growing population, the *Jhum* cycle tends to contract or existing forest cover is depleted in order to find adequate stretches of land for cultivation. The former would result in decrease in productivity while the latter, apart from being environmentally undesirable, could lead to greater erosion.

Cropping pattern reflects predominance of paddy. Forty seven percent of total gross cropped area is devoted to cultivation of rice. The output however is not adequate to sustain the people of the State – while the demand for rice is about 186,726 MT, the output is barely, 80,240 MT, i.e., about 43 percent of the

[14] Economic Survey of Mizoram suggests that the figures for 2006-07 are even lower at 4.47 percent for net sown area and 14.31 percent including fallow lands. These figures however significantly lower than those reported for 2003-04. While apprehensions in the context of "Mautam" could result in a decline in the net sown area, there is not easily identifiable reason available for explaining a decline in fallow lands as well.

requirement. The other crops cultivated include pulses, vegetables, and fruits (Table 3.1). There has been a noticeable increase in the area under fruits as well as in vegetables and spices. In terms of productivity however, the rice, spices and sugarcane emerge as good performers. The changing pattern augurs well for the economy. However, the statistics need to be taken with a note of caution – as discussed in the chapter on *Jhum*, this activity is invariably based on multiple crops.[15] It is therefore incorrect to add the acreage under different crops to arrive at figures for the gross cropped area. Poor productivity of fruits could mean that lands unsuitable for the crop are being brought under cultivation – as would be inferred in settled mono-crop agriculture – or that the preference ordering has changed in favour of some of the other crops used in the multi-crop structure. It could also mean a dynamic picture with some gestation lags- while fruit crops are planted, the output is realized only after a year or two. Given the extent of information available, it is difficult to choose among these alternative explanations.

Table 3.1: Cropping Pattern in Mizoram

Crop	**1990-91**		**2003-04**		**2005-06**	
	Area	**Production**	**Area**	**Production**	**Area**	**Production**
	(hectares)	(MT)	(hectares)	(MT)	(hectares)	(MT)
Rice	***51383***	***63794***	***59196***	***114630***	***56460***	***107740***
Jhum	36716	35283	43447	72181	40100	63100
WRC	14667	28511	15749	42449	16360	44640
Maize	6640	11090	10481	20282	11742	22703
Pulses	4837	7500	4892	4313	6861	8663
Tapioca	129	1196	139	690	300	1222
Oilseeds	5514	5080	7532	5478	5870	5560
Cotton	948	408	343	227	308	241
Tobacco	844	700	460	404	511	364
Sugarcane	452	1792	1393	36174	1383	45953
Potato	336	768	363	893	953	3891
Horticultural Plants						
Fruits	***8133***	***32264***	***22645***	***46968***	***19769***	***165353***
Plantation crops			3825	6107	2110	3979
Vegetables & roots	6300	46195	8286	33813	960	26228
Spices	4568	11915	6514	34407	1236	10456
Total	90084	182702	126069	304386	108463	402353

Note: Figures for 2006-07 too are available, but given the substantial decline in the area under production, as discussed above, the figures should not be used for discussion on long term trends.

Source: Statistical Abstract, Department of Agriculture, Government of Mizoram. And Economic Survey, 2007-08, Government of Mizoram.

[15] Table 3.1 therefore needs to be read with caution – it refers only to the reported land under paddy cultivation.

In terms of the consumption patterns, Mizoram is a predominantly rice, vegetables and meat eating population. The jhum cropping patterns yield the vegetables. The cross border trade statistics reveal that there is a regular inflow of cattle and pigs to fulfill the demand for meat – as compared to 41,302 number of cattle and 217,184 number of pigs reported in the livestock census 2003, there are 9034 number of cattle, goats and sheep and 11,613 number of pigs reports as being brought into the State. These are the figures reflected in the statistics collected at the formal border checkposts. Given the porous nature of the border, the actual inflow could be higher.

Extent of irrigation in the land is rather limited - 8 percent of net cropped area is irrigated. The irrigation potential of this State, in terms of major irrigation projects is severely limited. The existing potential is only in terms of minor irrigation projects and is assessed at 100 thousand hectares, of which 96 percent is based on surface water and 4 percent through exploiting ground water potential. The progress made as in December 2007 is of irrigation capacity of 11388 hectares in minor irrigation projects and spans 193 projects. These are mainly river diversion schemes with ultimate irrigation potential ranging from 4 hectares to 320 hectares[16] (Government of Mizoram, 2003-04). The State receives rainfall for 6 months or more in a year. All the rivers in the State are rainfed, implying thereby that unless major reservoirs are constructed, there is very limited potential for these rivers to cater to the demand for water in the dry months. Irrigation therefore assures the cultivator of controllable supply of water during the season rather than allowing from a change from single crop cultivation to multiple crops. This is also reflected in the figures for the area that is cultivated more than once – only 4,500 hectares. This accounts for less than 4 percent of the total land under cultivation. The topography of the State however is not suitable for the construction of major reservoirs. In other words, the attempts to explore options within agriculture have to explore the potential without depending on major expansion in irrigation potential.

It is evident that the State is not self-sufficient in terms of agricultural consumption. Further, it does not produce significant surpluses of any crop to be considered a commercial producer capitalizing on its comparative advantage. In

[16] There are only 7 lift irrigation schemes with irrigation potential of 840 hectares.

developing a strategy for this sector therefore, it is important to focus on these dimensions as well as on the constraints faced by the agents in this sector. The following section identifies the constraints to growth in this sector. Based on the contours emerging from these constraints, the next section provides an outline for the options available. The discussion in this section has two distinct components – the options in terms of organization of cultivation and options in terms of choice of crops. The former seeks to address the constraints emerging from the predominance of *Jhum* and the latter seeks to address the topographic and demand-based constraints.

With this overview in mind, section 3.1 reviews the constraints being faced by the State in agriculture. They are topography-related constraints, low density, connectivity and ancillary services, and constraints posed by the predominance of *Jhum*. Section 3.2 proposes options for reforms in agricultural sector. While section 3.3 argues the case for cooperation as an alternative form of organisation, section 3.4 discusses various choices of economic activities related to agriculture.

3.1 CONSTRAINTS TO AGRICULTURE

There have been a number of studies on options for reforming the agricultural sector in the North-East in general and of Mizoram in particular.17 Some of these reports seek to lay out road maps and provide a list of crops suitable to the State. In presenting these prescriptions, these reports do identify the limitations and constraints to the development of agriculture in the State. The main constraints identified are the topography, connectivity and the resultant difficulties in accessing the markets. After analyzing these constraints the approach adopted by the Report of the Swaminathan Institute for instance, is the following:

1. Identification of environmentally sound crops for hilly areas
2. Integrated local enterprise policy which encourages small enterprises development within existing production systems
3. Specific support for small enterprises and new cropping strategies during the initial phase
4. Develop marketing networks.

[17] See for instance, Tata Consultancy Services (1998) and M.S. Swaminathan Research Foundation (1998).

The TCS report too adopts a similar approach, and emphasizes the need for between connectivity. Similar conclusions can be found in other reports as well – Planning Commission document for the North-East, for instance.

Utilising some of these suggestions as well as the assistance provided by the Government of India under various schemes, Government of Mizoram too has taken up a number of initiatives to induce a shift in favour of settled agriculture and of introduction of new commercial crops. Mizoram Intodelna Project (MIP) is one such initiative, which seeks to bring in self-sufficiency in terms of agricultural produce for the State. As the project document States, "The main focus of the Project is upliftment of the rural poor, to emancipate them from the drudgery of back-braking, un-remunerative and futureless shifting cultivation." The MIP guidelines are drawn from the Central Project Guidelines for watershed development and employment generation. While the State Government was committing resources to the project, the initiative was sought to be handed over to the village community. "Farmers and their associations will initiate and prepare individual schemes and the annual plan of the Farmers' Association. The Association will sanction individual schemes and distribute the plan funds. They will monitor schemes and will be largely responsible for the success of the scheme." The Project hopes to cover all the shifting cultivators of the State in period of 7-9 years. As a part of this project, there is a marketing plan as well, highlighting the need to focus on this aspect as an integral part of the plan to improve agricultural operations, output and incomes. The Guidelines suggest that in the selection of crops, "priority should be given to crops which are consumed and marketed locally in Mizoram. The items meant to be sold outside … should have better longevity of life, low volume or weight but high value, stable demand and established channel of market route…". Mizoram Agricultural Produce Marketing (Regulation) Act, 1996 has not been implemented and the MIP Guidelines suggest that these should be implemented forthwith so as to create the necessary infrastructure for marketing the agricultural produce. There are suggestions to cold storage facilities as well. The scheme also talks about the procurement and provision of market information of major markets outside the State so that the marketing units can optimize on the timing of sale. There is also a component for introducing Minimum Support Price and Market Intervention Scheme to ensure a certain stability to the prices both for the producer and the consumer – this is an option offered by the

Government of India on 24 commodities. Projects were also written out for development of an Export Oriented Agri-Zone and Food Park so as to encourage value addition in the marketing chain of agricultural produce in the State. Connectivity to the neighbouring countries and the easing up of marketing options in these directions are proposed as important ways of improving the marketing options for the producers in this State.

This project was introduced in March 2002.18 As a part of the implementation programme there was a monitoring and evaluation component built in which seeks to document the progress made and the impact on the livelihoods of people. The programme, introduced with assistance from the Central Government is expected to disburse Rs. 548.39 crore for 9 years and benefit 85,000 families, as per the Guidelines issued. The Government has also documented some of the success stories as a part of its initiative to monitor the progress and implementation.

In spite of this progress, the programme has not caught on like wild fire. The extent of land devoted to rice continues to be high. The composition of output has not undergone major changes. This section therefore explores the constraints to agriculture afresh and seeks to identify issues that need to be addressed for more effective transformation of this sector in Mizoram. The constraints in Mizoram can broadly be classified into three categories:

1. Topography and geography related limitations on the choice of techniques and choice of crops
2. Population density and connectivity: problems of marketing the produce and therefore in setting up systems that are market oriented instead of addressing concerns of self consumption
3. Constraints to transition from *Jhum* to alternative systems of organization of agriculture.

Topography Related Constraints

Mizoram is characterized by a series of parallel hill ranges, generally oriented north to south and increasing in elevation in the east. The common rocks are grey, soft, feldspathis sandstone's, sandstone shales, siltstones, slates and claystones. Soil texture in general varies from sandy loams, clayey loams to clay. Although the soils

[18] New Land Use Policy (NLUP) started in 1990-91 and went till 2000-01, when it was discontinued. It was implemented in 13 Rural Development Blocks.

are mature, profuse rainy spells in the region coupled with the high gradients have accelerated the problem of leaching the loose soils. These soils are highly porous with low water holding capacity and this is the main cause of the low water table in Mizoram. The soils of Mizoram are deficient in potash, phosphorus, nitrogen and even humus. The traditional *Jhum* cultivation has affected the micro-organisms and the organic burning of biomass, the repeated exposure of the soil surface subjected to heavy rainfall retains little quantity of wood-ash to enhance the fertility of soils. The pH of these soils shows acidic to neutral reaction due to excessive leaching (See Tata Consultancy Services, 1998). About 48 percent of the surface area is in gradients of 50 degrees or more, while another 45 percent is with gradients of 20-50 degrees. There is a marked absence of plains – about 2.4 percent of the total land is in plains, with a major part in Champhai which is supposed to have been formed by the siltation of a major inland lake.

Table 3.2: Area under Various Categories of Slopes

Slope (percentage)	Area (hectares)	Area (percentage)
0-8	50,021	2.4
8-20	87,824	4.3
20-50	933,168	45.3
Above 50	988,369	48.0
TOTAL	2,059,382	100.0

Source: Singh (1996), p. 95.

In the geological process, weak flexible earth were folded, faulted and over-thrust to give rise to unstable formations. Due to weak and unstable rock systems, the region is prone to seismic influences, as per the TCS Report. The eastern rim of Mizoram is severely earthquake prone while the rest of the State is said to experience at least three earthquakes a year, on average.19 The Forest Survey of India reports on Mizoram indicate that the soil is largely non-rocky and not compacted, as the 74 percent of the soil has no rocks and 89 percent is only slightly compact. The soft rock structures make the soil prone to erosion while seismic activity disturbs the existing topography. These features make shifting cultivation a first preference, at least until cultivation technology addresses the underlying instability in the soil structures and/or population pressures render this form of cultivation unsuitable for sustaining

[19] http://necouncil.nic.in/dimnec/dm_pg2.htm.

livelihood. The steep slopes make significant parts of the State unfit for cultivation, even under shifting cultivation. Areas beyond 1,000 to 1,200 m. are rarely *Jhum*med, because of the low moisture holding capacity of soil at this level. Further, lower inclines tend to be cultivated first, before demand pushes people towards working the higher inclines.

The eastern parts of the Manipur and Mizoram as well as the northern Himalayan regions are marked as being severe to very high risk areas so far as land slides are concerned. The fragile hills are subjected to high rainfall and seismic activities, which trigger soil erosion and landslides. This is further accentuated by the sharp inclines. The average soil erosion in the North-Eastern region is about 28 ton/ha/year. For Mizoram, the estimates of soil erosion range from 6.98 to 17.05 MT per hectare per year in the major catchment areas. Under *Jhum*, with single year cultivation followed by 5 year fallow, the estimated average loss is 34.9 MT/hectare per year.20 It is observed that the extent of soil erosion is closely related to the extent of rainfall. Years with very heavy rainfall also are witness to extensive erosion and landslides.

Population Density, Connectivity and Ancillary Services

Mizoram is characterized by a low population density – 42 persons per square km, as per the Census 2001. With 49.5 percent of the population living in urban areas, where the density of population is sharply higher, the population density in rural areas would be even lower. For instance, the average size of a village in Mizoram is 550 persons as against a national average of 1,160. Low density of population poses serious questions of marketing – local markets tend to be poor and the extent of surplus that a village unit can generate too is limited making transportation over long distances uneconomical. This becomes all the more important when individuals in the village seek to operate as individuals with separate decisions regarding the choice of crop for market. Poor connectivity further reduces the scope for potential market oriented developments in the rural areas (See chapter 6). The implications of low density of population and poor connectivity/facilities are reflected in the very limited use of fertilizers and pesticides in agricultural production. Mizoram averages about 19

[20] Singh (1996), pp. 190.

kg per hectare in fertilizer consumption as against a national average of 96 kg per hectare. Similar variations are in evidence for pesticide consumption as well. These numbers suggest, partly a story of difficulty in accessing the supplements on time. The MIP Guidelines too point out to the importance of rural connectivity and suggest the need to subsidizing transportation where necessary. The lack of supply of electricity to agriculture also means that the scope for use of technology is severely limited. This is true even in lower plains where lift irrigation might be possibility.

Constraints Posed by Predominance of Jhum

While shifting cultivation would be the first logical response of people to such a landscape, it is clearly not a sustainable one. It tends to accentuate some of the problems inherent in the system. Soil erosion is not prevented or reduced by such a form of organization of agricultural activities. This in turn reduces the productivity of the soil/ requires long periods of fallow for regeneration, which with growing population and possibly growing aspirations would be incompatible.[21]

Apart from the above, this system of organization of agriculture has two distinct consequences for the organization of other factor markets in the economy as discussed in the chapter on *Jhum*.

1. Since any one cultivator does not have access to the same plot of land over time, there is no incentive to invest in land improvement. Such a system reinforces a close link between nature, in terms of the extent and timing of rainfall, and agricultural production, with very little correlation between human effort and the output. The predominant uncertainty faced by the people is that of nature.
2. There are difficulties in the formation of the labour market. While labour market establishes a link between the returns and the effort of the individual, it is accompanied by the uncertainty in securing employment. Making a transition from nature based uncertainty which is shared by all the people in the village, to one which is affects people in a cluster differentially, is difficult. In the former setting, distress is mitigated through group based solutions – these may be captured in the social-cultural fabric of the village as well. However, the present group based solutions cannot address the latter case.

[21] There is an ongoing debate on the relative impact of Jhum and settled agriculture on soil erosion. While it is true that settled agriculture where harvesting the crop leaves the soil exposed to the elements would increase the risk of soil erosion in settled agriculture, suitable choice of crops can ensure a sustained ground cover, thereby addressing this problem.

The lack of incentives to invest in agriculture tend to limit the potential of this sector in providing expanding scope for livelihoods, while the incomplete labour market limits the opportunities within the non-agricultural sector.

3.2 OPTIONS FOR REFORM OF AGRICULTURE

The many options for reform that the various reports have suggested, examine the technical solutions to the problems identified. Productivity and incomes are sought to be enhanced through the introduction of new crops produced for the market. The difficulties in marketing the same are to be addressed through Government intervention by improving connectivity and setting up the infrastructure for marketing and providing price support options when required. Different reports visualize the individual agent at the decision making unit even when there is an explicit recognition of the cohesion of the village unit as an integral decision making unit. The MIP Guidelines discuss the need to allow individual farmers the option of combining multiple activities/crops in their fields in designing their proposals, while at the same time recognizing the village as the unit of analysis – there are village level committees constituted to approve and consolidate the plans proposed by individual farmers and through which the funds are disbursed and the progress monitored. These approaches have two difficulties.

1. There is excessive dependence on the Government for organizing all the elements required to push the system forward. However, it does not pose the question of whether this leads to the emergence of market oriented agents or Government dependent agents. Encouraging the latter defeats part of the purpose behind such an initiative, since the primary objective is not to provide incremental income supplements alone but to encourage the emergence of a vibrant and self-sustaining agricultural sector.
2. In a system that is attempting a transition from *Jhum* form of organization to any other form, the issue may not only be the kinds of crops to be cultivated and subsequently marketed, but also whether the agents make a transition in decision making process. In *Jhum* based cultivation, decisions are collective, while in all the schemes the decision making is considered at the individual level – it is assumed that the individuals would become capable of perceiving and assessing the risks and taking suitable decisions. If such a transition is not completed, the measures introduced either fail or require continuing Government assistance for sustenance.

A somewhat different approach is being proposed here. This approach tries to capitalize on the collective process of decision making in the village systems while keeping in mind the constraints for development of agriculture as discussed in the

previous section. This approach is a combination of change in forms of organisation and changes in the nature of economic activities.

3.3 COOPERATIVES AS AN ALTERNATIVE FORM OF ORGANIZATION

Taking up from the present collective form of decision making, this approach proposes a movement to cooperative forms of organization. Given that land rights are not clearly defined for individuals in the village, the transition to a cooperative structure would only require working out the details of contribution of labour to the enterprise and the rules for sharing the output/incomes generated. The topography of the State, as suggested in many reports, does not generate homogenous plots of land for the cultivators – each cultivator therefore is given the choice of exploring multiple arrangements within her plot. Such a profile of cultivators however limits their ability to achieve any scale economies and require multiple forms of skill formation to manage the new technology associated with all the different arrangements. By pooling the resources and operating in a cooperative mode, this difficulty can be addressed.

Cooperatives formed in the village can provide the opportunity to continue with collective decision making, alongside reaping the gains from economies of scale. Further, in making a transition from *Jhum* to settled agriculture, there is need to find resources to invest in land. The cooperative form allows for a joint investment in the land from the resources of the cooperative, before the incomes are distributed to the individuals. This can be augmented by some resource transfers from the State Government so as to give stability to this arrangement. This form of organization can also access resources through the micro-finance window. It may be mentioned that Mizoram performs relatively poorly in terms of growth of credit extended to self-help groups, when compared to rest of NE (see Sharma 2006) for discussion of micro-finance in the NE).

There are a few successful experiments with cooperative operations in Mizoram. The Dairy Cooperative initiative is a successful venture – along with augmenting the incomes of the members, there is improvement in the consumption basket of people as well – there is an increase in the consumption of milk products over time (see Box 3.1 on Dairy Cooperatives). The other major cooperative activity in the State relates to piggeries. Pork is an integral part of the diet of people in Mizoram. Further, it has become common practice for most families to raise a pig for

a couple of years and then trade it in the market. While this does not put strain on the finances of the family in terms of recurring expenditure, it does provide cash income at periodic intervals. In an attempt to provide assistance to the households engaging in such activities, the Animal Husbandry Department runs a breeding centre and provides the members an opportunity to buy good quality piglets at reasonable price. It also procures the necessary feedstock and makes available processed feedstock to the households that seek to procure the same. This activity however does not flourish as a two way exchange since the owners of the mature pigs seek to sell them in the local market. Since the sales as well as purchases are sporadic in the case of family units raising and selling pigs, the cooperative does not have regular interaction with the members. In the absence of regular interaction, the cooperative is perceived as a sourcing centre and nothing beyond. Hence it fails to encourage members to make the transition from piggery being a sporadic activity to regular, income earning activity.

Box: 3.1

Dairy Cooperative

The initiative works towards providing a marketing mechanism for surplus milk. The village units consolidate the milk from the village which is then transported to the central unit and processed to be marketed in Aizawl. The incentive mechanism to ensure quality of milk is maintained in the following manner:

The milk of the local members of the cooperative is collected and pooled in a single container before it is sent to the central unit. The central unit tests the milk from each of the containers for quality. Default in quality is recorded and a warning served. Repeated default attracts penalty – the milk from that village is not accepted. This mechanism provides local members incentive to ensure that all members of the group comply with the quality requirements.

The activities of the cooperative also include providing assistance to the members in buying cattle and in procuring cattle feed. While there is no expenditure against dairy, within cooperatives the Government budget shows a figure of Rs. 2.5 lakh as allocations to the dairy cooperative. Against local production of 137 lakh litres, this amounts to less than 2 paise per litre – not a very large subsidy.

From these two examples of the functioning of the cooperative sector in the State, the following implications can be surmised:

1. Cooperatives which have a persistent interaction with the members are more capable of influencing the behaviour of the members, through various self-enforcing monitoring mechanisms, especially in a society like Mizoram.

2. Cooperatives can help pool the surpluses generated by individual units thereby providing for economies of scale in marketing the product.
3. It also provides scale economies in sourcing inputs when necessary.

There are therefore some distinct advantages in attempting a transition of the agricultural sector from shifting cultivation to settled cultivation through the use of cooperatives as a form of organization. It may be mentioned, that success of the cooperatives route depends on clearly monitorable contributions by members and well specified rules for sharing the outcome. When the contributions are of labour, as in the present case, it needs to be pointed out that contributions are not easily monitorable/ quantifiable. If the cohesion of the village community starts wearing thin, it is possible that the cooperative route falls apart and individual members seek to operate on their own. Such a transition would represent success of the cooperative route rather than its failure, since this would be preceded by the emergence of some local entrepreneurs who are ready to face to underlying risk on their own. This would be the first step in the emergence of individual decision making in place of community based decisions.

3.4 CHOICE OF ECONOMIC ACTIVITIES

There have been a number of studies on improving the employment and income potential in Mizoram, especially agriculture and allied activities. Each of them identifies the problems of the State as mentioned above and identifies activities suitable for the State. The recommendations of some of them are summarized below. The report by the M. S. Swaminathan Research Foundation identifies a number of cash crops, spanning plantations, horticultural crops as well as floriculture as the route for providing a sustainable path for agriculture and rural development. A report by the Tata Consultancy Services focuses only on export orientation through floriculture and horticulture.

A Blue Print for Sustainable Agricultural and Rural Development - Mizoram State M. S. Swaminathan Research Foundation

Recommended Agricultural and Plantation Products	Remarks
Tea	Mizoram has a conducive climate for the successful cultivation of tea in many hillocks and mild slopes of hill ranges in the eastern and mid-parts of the State.
Coffee	Coffee is a very suitable crop for Mizoram and has a good international market
Rubber	Mizoram is suitable for cultivation of Hevea rubber

Recommended Agricultural and Plantation Products	Remarks
Oranges	The Mandarine orange and Valencia varieties grow well in this State
Passion Fruit	Mizoram is suuited for extensive cultivationof passion fruits which has an expanding market in our country as well a abroad.
Pineapple	People grow pineapples in their fields extensively.
Hatkora	There is a high demand for this fruit in middle east. These fruits can be grown extensively in Mizoram in planations.
Spices	The agroclimatic conditions of Mizoram are eminently sutiable for growing black pepper,clove, cinnamon, and large cardamom.
Arecanut	Arecanut should be grown commercially in plantation, in view of the demand for arecanut in North-East region and in the country.
Tung	This tree is grown all over Mizoram for the known edible oil available in the seeds. This oil is used in paints, soaps and as oil for lamps.
Orchids	More than 200 varieties of orchid grow in Mizoram.

Export Potential Assessment of Horticulture and Floriculture Products for the North-Eastern States - Report by Tata Consultancy Services

Type of Agricultural Product	Items
Fruits	Orange, Pineapple, Passion fruit, Pear and Tung fruits
Flowers	Orchids, gladioli, carnations, roses, tuberose, gerbera, chrysanthemum, anthurium
Others	Agarwood, Citronella grass and medicinal plants

The approach adopted is to identify high value, low volume products which can then be transported at a low cost to relevant markets. The demand for these products is not internal to the Mizo economy or even the neighbouring States. While this could be conceived of as a mega-plan to transform the face of rural Mizoram, it is crucially dependent either on the Government taking all the initiative or on the emergence of entrepreneurs, local or from outside the State, who can take up the task of procuring these products from the dispersed settlements and then transporting the same. As discussed earlier, dependence on Government to undertake such tasks undermines the potential for emergence of individual decision making and risk taking both of which are crucial if the sustainable growth is to be achieved. Given the limited risk taking capacity of the local agents, as discussed above, there are two alternatives available:

1. Open up the economy to entrepreneurs from outside the State
2. Initiate the process of change through choice of activities, the demand for which, are internal to the Mizo economy, and may be to begin with, in the village economy itself.

As discussed in chapter 1, Mizoram is a Sixth Schedule State, where there are constraints for non-locals to engage in economic activities, without explicit permission from the Government. The Government is attempting to gradually encourage investments and entrepreneurs from outside the State to invest in the development in some of the areas of the State, especially in the case of land unsuitable for agriculture, like wastelands. A joint venture between a Mizo entrepreneur and non-Mizo entrepreneur in floriculture captures the possibilities of such initiatives. (See Box 3.2 on initiative led by Zoram Exports and the State Horticulture Department below.) As would be evident from the discussion in the Box 3.2, these initiatives mimic the initiatives of the Government, where the risk is borne by the agent introducing the change. If this source of demand is hampered for any reason, the initiative too fails. Keeping these factors in mind, it is useful to explore the alternative cited above.

The Mizoram Intodelna Project (MIP) takes a somewhat different stance. As discussed in the Guidelines to the MIP, the State of Mizoram imports a number of agricultural goods from outside the State. Table 3.3 reproduces some numbers. The Guidelines suggests, these should be the focus of the initiatives so that the State as well as the poor people – the potential beneficiaries of the programme-can benefit from the resulting self-sufficiency. The activities identified for this project therefore reflect concerns of self-consumption mixed with a perception that incorporating cash crops into the package would yield quicker results.

Table 3.3: Some Items of Food Imported from Outside during 1998-99

Sl. No.	Items	Quantity	Value in Rs. lakh
1.	Edible oil	871228 lit	531.5
2.	Pulses	14608 qtl	420.7
3.	Potato	19157 qtl	287
4.	Black gram	6963 qtl	124.9
5.	Onion	3869 qtl	90.7
6.	Garlic	1054 qtl	37.6
7.	Tea	159 qtl	191.1

Source: Guidelines for Mizoram Intodelna Project.

Box 3.2

Floriculture: Production and Sale of Anthurium

The constraints to agriculture in Mizoram limit the scope for extensive agriculture. Recognising this limitation, the Government took an initiative to encourage intensive cultivation especially of horticulture and floriculture crops, through a Technology Mission. Anthurium is one of the crops selected. Trips to Bangalore and Coorg to visualize and learn from the experience there were organized with the help of Zopar Exports Pvt. Ltd. Bangalore. Training was provided on various important aspects such as construction of shade house, preparation of bed including use of charcoal, brick pieces, coco pith etc., the need to prepare varietal portfolio for marketing considerations, setting up of the irrigation system, agronomy involved in cultivation, post harvest handling and packaging. Over 200 families were provided critical inputs and technical guidance over three years. Form of organization is as follows:

1. The cultivation is based on soil-less media using coco-pit and coco-husk to get around the difficulties of thin top soil in Mizoram. Growers are provided the raw material, including the seedlings by M/s Zoram Exports Pvt. Ltd.
2. The cultivators harvest their flowers once a week, pack them in the prescribed manner and bring them to the designated collection point operated by M/s Zopar Exports. It grades them based on size of flower and stem length. The grower is provided with a receipt detailing the number of flowers and size which she deposited with M/s Zopar Exports.

These flowers are then packed for transportation by M/s Zopar Exports. Based on the sales, a consolidated sales report with all expenses incurred including 15 percent selling expenses, are deducted and the balance paid to each grower. The marketing arrangement between the growers association and M/s Zopar Exports Pvt. Ltd. is graduating to a system of fixed prices for all sales, whether it be in Mizoram or outside. Most growers earn a good income per month, ranging up to Rs. 6.000 to Rs. 7.000.

Prepared with inputs from Mr Rajesh Prasad, M/s Zopar Exports Pvt. Ltd).

Guidelines for Mizoram Intodelhna Projects (MIP) – Government of Mizoram Activities Identified

S.No	Physiographic Unit	Proposed Land-Use	
1	Level to Gentle Slope (0-5 percent slope)	Wet Rice Cultivation	Paddy-Mustard (Rabi – Kharif)
			Paddy-Masur Dal (Rabi-Kharif)
			Paddy-Potato/Onion (Rabi-Kharif)
2	Moderate to Strong Slope (6-15 percent)	Broad Terrace	Paddy-Mustard (Rabi – Kharif)
			Paddy-Masur Dal (Rabi-Kharif)
			Paddy-Potato/Onion (Rabi-Kharif)
3	Moderately steep to steep slope (16-33 percent slope)	Bench Terrace	Maize-Soyabean (Rabi-Kharif)
			Maize-Masur Dal
			Maize-Potato/Onion
4	Very steep slope (34-70 percent slope)	Dry Land Horticulture	Cardamom+Pepper+Orange/Hatkora
			Coffee+Pepper+Orange/Hatkore

			Bamboo

This is a very interesting approach, given the specific context of Mizoram. It underlines the need for multiple cropping/intercropping, which is one of the methods to address problems of soil erosion. It also provides a mechanism for harnessing complementarities in nutrient use and replenishment thereby ensuring sustainability. It is however important to choose a crop profile that is not dependent of irrigation requirements. The irrigation potential in the State is rather limited and is only available in the form of lift irrigation/river diversion most of which are small projects. Irrigation can then remain the prerogative of the cooperative if it feels the need for the same.

Following through with this approach, it is possible to take this process a step further. Looking at the consumption basket of the Mizos, it is clear that apart from agricultural produce, meat is an important part of the diet.[22] Statistics on the flow of goods from the neighbouring countries of Bangladesh and Myanmar capture inflow of pigs and cattle, ostensibly for local consumption. Activities ancillary to agriculture therefore can be incorporated into the list of activities that the cooperative can focus on, without too many concerns on the demand side. While the dairy initiative is somewhat established, the piggeries initiative can be strengthened to meet local demand.

As mentioned in the section on constraints to agriculture in Mizoram, the supply of power to the agricultural sector is non-existent. While a number of villages are "electrified", in the sense of being connected to the State wide power grid, this does not sure the availability of power. The dispersed geography of the villages suggests that the maintaining power connectivity through the centralized approach would be an expensive option. A local level alternative would be to power the lights and other requirements in the village through some local initiatives. While solar power is not a suitable option since the State remains overcast for close to half the

[22] While this is reflected in all the usual discussions, it is not reflected in the figures produced by the NSS surveys – the NSS round – for farmers suggests that per capita consumption of meat during a 30 day period is .54 kg. This may be a reflection of the incomplete penetration of markets into the procurement of these needs. If these goods are not purchased but consumed from domestic supplies, it is not clear whether these would be adequately reflected in the reported figures. Alternatively, this could be considered a reflection of the poor standards of living of the people, where incomes do not permit higher levels of consumption of these items.

year, generators run on bio-diesel could be a good alternative. This requires the local cultivation of oilseeds such as Jatropha. It may be mentioned that while vehicles cannot be run directly on the oil produced from pressing Jatropha, it can be used directly in diesel generators, without requiring any further modification/processing. That it is possible to sustain the energy demands for a village system through such a route is documented in the context of African villages.23 Some of the key features of Jatropha are summarized below (See Biswas, S, et al, 2006).

- It is a quick yielding species even in adverse land situations viz. degraded and barren lands under forest and non-forest use, dry and drought prone areas, marginal lands, even on alkaline soils and also as agro-forestry crops. Jatropha can be a good plantation material for eco-restoration in all types of wasteland.
- Jatropha grows readily from plant cuttings or seeds up to the height of 3 - 5 m.
- Jatropha is not considered good forage material and hence serves as a good fence to keep cattle out.
- The plant is highly pest and disease resistant.
- Various parts of the plant are of medicinal value, its bark contains tannin, the flowers attract bees and thus the plant is honey production potential.

Jatropha removes carbon from the atmosphere, stores it in the woody tissues and assists in the build up of soil carbon.

There are many advantages of exploring the incorporation of Jatropha into the activities of the village cooperative. Discussions with officials of the agriculture department suggest that as a hedge plant Jatropha, a native to Mizoram, is well recognised as a good way of protecting the top soil from erosion – a problem closely associated with the steep inclines of the terrain of the State. In addition, to being a good source of fuel, the oil cake residue is considered a good fertilizer as well, containing 6 percent of nitrogen, 2.75 percent of phosphorous and 0.94 percent of potasium. It serves as organic manure, augmenting the productivity of the land. It also has insecticidal and molluscicidal properties. Further, as is now commonly recognised, there is demand for the biodiesel that can be produced by de-esterification of jatropha oil.

Let us consider the case of sericulture as an income-augmenting activity to illustrate the options that are opened by improving the energy self-sufficiency of the

[23] See http://www.isf.lilik.it/files/jatropha/jes.pdf.

villages. It may be mentioned here that while the Government has taken a number of initiatives to encourage seri-culture in the State, the latter has not been a huge success for a variety of reasons. One of the primary reasons is the difficulties in transporting the cocoons for extraction of silk. The cocoons have to be processed for the shelf life to be extended. Unprocessed cocoons contain a live larva which, if crushed, stains the silk threads thereby reducing the value substantially. Processing involves boiling the cocoons and drying them or roasting them in ovens. The former is difficult in especially in rainy seasons while the latter is not feasible given the lack of power in the rural areas. Apart from being compatible for inter-cropping with mulberry, Jatropha is proposed as a good feed for raising silk worms – the Silk Board recommends "eeri"/"tussar". Along side, if the problem of processing too can be addressed, this constitutes a neat package deal. Clearly, there are many options available, which can be integrated into the lifestyle options of the village unit, without the need for external markets.

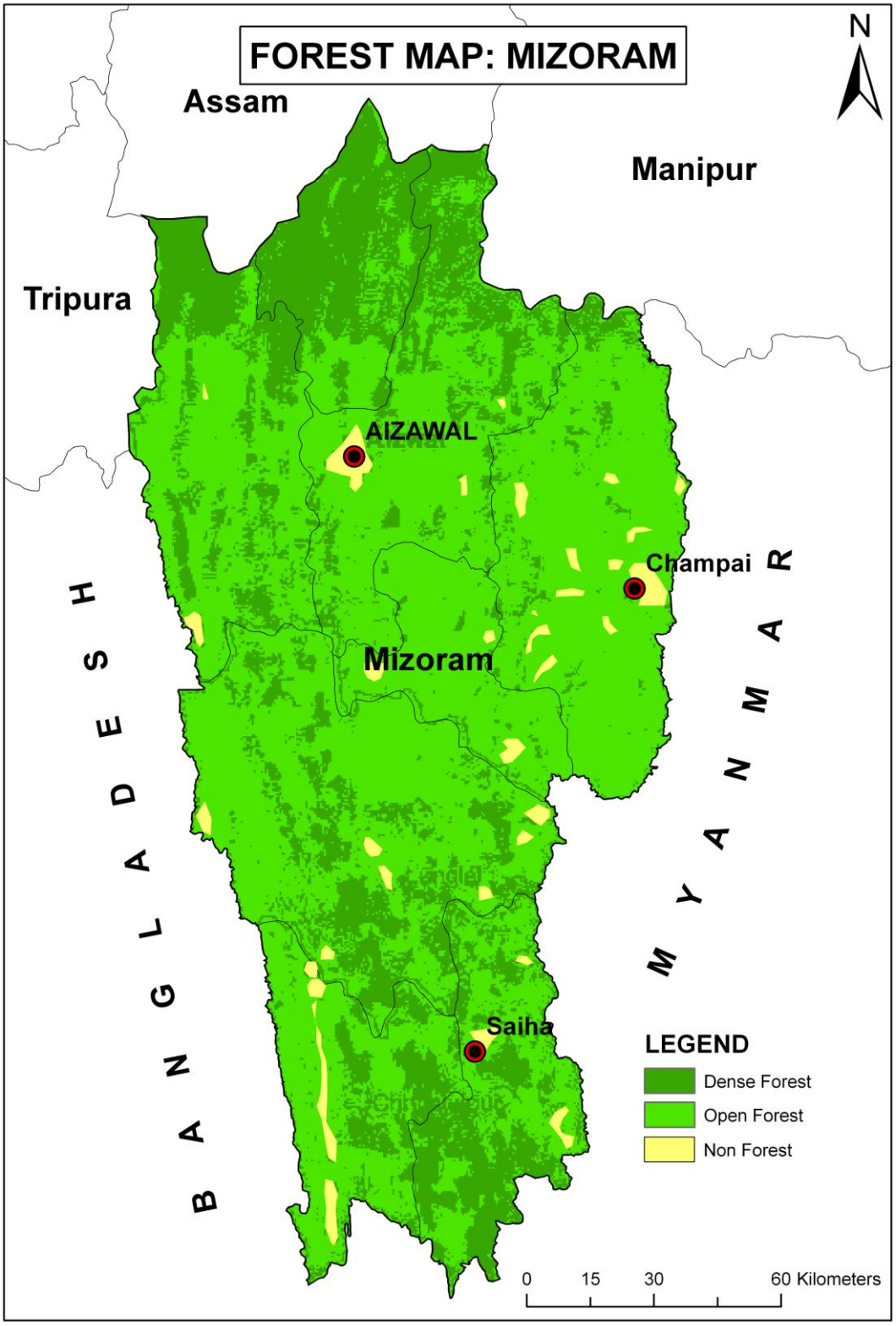
Box 3.3

Inter-Cropping and Jatropha

Given the culture of inter-cropping in *Jhum* and within the proposed approach of addressing the needs of the local population, it is useful to understand the options for inter-cropping with Jatropha. Some of the identified options listed by SRIPHL, India are:

- Model (i) Hedgerows of Jatropha with Glyricidia and Subabul.
- Model (ii) Jatropha intercropped with grasses, tubers and vegetables.
- Model (iii) Jatropha mixed with fruit trees.
- Model (iv) Jatropha in mixed plantation with Teak / Neem / Karanj / Subabul
- Model (v) Jatropha with medicinal plants such as Kounch (Mucuna prurita), Kalihari (Gloriosa superba), Pippali (Piper longum) and Karela (Momordica charantia) as climbers and Sweth musli (Chlorophytum boriviliamum), Sarpagandha (Rauwolfia serprntina), Haridra (Curcuma longa), Adrak (Zingiber officinales), and Ashwagandha (Withania somnifera) as shade crops.
- Jatropha with mulberry, or lac and ber.

For more details on the options for inter-cropping with Jatropha see "Jatropha Intercropping Technology" by SRIPHL (www.jatrophadiesel.org).


FOREST MAP: MIZORAM
N
Assam
Manipur
Tripura
AIZAWAL
Champai
Mizoram
Saiha
BANGLADESH
MYANMAR
LEGEND
Dense Forest
Open Forest
Non Forest
0
15
30
60 Kilometers

Chapter 4

Environment and Sustainable Development of Natural Resources and Management

MIZORAM is endowed with vast forest resources. It has an extensive forest covering, as much as 17,494 sq. km.[24] which accounts for about 83 percent of the total area of the State, ranking third in the country in terms of forest cover (as percentage of geographical area). About 42.4 percent of the geographical area is under dense forest, while 40.6 percent is under open forest. The reserved and protected forests constitute about 50.73 percent of the geographical area.[25] While forests are an integral part of the lives of people in Mizoram, poor population density and the prevailing agricultural practices suggest that fragility of the forest base is often missed out. The various tangible and intangible benefits are not properly appreciated and harnessed for the better livelihood options and wellbeing. Forests are facing what is commonly referred to as the "tragedy of the commons". In this chapter therefore, there are two broad concerns that are raised – first, can forests help harness and expand livelihood options in the State, and second, how can forests be managed to ensure sustainable ecological and environmental balance. Both these root for changes in the paradigms of forest management, as would be discussed in this chapter.

The chapter is organized as follows: Section 4.1 brings out the environment related issues and problems. Section 4.2 discusses the changing paradigms of forest management and attempts to evaluate newer concepts of landscape forestry and joint forest management (JFM) practice in the context of Mizoram. Section 4.3 covers the

[24] Statistical Abstract India, 2004.

[25] There is a distinction between forest cover and forest area. A land may be recorded as forest with its management under forest department, but may not have any discernable forest area. On the other hand, all wooded land or plantation may be delineated as forest cover (which may not be legally recorded as forest area). These could be private plantation, or institutional wood lots. Although the majority of the forested lands happen to be within legally recorded forest areas, all the changes taking place in the forest cover are not necessarily due to changes in the forest managed by the forest department only. Therefore, form a policy point of view, it is important to know the extent and quality of forest cover, with records of forest areas and areas outside it.

expanding livelihood options from forest-based activity and services. Finally, in section 4.4, key ingredients of a policy approach are identified.

4.1 ENVIRONMENT RELATED ISSUES AND PROBLEMS

Status of Forest Resource Base

Mizoram has an abundant growth of vegetation. Ecology, climate, topography and soil primarily determine the potential quality of vegetation of a place and the pattern of extraction and management finally determines the actual size, nature and quality of bio-mass. Forests in the State can be characterized as highly mixed composition of trees and bamboos. Among the plant species there is a dominance of non-timber tree species along with a wide variety of shrubs, herbs, climbers, grasses. The diversity of the plant species is overwhelmingly large in the State and no single species acquires much comparative advantage. However, the bamboo brakes are dominated by almost a single variety Melocanna bambusoides. This typical characteristic of the forest makes commercial extraction a bit complicated. Owing to the fact that several species may be of no economic value at all, and mixed timber fetches lower sale prices, it is difficult to extract economies of scale in commercial extraction. This intrinsic feature of the forest alone explains why the then district in the State of Assam was spared and marginalised during the British rule.

The total forest produce during 1999-00 was valued at Rs. 125.85 lakh. At present, the major forest produce of the State (in terms of production) are: bamboo, canes, fuel wood, timber, poles, charcoal, sungrass, broomsticks, sand stones and other NTFP.

However, the attitude of evaluating forests by wood volume alone (as it represents economic value only) is a very narrow view of assessing the forest. A mixed plant population covers the soil better, takes advantage of soil and topographical variation, is less susceptible to damage by fire, fungi, insects pests, diseases and wind. Hence the diversity of non-tree species can be considered an important indicator of forest quality.[26]

[26] In a document of the Tenth Five Year Plan, the Planning Commission has acknowledged the entire North-Eastern zone (which includes Mizoram) as a mega bio-diversity area. Report of the Working Group on Agricultural Development in Eastern and North-Eastern India for the Formulation of Tenth Five Year Plan. More than 400 medicinal plants have been reported to exist, out of which 62 are categorized as new medicinal plants. Around 22 different species of bamboo are said to be available in the state.

Types of forest found in Mizoram are mainly tropical wet evergreen forests (found in western part of Mizoram), tropical semi-evergreen forests (covers central biographic zone), sub tropical hill forest (found in the eastern fringe) and moist deciduous forests (most extensive of the tree forest) and secondary bamboo forest.

The reserve forests in Mizoram are primarily owned by the State, District Council (DCs) or Village Councils (VCs). Total area under reserve forest in Mizoram is 7,127 sq. km. This is more than a third of the total area of the State. In addition, there are supply and safety reserves which are under the jurisdiction of Local Administration Department (LAD) and others, although VCs and DCs are autonomously responsible for their management.

Table 4.1: Status of Forest Cover in Mizoram

(Sq. Km.)

Year	Dense Forest	Open Forest	Total Forest Cover	Percentage	Change	Scrub
1995	-	-	18,576	88.12	-121	-
1997	4,248	14,427	18,775	89.06	+199	937
1999	3,786	14,552	18,338	86.99	-437	125
2001	8,936	8,558	17,494	82.98	-844	467
State-Wise Actual Forest cover and Recorded Forest Area in Mizoram						
Year	**Reserved forest**	**Protected forest**	**Unclassified forest**	**Recorded Forest**		
				Area	**Percentage**	
1997	7127	3568	5240	15,935	75.59	
1999	7127	3568	5240	15,935	75.59	
2001	7127	3568	5240	15,935	75.59	
2003	7909	3568	5240	16,717	79.22	

Source: Forest Survey of India, State of Forest Report, various years.

Among the State owned reserve forest are: (i) Riverine Reserved Forest (2,117.203 sq. km.), (ii) Total Inner-line Reserved Forest (561.813 sq. km.), (iii) Total Road-side Reserved Forest (97.20 sq. km.), (iv) Other Reserved Forest (1,227.23 sq. km.), and (v) Wild Life Protected Areas (940.75 sq. km.).

Table 4.2: State-Wise Area under Forest by Type of Forest in NER, 2003

(Sq. Km.)

States	Geographical area	Total Forest Area	Dense Forest	Open Forest	Scrub	Non Forest
Arunachal Pradesh	83743	53511	51540	14508	116	32087
Assam	78438	27018	13042	14784	219	51201
Manipur	22327	17418	6538	10681	74	4835
Meghalaya	22429	9496	6491	10348	274	4090
Mizoram	**21081**	**16717**	**7488**	**10942**	**274**	**4090**

States	Geographical area	Total Forest Area	Dense Forest	Open Forest	Scrub	Non Forest
Nagaland	16579	8629	5707	7902	231	7719
Sikkim	7096	5841	2362	900	360	895
Tripura	10486	6293	5046	3047	1	4192

Source: Statistical Abstract (Various Issues).

Table 4.3: State-Wise Actual Forest Cover and Recorded Forest Area in NER, 2003

(Sq. Km.)

States	Actual forest Cover	Total Forest Area	Reserved Forest	Protected Forest	Unclassified Forest
Arunachal Pradesh	68019	51540	10178	9536	31826
Assam	27826	27018	18060		8958
Manipur	17219	17418	1467	4171	11780
Meghalaya	16839	9496	1112	12	8372
Mizoram	**18430**	**16717**	**7909**	**3568**	**5240**
Nagaland	13609	8629	308	508	7813
Sikkim	3263	5841	5452	389	
Tripura	8093	6293	3588	664	2041

Source: Statistical Abstract (Various Issues).

District Council Forests cover an area of 2,462 sq. km., Lai Autonomous District Council Reserve Forest of 876 sq. km. comprises safety reserve, supply reserve, protected reserve, roadside reserve, station reserve, revenue reserve. The Mara Autonomous District Council Reserve Forest of 217 sq. km. have safety reserve and supply reserve, and the Chakma Autonomous District Council has forests spread over 1,369 sq. km. of safety reserve and supply reserve.

Throughout North-Eastern region indigenous institutions under diverse forms still continue to play an important role in forest management which is indeed a sharp contrast to the other parts of mainland India where State Forest Department retains an absolute control on the vast majority of the forest area. In Mizoram about 33 percent of the area (Poffenberger et. al. 2006) is under community based forest management. In practice a major part is demarcated as ‘Unclassed State Forest’. The classification itself suggests a lack of formal recognition and credibility on the community based forest management.

There is a predominant Forest Department with a control of about 50 percent of geographical area in the State (10,695 sq. km.)[27]. This entire area over which people's rights are restricted (this is total of reserved forest and protected forest). Most of these areas are specially confined to consolidated blocks. The inner line reserve occupies a narrow belt all along the Northern boundary with three wild life sanctuaries (Dampa, Ngenpui, Khawnglung) and two national parks at Murlen and Pawngpui. There are large numbers of villages within the boundary of the reserves with their safety and supply reserves – being extended under the unclassed forest category, adding to shrinkage in the total area of the inner line reserve forest (from 1,317.8 sq. km. in 1993 to 561.813 sq. km. in 2004).

Data about forest cover however should be read with a note of caution. While there is a major increase in the forest area under dense forest – 8,936 sq. km. in 2001 as compared to 3,786 sq. km. in 1999. Mizoram registered a 4 percent fall in total forest cover. The figure on substantive rise in forest cover in the category of dense forest does not seen too convincing within such a short period of time. This does not match the evidence of decrease in area under inner line forests as discussed above, for instance.

Pattern of Forest Based Services: Forest Dependence and Livelihood

The sheer magnitude of forest in Mizoram eclipses all other form of land use. The vast expanse of natural vegetation is the primary source of subsistence and livelihood, either providing essential items of bio-mass or supporting successive cycles of shifting cultivation. It not only supports agriculture, but also supplies water, fuel and fodder, timber, fiber, medicinal plants and various kind of forest-based small industries (like handlooms, handicrafts, sawmills and other bamboo-based industries) in the State.

Forest in Mizoram exists as common pool resource precisely because the benefits of any patch of forest often accrue at different scales and to different interest groups. However, the sustainable use of forest demands that the annual availability of forest produce exceed its consumption, so that adequate capital stock is maintained.

Wood is by far the only source of energy in the State. The average annual per capita consumption of fuel wood in the forested rural area of the State is 1,159 kg,

[27] Statistical Abstract India, 2004.

which is higher than in the other NER States like Arunachal Pradesh, Meghalaya, and Tripura. According to the Forestry Statistics of India, 2000, the projected rural population dependent on forest for fuel wood is 0.4, 0.5 and 0.6 million in 1996, 2001 and 2006 respectively. The projected annual rural consumption of fuel wood is also showing an increasing trend, from 0.5 million tonne in 1996 to 0.7 million tonne in 2006.[28] While the urban annual household fuel wood consumption will remain stable at 0.1 million tonne, the total annual consumption is projected to rise from 0.6 million tonne in 1996, to 0.8 million tonne in 2006. Apart from the fuel wood demand, rural houses as well as a large number of urban houses are constructed of timber or bamboo. Some basic household items of bamboo and cane are found in village house. Wild fruits, shoots, stems, leaves, flowers and roots from the forest provide a year round supply of food items for the rural areas, and even find their way to urban market.

Apart from these direct benefits from forests, it is now commonly recognised that environmental resources like forest, generate a diversified range of externalities. They influence local and regional climate, preserve top soil on site and in case of watershed forests protects soil downstream from erosion and floods, smooth the supply of water for agriculture from irregular rainfall and prevent water reservoirs and irrigation from sedimentation. In addition, forests are also the habitat for a rich gene pool. The social value of the forest greatly exceeds the value of the direct forest products.

Rationale for Maintaining Forest Cover and Mizoram's Development

Besides, the direct income generating tangible benefits, there are intangible benefits like air, water, soil, which largely supports the environment and economy balance in the entire fragile region of the NER in general and Mizoram in particular. The State is placed on unformed Patkai Range. The soil structure has exceptionally high rate of seepage. Less than 5 percent of the landmass is flat. Due to loose formation of soil and heavy monsoon rainfall, landslides are a frequent occurrence. These features suggest an economy that is susceptible to sharp ecological changes.

[28] Forestry Statistics India, 2000, ICFRE.

The socio-economic impact of climate change for a forest-dominated State like Mizoram will be significant. Rising temperatures and irregular precipitation patterns will impact negatively on agricultural yields, food security and health issues related to malnutrition. An increased incidence and intensity of violent storms and monsoons will produce more flooding which in turn will cause grater infrastructure damage and an increase in the incidence of water-borne diseases like malaria, cholera. This is a matter of serious concern for the State as a major part of the State suffers from acute water shortage in the lean season. The least privileged in the society are also the least equipped to adapt to climate change.

Inadequate Monitoring of Protected Forests

However, the resources available for monitoring these forests are inadequate. A news report in 2003 documented a drastic reduction in the number of employees of the Forest Department – all temporary staff was retrenched (The Telegraph, Kolkata, May 24, 2003). Eight officials were left to manage 500 sq. km. of Dampa Tiger Reserve, where the requirement is for 45 people. This, it is argued, leaves large section of the reserve vulnerable to poachers, but also embolden smugglers and militants to sneak in from across the border.

Department of Environment and Forests has taken up wildlife protection scheme by constituting protected areas for wildlife protection and preservation. Presently there are seven protected areas for the preservation of wild life in the State. About 975 sq. km. of forest area which constitutes (4.84 percent) of the geographic area of the State is notified as protected areas.[29]

Apart from local concerns, there are larger global concerns as well. These span impact on livelihoods as well as concerns of maintaining bio-diversity. The fragility of the Eco-system also calls for an extended concern for global environment. Its over-use, negligence and mismanagement can have long term severe consequences, from climate change, desertification, soil erosion, to various natural calamity and disaster. The impact of this negative externality may not be localised to the State alone or to the North-Eastern region.

[29] These are: Dampa Tiger Reserve (500 sq. km.), Murlen National Park (150 sq. km.), Pawngpui National Park (50 sq. km.), Ngengpui Wildlife Sanctuary (110 sq. km.), Lengteng Wildlife Sanctuary (80 sq. km.), Khawnglung Wildlife Sanctuary (35 sq. km.), Tawi Wildlife Sanctuary (50 sq. km.).

The most important global concern from the environment and ecological point of view is that the Earth's climate is changing. This is mostly due to accelerated human interference. In addition to anthropogenic-induced climate change like global warming,[30] there is a continuous threat of various short-term atmospheric disturbances. The consequence has been critically felt in various developing countries in terms of its catastrophic impact on natural disaster, economic opportunities lost, loss of bio-diversity, social problems created, and contribution to social climate change.

Bio-Diversity: Rationale?

At the 1992 Earth Summit in Rio de Janeiro, world leaders agreed on a comprehensive strategy for "sustainable development" -- meeting our needs while ensuring that we leave a healthy and viable world for future generations. One of the key agreements adopted at Rio was the Convention on Biological Diversity. This pact among the vast majority of the world's governments sets out commitments for maintaining the world's ecological underpinnings as we go about the business of economic development. The Convention establishes three main goals: (a) the conservation of biological diversity, (b) the sustainable use of its components, and (c) the fair and equitable sharing of the benefits from the use of genetic resources.

The term biological diversity - or bio-diversity – attempts to describe the innate variability that exists among living organisms (plants, animals, birds, insects and micro organisms), particularly the biological and genetic diversity that is observed within and between the ecosystems, habitat and species (Johnson 1993). It forms the web of life of which men are an integral part and upon which mankind so fully depends.

It must be mentioned that trees alone do not fulfill the ecological functions of the forest. The vast diversity of shrubs, grasses, herbs, climbers have a vital contribution in establishing soil cover, binding soil, shielding the soil from the impact of raindrops, nutrient recycling and supporting a variety of fauna. Although the

[30] Global warming is caused by the increase in the concentration of Green house gases in the atmosphere. Apart from burning of fossil fuels, the most important source of green house gas emissions are, activities related to land use, primarily deforestation and forest fires. Currently, the carbon-dioxide emissions from human activity are estimated to be 7.5 billion tonnes of carbon annually, of which 1.5 to 1.8 billion tonnes comes from forest related sources (although some accounts put the actual amounts higher).

contribution of non-timber tree species is difficult to quantify, their diversity can be considered as an important indicator of forest quality.

The loss of bio-diversity will have a deep-rooted consequence in this fragile State. It might reduce the productivity of ecosystems, destabilize ecosystems, and weaken their ability to deal with natural disasters such as floods, cyclone, earthquake and droughts, and with manmade stresses, such as pollution, global warming and climate change. Mizoram is under constant threat of various calamities like severe cyclone, flood, landslides, earthquake etc.

The reduction in bio-diversity will also hurt existing values and the cultural identity of the State, where 94.7 percent are tribal and they have their indigenous beliefs. The ecosystems of the State is already disturbed by fragmentation, and innumerable species are either extinct or in the verge of extinction. This extinction is irreversible and, given their dependence on forests for food crops, medicines and other biological resources, it is posing a critical threat to the well being of the State.

There are very few documents which catalogue or capture the bio-diversity in Mizoram. No inventories on the bio diversity have been prepared either by the Botanical Survey of India, or by the Zoological Survey of India. The NRSA used thematic mapping during 1975-76 to provide a glimpse of what was to be found in the hinterland. The other source is the FSI (FSI, 1991, 1992) Eastern Zone, publication on forest inventory of Mizoram. Two earlier studies however, need worth mention, one by Gage in 1901 and Fischer in 1930's on this issue.

From these studies, it appears that in terms of number of plant species alone Mizoram is extremely well endowed. The only botanical account of the area listed 1,360 species of which 892 were dicotlydons (Fischer, 1978). In contrast, FSI inventory identifies 213 trees and seven bamboos and omits mention of shrubs, climbers, herbs, and grasses. Besides, some trees and bamboo species have not been identified, while others occurring in small numbers have been clubbed together. However it does help to emphasize the highly mixed composition of trees and bamboo.[31] Out of the 213 species identified by the FSI, the proportion of timber

[31] According to FSI the principal tree species are: Schima wallichii, Dipterocarpus spp., Terminalia spp. Adina oligocephala, Gmelina arborea, Bombax ceiba, Cedrela toona, Castanopsis spp., Quercus Spp., Parkia joyrica, Albizzia spp., Canthium decoccum, Stereospermum spp., Vitex peduncularis, Tetrameles nudiflora, ficus spp., Melisma spp., Protiumserratum, and Erythrina spp. Among the bamboo species are Melocanna bambusoides, Bambusa spp., and Dendrocalamus hamiltonii. Of these 22 species, only seven are known for their timber value.

species is even lower. Moreover, while primary broad-leaved forest houses a great variety of plant species, the bamboo stratum, is characterised by predominance of a single species *Melocanna bambusoides*.

Similarly, there are no inventories of fauna in Mizoram, which could facilitate studies in depletion of animal species. But it can be argued undisputedly that wild life is much less abundant in Mizoram than in the past. The periodic clearing of forest at short rotation creates an alternative eco-system where secondary plant species are different from the parent forest. The change in habitat also affects the resident animals, birds and micro-organisms. Moreover *Jhumming* as a mode of production requires much more land than the settled agriculture. This has resulted localized depletion of plant species, large scale change in habitat drives birds and animals to seek refuge at remote areas. This process was further exacerbated by the policies during British Rule and the local cultural factors.

During British Rule, cash awards were given for the killing of tigers, leopards, bears, wild dogs, and cobras, with a view of safe guarding cattle rearing. This single step spelt all round reduction in animal population. Traditionally hunting is an universal, almost compulsive pursuit, of the Mizo people, which is quite undeterred by the Wild Life Protection Act. It would be difficult to identify a Mizo family without any gun, spares and traps.

Risk Factors Affecting Forests

Given the need to protect and conserve forests in Mizoram, it is useful to understand the factors that place the quality and quantity of forest cover at risk.

- **Shifting Cultivation**: The extensive form of *Jhum*-based cultivation necessitates wide spread slash-burn and clearing of forest. The dynamics of increased population pressure and increase in the demand for more cultivable land is putting pressures on the forest cover of the State. This has resulted in high degree of land fragmentation and forest degradation. This causes fewer plant species, and reduced anthropogenic use thus leading to higher forest loss.
- **Contract System of Forest Extraction:** The present *mahal* system/contract system of harvesting of forest products like timber felling, bamboo cutting, sand mining along the riverine track, which does not include the local people is very much detrimental to the forest health and sustainability (Box 4.1). Their activities thrived in a nexus with the local leaders, where the poor people remain virtually deprived. This has led to

the vicious circle of forest degradation[32] where the poor people have very little incentive to protect and conserve forest (World Bank, 2007). Supervision of felling is yet to be introduced in Mizoram, giving *mahaldars* (timber merchants) a free run of the forest. The combination of uncontrolled felling and low royalty acts as an incentive for unsustainable level of forest exploitation.

- **Increase in Energy Need:** Fuel wood being the primary source of energy use even in the urban area.

Box 4.1

Mahal System

Since the British period, government was not directly involved in extraction of forest produce of the State. Permits or *mahals* were issued to the traders. These permits covered timber, bamboo and cane as well as stone and sand mining. Traders from Bengal and Assam basically used to operate in unsupervised extraction of timber and other products. In the absence of roads, tree felling was concentrated mainly on the river banks, and forests on the inaccessible hill ridges remained undisturbed. Royalty was paid to the administration and the produce was exported. This system of commercial extraction picked up with time and was facilitated by construction of roads. In recent times, with increase in local demand, some local people too are taking permits.

The *mahal* system of timber, bamboo, stone and sand trade is generally run by some few big timber merchants. Entrepreneurship being still risky and unattractive option in the State and along with high labour cost the entire timber trading as well as felling operation is captured by the outsiders with virtually no value addition in the State. Further, this system is highly exploitative for the forests. Royalty rates in Mizoram are among the lowest in North-Eastern region. Prescribed by the Mizo District Forest Act in 1955, these rates were revised only once, in 1988. The royalty structure in Aizawl and Lunglei district is quite different from that of the Southern District Chhimtuipui. For class A-I logs of one-meter girth, the royalty rate is Rs. 262.50/cum in Aizawl and Lunglei, but only Rs. 175/cum in Chhimtuipui. A monthly permit for a head-load of firewood costs three rupees and two rupees, while an annual permit is available for Rs. 27 and Rs. 18.

The poor capacity of the government to monitor the extent of harvesting and the low rates of royalty charged, both contribute to over-exploitation of the forests. The national highway to Silchar, which passes through the Inner line reserve, for instance, provides a ready route for over-harvesting and exporting timber outside.

- **Diversion of Forest-Land:** The demand for various developmental activities, industrialization, urbanization have often led to diversion of forest land. Given that the present situation commands very little land use

and all pervading character of forest in the State, so any kind of economic activities apart from forestry calls for reallocation for forest-land. This is the common feature of a transition economies and cannot be avoided some extent.

- **High Incidence of Forest Fires:** There are several incidents of forest fires in the State. During 1998-99 there were 44 reported incidents of forest fires and in 1999-00 the reported incidents were 25. The data suggests that although reasons might be different, but the incidents of forest fires is maximum in the States of Sikkim and Mizoram (among all the eight NER States) (Government of India, 2003).
- **Weakening of the Community-Based Forest Management System:** The marginalization of community-based management system and growing Government pressure to control forest through various schemes, policies, laws and target oriented funding system – have basically alienated the community-based system of forest conversation. Economic transition also weakens the community-based management by altering the resource use practice. This has largely contributed to deforestation and degradation.

4.2 GOVERNANCE ISSUES: CHANGING PARADIGMS FOR FOREST MANAGEMENT

The entire focus of management of the forest in the earlier centuries was driven by the need to protect timber and hunting rights of royalty and elite against the local subsistence needs of the peasants. But today's forestry institution has to meet huge diversified demand and calls for a change in attitude for its management. The notion of forests is undergoing a change and there are experiments with form of governance to deal with incentive problems and sustainability. This section provides a bird's eye view of some of the conceptual developments on both these fronts in the context of forests in Mizoram.

While traditional notion of forests was largely timber-based, the current interest in landscape-scale forestry is one initiative to integrate environmental and social concerns with those of fibre production into the definition and evolution of forests. This approach recognizes that optimizing forest functions at a larger scale cannot be achieved by simply maximizing forest productivity at the scale of the management unit. There are complex issues of connectivity, downstream and offsite impacts, aesthetics etc. that must be taken into account. Modern forestry emphasizes the need to retain 'multi-functional landscapes' and multi-functional forests' to counter the negative impact of intensification. Some of the more important trends that are creating the need for more integrated and holistic management systems include:

a. ***Broadening Forest Management Objectives:*** The objective is to acknowledge that forests have values within the landscape for hydrology and amenity. Forest can have global values for bio-diversity and carbon storage and these often do not correspond to the values perceived by local people. Hence at various scale different stakeholders are being urged to deal with a much broader range of social and environmental issues than in the past.

b. ***Recognition of Pluralism in Forest Management:*** The reality that all forests are different is increasingly recognized and is accompanied by awareness that pre-dominant concept of single best management system may be counter-productive.

c. ***Globalization:*** The forces of globalization are having major influence on forests. Multi-national corporations, banks, trade regulations etc all have strong impact on how forests are managed and are usually beyond of local control[33]. Macro-economic forces and poverty reduction measures all have a major impact on forests. Some forests issues are subjects to inter-governmental processes.

d. ***Climate Change:*** The uncertainties created by the potential impact of different climate change scenarios have major implications for forest conservation and management. Eco-climatic zones are shifting by hundreds of kilometers, new pests and disease problems are emerging and invasive weed species are posing increasing threats. Climate change adaptation will be the major challenge for all forest managers in the future. Climate change mitigation through carbon sequestration – may provide some opportunities to offset the costs of sustainable forestry but may also create a whole new set of problems.

e. ***Governance:*** Running through all these issues are different aspects of the issues of forest governance. In developing countries and more particularly in transition economies, institutions are weak and have difficulty in taking on the new challenges of conserving and regulating forests. Forests are subject to illegal exploitations, land conversion – usually referred to as the tragedy of the commons.

Mizoram, as discussed in the earlier section, has diversified forest cover. People in rural Mizoram live lives, which are closely related to this diversified forest cover. Landscape forestry therefore is a useful concept for developing forests in the State.

Forest Governance and Management in Mizoram

Multi-tiered decentralized forest management is unique to Mizoram. The responsibility of managing forests is currently shared by many wings of the Government as well as others. Village forests are placed under the management of

[33] Multinational corporations now dominate and control a vast area of forest plantation. Trans-national payments for environmental services may become increasingly influential.

Village Councils, guided by LAD, which deals with all affairs of the councils. However, regarding safety and supply reserves are concerned, LAD exercises very little control. *Jhum*ming in the supply reserves are supposed to be not allowed. There is however no embargo on the Government allotting such land for permanent cultivation. There are instances where Village Council framed their own norms for supply reserves. Similarly, Village Council may, if need be allot house sites from the safety reserves. The unclassed forests are under dual control: *Jhumming* is within the purview of LAD, while allotment of land is under the jurisdiction of Revenue Department. Hence substantial forests areas are under the administrative control of the Revenue Department of Mizoram. The dual control of the land sometime led to serious confusion, mismanagement and inefficiency and is also subject to free-riding.

Department of Environment and Forest is responsible for administration and management of forest in the State and enforcement of National Forest Policy and Central and State Legislation in forests, wildlife and environmental matters. An area of 5212.52 sq. km. of the notified forests (which includes protected and reserved forests, wild life sanctuaries, and national parks) are directly under its control for management purposes. Functionally the Forest Department of Mizoram has three major roles.

1. Direct control over the protected forest, reserved forest, wildlife sanctuaries, and national parks. Each of these categories has prescribed legal and operational procedures, many of which restrict access to and use by people.
2. Regulating trade in forest produce, regardless of its source, covering extraction, transport, conversion, and sale.
3. Ensure forest cover and forest health and simultaneously to undertake and promote afforestation in the State.

There is further delineation of authority as the three District Councils have executive power over their forests. Each council has its own Local Administration and Revenue Departments but has entrusted the management of its reserved forests to the Mizoram State Forest Department. Timber collection is supposed to be regulated by the Forest Department of the State, but bamboo being the non-timber forest product foregoes any regulation.

Since there are multiple players in this field of forest management in the State, the governance can be categorized into four parts:

1. Governance by State Forest Department:
2. Joint Governance by Forest department, District Councils
3. Joint Governance by Village Councils, LAD and Revenue Departments
4. Traditional Management System by Village Community

All these arrangements and the associated Acts and Rules with various degrees of overlap and duplication in functions and responsibilities result in poor coordination between the different agencies, lack of integration among the stakeholders, poor policing and corruption. These along with the loopholes in the various laws and acts have resulted large scale of illegal activities, malpractices in the forest areas.

Forest Governance – List of Acts and Rules

- Assam Forest Regulation of 1991
- Mizoram Forest Acts 1955
- Wild Life Protection Act 1972
- The Pawi Autonomous District Council (Forests) Act, 1979
- The Forest (Conservation) Act, 1980 and Rules thereto
- The Lakher Autonomous District Council (Forests) Acts, 1981
- The Environment (Protection Act), 1986
- The Chakma Autonomous District Council (Forests) Act, 1992
- Supreme Court Order Dt. 12.12.1996 and subsequent orders
- Mizoram Wildlife (Protection Rules), 1999.

Even with the limited scope of activities, within its purview, the forest department finds it difficult to mobilize resources for its upkeep. Revenue receipts from forests account for less than 20 percent of the current expenditures of the department. While choosing an appropriate pricing strategy may be important, it may not be adequate for generating sustainable forests in the state. The above underlines the need for integrated approaches for forest management and governance, some of which are discussed below.

Community Based Forest Management System

It is becoming increasingly clear that the management of local level natural resources and forests through State agency like the Forest Department, is progressively becoming more difficult and costly. On the other hand, the community control over common pool resource has improved the situation in many areas (Krishna et al. 1997; Poffenberger and Mcgean 1996).

Significant factors in the context of traditional forest management are based on three interlinkages (Jodha 2001):

- ***The community's sustenance and livelihood dependence.*** It has driven collective or integrated stake in the health and productivity of natural resource base.
- ***Physical proximity and practical experience-based knowledge and understanding of natural resource base.*** This serves as basis for evolving technical and institutional measures to prevent over-extractive resource use.
- ***Local control over local resources, and adherence to social sanctions.*** This empowers the communities to protect and enhance the community stake in the natural resources. Moreover it helps them to enforce measures to adjust supply and demand aspects of resource use in the community's context.

Within the multi-tier decentralized forest management system of Mizoram, management of village safety and supply reserves[34] entrusted to Village Council, is an example of community based forest management and operates on democratic principles. The regulation norms are based on customary laws, and have been useful in allowing the people to find their own acceptable method of management and dependence with changing time[35]. The system has survived the test of time for nearly four decades, having been exposed to insurgency, frequent changes in mode of governance and political parties, complex pattern of internal migration, urbanization and growing population (Singh, 1996). However the growing presence of government regulation is making the community institution redundant as an agent of forest management.

Joint Forest Management

During the past decade there has been a growing realization amongst the administrators and policy makers, that forest conservation cannot be successful unless people living in or near the forests and dependent on forest products are involved in the process. The change in approach towards forest conservation is reflected in recently formulated government policy on forests such as the National Forestry Action Plan (Government of India, 1999). Development of a sense of participation

[34] These which constituted 37.42 percent of geographical area, Mizoram Forest Department, 1994

[35] Forest management under Village Council has been criticized for its passive and inefficient management. It is evident that in various parts of the State there has been a wide spread and sustained damage of land and forest at the village level The temporary nature of the Village Council authority sometimes compel inefficiency where the individual interest overrule the community interest.

among local people in the on-going process of natural resource management through involvement in decision making, planning and monitoring, is now considered essential for the long term success of forest and bio-diversity conservation efforts.

There are two tiers of forest management system:

- One is the ***conservation and preservation aspect*** (in maintaining its quality and magnitude) of forest. This is from the point of view of ecology and environment and is the area where market mechanism does not work. This typical public good character (non-excludable) makes the monitoring cost of management prohibitively high. So local participation through social fencing can help to minimize cost and generate efficiency.
- The other is forest ***utilization aspect*** through participatory development. This is the productivity aspect (in terms of efficiency and sustainability) where the livelihood issue of the villagers can be tied up. Appropriate utilization is generally facilitated by allowing various kinds of rights on the extraction of forest products, timber trading, practice of agro-forestry, plantation etc and through some cooperatives or VCs.

Successful models of participatory development through JFM seek to develop a synergy between forest governance issues and wider developmental benefits as an incentive for participation (like creation of a village common fund), and a concurrent emphasis on the dual activities of forest protection and overall village resource development. This form of participatory development holds promise for resolving the basic rural problems like employment generation, reduction of pressure on land for *Jhum*ming, creation of crucial market information through synergistic exchange.

Conceptually, participatory management or JFM has its very basis in the traditional practice of community resource management. However, in attempting to identify replicable models of JFM and to encourage such initiatives, governments develop standardized formats for implementation. The dominance of State on the forest sector in India (including Mizoram) over the year has established ‘bureaucratic participation. The implementation process practices standardized administrative formats for collaboration between the State and the local people. These formats fail to account for the specific characteristics of the local context within which these partnerships are to be developed or may have existed earlier. There are attempts to homogenise the different stakeholders like farmers, forest users, villagers and communities, in the model of participation. Some key lessons from the JFM in India are summarized in Box 4.2.

Mizoram too has adopted the JFM proposal of Government of India in a bid to utilize the resources made available for afforestation. During May 2000, Government of Mizoram notified guidelines for the formation of Forest Development Agencies (FDAs), to be registered as Federation of Joint Forest Management Committees (JFMC)/ Village Forest Development Committees (VFDC) in Mizoram within a Territorial/ Wildlife Forest Division under the Society Registration Act, 1860. FDAs were formed as per the Operational Guidelines of MoEF. The FDAs in Mizoram are being provided with funds for implementation of National Afforestation Programme with the following schemes/interventions.

i. Aided Natural Regeneration
ii. Artificial Regeneration,
iii. Mixed Plantation,
iv. Bamboo Plantation, and
v. Regeneration of Perennial Herbs and Shrubs of Medicinal Value.

Box 4.2

Lessons from JFM in India

A number of key lessons emerge from the experience in India in the field of joint forest management over the past few decades. Some of these have wide application and are summarised here.

- Willing active and informed participants of local communities in decision-making and benefit sharing is essential to achieve sustainable forest management and to implement eco-system approaches.
- Given adequate space and encouragement and or incentives, local communities can effectively contribute towards broad based sustainable forest management, from the conceptual to the design and implementation phases of programmes.
- Inequity continues to prevail even in otherwise successful management systems due to the domination of certain more powerful stakeholders.
- The cost of participatory forest management is often heavily skewed with the poorest people suffering the most from closure and other restrictions and from intra and inter community conflicts.
- A supportive legal framework is required for long term success of eco-system based approaches.
- The Indian constitution has been amended to provide enabling condition for eco-system approaches but the constitutional mandates of the VCs needs to be clearly defined given their role in forest management.
- Changes in policy statements are both sufficient as practice on the ground does not always fully conform to the stated policy. There is an 'implementation gap' and it will be important to develop effective systems to monitor field practices.

Source: Poffenberger (2006)

Out of 19 FDA projects sanctioned, a target of 26,770 hectares was fixed for afforestation during the Tenth Five Year Plan. The achievement upto 2004 shows that a total of 17,660 ha of land was brought under afforestation. As on 30.06.2004, there are 270 JFMCs with a total of 17,460 hectares area covered under JFM. This covers 256 revenue villages and 35,335 beneficiary families. JFM in the State is a relatively newer concept and the sustainability is yet to be tested over time. (See Bahuguna et al (2004) for a discussion of the performance of JFM in India).

JFM is highly based on target driven schemes and failed to address community needs and priorities especially in the context of North-East India. In a Sixth Schedule State like Mizoram where the community already enjoys autonomy in forest based resource use, the induction of JFM may create conflicting and overlapping authority structure. Moreover, since JFM is a Central Government scheme – the fiscal responsibility and accountability call for greater government control. Therefore, extending JFM to the Village Reserves would mean greater Government control and weakening of community based institutions (see Poffenberger et al, 2006). The benefit sharing schemes may not seem attractive to the local people as they already have legal access to all these benefits prior to this national scheme. They are often distrustful of the forest department as they fear they may lose their autonomy over their forest land. Given the inherent difference between the indigenous forest management system and State forest management system (and the conflicting customary laws and State laws) it is difficult to interface them. For instance there is hardly a linkage between District Councils and JFM Committees. The forest department exercises sole autonomy to revoke or cancel individual membership to JFMCs or dissolution of the committee. All these raise a question about the credibility of JFM as a means of facilitating forest management in a State like Mizoram.

Along with some flexibility in devising locally acceptable institutional arrangements, the JFM experiments might benefit from exploring innovative options in the form of extended benefit sharing. For instance, development inputs that could augment the livelihood options of the villagers like land development including soil conservation, provision of seeds, promotion of alternative energy sources, etc. (For discussion of successful JFP practices, see Lise, 1995, 1997).

4.3 LIVELIHOOD OPTIONS

In the context of the above discussion on alternative institutional arrangements to conserve forests, this section explores the options for augmenting livelihoods, and attempts to assess the initiatives of government of Mizoram in these directions. It should be mentioned that since a number of these options are in tune with various National Mission Programmes, the State can access funds available under the different schemes.

Forest Plantation/Afforestation Activities

Conventionally, afforestation for ecological restoration is advocated to green barren, waste and degraded land. Most of the initiatives of Government of India are oriented to suit this purpose. It may be recognised that Mizoram possesses little barren waste land as the weather is quite conducive to quick replacement and regeneration of secondary or tertiary vegetation cover. There are some barren stretches in and around towns, quarries, and road side villages which should certainly be afforested. The needs in Mizoram are therefore, somewhat different. They can be broadly be summarized as (a) upgrading the commercial value of existing forest cover, and (b) providing for the forest based needs of the local people.

The focus of government generally has been on the former. The funding prospects of various Centrally sponsored schemes on afforestation, inspires bamboo brakes to be designated as wastelands. While these tracts are no doubt economically inferior to timber forest, they cannot be termed as environmentally inferior. In fact, bamboo provides faster and denser soil cover than many trees, and so is more effective in curbing erosion. The problem with bamboo forest lies in their being dominated by a single species, providing only a limited habitat for fauna. Current afforestation programme in Mizoram basically replaces monoculture of bamboo with

another form of monoculture, which does not improve the quality of forest cover in the state.[36]

Moving from this singular focus on commercial value of forest cover, there is need to explore options for addressing both (a) and (b) above. The field is wide open to promote plantation to meet local needs, encourage forestry as an individual enterprise based on some value addition, provide raw material for industry, and address ecological considerations. This may be achieved by a combination of species such as non-edible oilseeds like Jatropha, medicinal plants, horticulture, mulberry, in addition to traditional forest species like bamboo and teak. This could be facilitated by the forest department by providing inputs and technical guidance, which would only be acceptable to the people if they were assured of user rights to the trees.

Forest Plantation and Carbon Trading

The Kyoto Protocol has identified three possible 'flexibility mechanisms' for countries to meet emission reduction targets: joint implementation, a clean development mechanism (CDM) and emission trading. One particular interest of North-South cooperation is the CDM that allows the developing countries carbon sequestration and storage investments in reforestation, in afforestation and in reducing deforestation to qualify as emission reduction credit. As a signatory to the Kyoto Protocol and a developing country, India is classified as Non-Annex I country – implying that it is not required to make any commitments to reduce GHG, but may volunteer to cooperate with the process.

Meijer and Damania (2006) reviewed the procedural issues related to the implementation of Clean Development Mechanism, availability of funds related to carbon finance transactions in developing countries. The major hurdles as reported by the study are not only the transaction cost issue but the kind of institutional support needed both at the local and national level to facilitate the trading.

[36] Under this afforestation programme six schemes are being implemented by the forest department: wasteland development, operation soil watch (both centrally sponsored), rural fuelwood plantation, roadside and avenue plantations and distributions of saplings, Green Mizoram etc. A new scheme of minor forest produce was launched in 1992-93. Under various schemes, the total area afforested between 1958-59 and 1992-93 was 129730 ha, or 3816 ha per year. During the period 1961-1989, the plantation were largely teak or gomari or a combination of teak and gomari, and pine. In the nineties, there has been a slight shift away from monoculture of teak or gomari to the combination of the two species, and from pine to certain local species found at high altitude.

Mizoram can certainly gain some extra mileage through carbon trading through carbon sequestration and storage. Afforestation initiatives of the state can provide tradeable credits which can augment the resources available for conserving forests and/or improving livelihoods. The State can exercise a wider choice of expanding the area of forest cover by establishing tree plantations, agro-forestry plantings, or analog forests. This will enlarge the capacity of terrestrial carbon sink. Some agro-forestry systems hold considerable potential for improving carbon sequestration and storage in both the soil and bio-mass. Longer rotation systems that use trees for windbreaks, border plantings and over-storey shade can sequester carbon for many decades. It is desirable that such options be assessed and integrated within an overall framework of sustainable livelihoods.

Bamboo for Sustainable Development

Bamboo represents a vast untapped major resource of Mizoram whose ecological and economic potential virtually remains underutilized in the State. Bamboo forests cover 9210 sq. km, (31 percent) of geographical area in the state37. Bamboo brakes are entirely of secondary origin; whose abundance is mainly because of clear felling of primary forests. Non-clump forming bamboo - Melocanna baccifera (Mautak) is most common species, contributing about 77 percent of the growing stock of Bamboo.[38] This is a very versatile species; the culms grow to 20 metres tall and are strong and durable with slender fibres which render them ideal for house building, construction, furniture, weaving, handicrafts, pulping and the production of small softwood products such as incense sticks, chopsticks and toothpicks. The shoots can also be eaten, and are of high quality.

No reliable data are available to authenticate volume of growing stock, annual growth, available bamboo yield, consumption and use of bamboo, an old study by Forest Survey of India (1988-89) assessed the annual yield being 32.4 lakh M. tonnes, while the annual consumption of bamboo for domestic purpose was estimated at 0.28

[37] Bamboo occurs in the lower storey of Tropical Evergreen and Moist Deciduous Forests along the banks of rivers in the riverine forests and in the valleys with humid conditions. Bamboo is found from 40 metres to 1500 metres elevation. It grows profusely in the drainage areas of the Tlawng, Tut, Teirei, Lang-kaih and Barak rivers in West Aizawl.

[38] The other important species are Dendrocalamus hamiltonii (Phulrua), Dendrocalamus longispathus (Rawnal), D. species (Rawpui), Bambusa tulda (Rawthing), B.longispiculata (Rawthing chi) and Arundinaria callosa (Phar).

lakh (000) MT. This is basically for the purpose of construction, tiny handloom and handicraft production and for supply to Hindusthan Paper Mill. The Government receives a sum of Rs 66 lakh per year from royalty in bamboo.

As is evident from the dimensions involved, there is lot of untapped potential for generating and sustaining economic activity, based on this resource in the state. Hence the government of Mizoram has formulated Bamboo Policy for the sustainable development and utilization of bamboo resources through proper management.[39] The main objectives of the policy are:

1. Protection and preservation of mountain ecology, and rich bio-diversity by protecting bamboo forest,
2. Protection of mountain slopes from soil erosion etc. through bamboo afforestation,
3. Promotion of private plantation, and homestead cultivation of bamboo as cash crop,
4. Promotion of bamboo based industries at cottage level, small medium and large scale,
5. Promotion of bamboo as an important wood substitute,
6. Creation of awareness and understanding of Bamboo as *Green Gold*,
7. Effective exploitation of the economic potential of bamboo before the impending MAUTAM, i.e., gregarious flowering in 2006-07.[40]

BAFFACOS (Comprehensive Action Plan for Bamboo Flowering and Famine Combat Schemes) was also formulated and received considerable funding from Planning Commission, Government of India.

Two issues which are critical for development of this sector are:

1. A reform of the Mahal system – there is no incentive within this system to ensure sustainability of the forest resources. The contractors are not monitored and the royalty paid is too little.

[39] Some local firms have been established to process bamboo and this provides some employment for the local people. Plyboard factories have been established in Zuangtui, Aizawl and Lengpui village. A local NGO, Hnamchhantu, is actively investigating the potential for specific bamboo products such as hangers broom sticks etc. Market interest for some product has already been established from TRIFED in New Delhi. There is also Government fruit and vegetable processing factory which processes and preserves bamboo shoots. It is sold even outside the state.

[40] Bamboo flowering occurs at a periodic interval of 48-50 years in Mizoram. From past experience bamboo flowering follows famine which is known as Mautam after the flowering of Melocanna baccifera (Mautak) and Thingtam after Bambusa tulda (Rawthing). As per record Mautak is expected to flower in 2007, and for Rawthing, the next flowering is expected in 2025. Gregarious flowering and seeding of bamboo causes an increase in rat population. The massive rat population feeds on standing agricultural crop, causing its destruction and results in acute food scarcity and also a danger of spreading plague.

2. Since most Bamboo products are bulky and heavy, some development of local markets or markets in nearby states is an essential precursor for this sector to develop rapidly. Issues relating to access to markets in the neighbouring countries are discussed in Chapter 5.

Development of Medicinal and Aromatic Plants and Their Marking

The forests in Mizoram are a store-house of wide varieties of flora and fauna. Quite naturally varied practices of traditional medicines and health care are intensively popular there. This is partly because of its remoteness, isolation and tribal base and partly because of their availability. There is a great belief regarding the efficacy of the folk medicines and therapeutic practices not only in the rural parts of Mizoram, but also in the urban belts among the educated people. About 95 percent of the rural population depends on herbal medicine and nearly 98 percent of raw materials are harvested from the wild plant resources. Ensuring sustenance of these species needs to be an integral part of any forest policy in the state.

Box 4.3

Uttaranchal's Experiments with Aromatic and Medicinal Plants

The Uttaranchal Government (which is also a forest-based economy) has prepared a conservation development and harvesting (CDH) plan to boost the cultivation of aromatic and medicinal plants in the hill State. Under this plan each forest range would have a conservation department', earmarked for herbs not to be disturbed by any other activity. Surrounding the conservation compartment will be the development compartment, which will be herbal nurseries and act as a buffer zone. The harvesting compartment will be outside the development compartment. Harvesting of the local plants will be done by the local people, which will generate employment opportunities. The focus on the CDH plan is on the sustainable management of the plants in the forest areas, cultivation of herbs for livelihood and reducing dependence on other forest products. An Annual Rapid Mapping Exercise (RME) would be part of the plan which would map threatened species and the incidence of medicinal plants in various forest area of the State. Forest department, local communities and NGOs will be involved in the plan.

Reference: Times of India, New Delhi, January 26, 2005.

Apart from the locally utilized species, there is a lot of potential for cultivating and marketing other recognised medicinal and aromatic plants.[41] Uttaranchal is

[41] The London based publication, 'The Economist' reported that annual sale of herbal products in the US are in the order of $4 billion, and these products are said to account for nearly half the medicines prescribed in USA.

undertaking one such initiative (See Box 4.3). A report of the NEPD has identified some of these crops and plants suitable for Mizoram. Currently the government is encouraging projects for Research and Development of medicinal plants. It is also inviting proposal for development of herbal and medicinal plants and for setting up processing units in Mizoram.

The challenge of exploiting the vast potential of ethno-botanical[42] resources of Mizoram in particular and of all NE states in general, depends on developing and documenting this rich heritage. Work on botanical collection and botanical research on medicinal plants was started relatively recently in early nineties. More than 400 medicinal plants have been identified, of which 62 were recorded as new medicinal plants, 64 were categorised as threatened species. More effort on this front is desirable so as to protect the Intellectual Property Rights of the indigenous people, with regards to the uses of these species, and at the same time, to refine and make available, herbal solutions for existing aliments.

4.4 A STRATEGY FOR DEVELOPMENT

The approach to forest management should be based on:

- Using forest to enhance livelihood
- Conservation and preservation of forest for environmental concerns including preserving biodiversity

Mizoram is a hilly State with difficult terrain with about 83 percent forest base. The topography of the State suggests any attempt to development through heavy industrialization and large scale operation will be detrimental to its ecology and environment. Given the vast forest resources of the State, harmonious expansion in forest based activity in line of agro-forestry and farm forestry can be a major source of sustainable development and livelihood. Various livelihood options are discussed in section 4.3 like exploring bamboo sector, afforestation and carbon trading, cultivation of medicinal and aromatic plants, as well as horticulture. Forestry in the conventional sense must give way to new forms which could facilitate value addition and its appropriation in the state. The foremost need for sustainable forest

[42] Ethnobotany: The aim of ethnobotany is to study how and why people use and conceptualise plants in their local environments. The discipline addresses how and in what ways people use nature, and how and in what ways people view nature. As a field of research and study, ethnobotany is an interdisciplinary, holistice approach that includes botany, anthropology, history, and chemistry.

management and land utilization is proper mapping of the degraded forest and fallow lands and integrating community development with forest regeneration and utilization. A combination of various livelihood practices under a controlled scale of operation could be an ideal approach of forest management in the state. Given the high forest land–man ratio it is not difficult to formulate a well-balanced conservation livelihood strategy of forest management. This will ensure plurality in forest functioning which conforms to the broader paradigm of integrated landscape based forest management.

One serious concern for such a transition is weak institutions, regulation and enforcement mechanism. So, one important challenge lies in strengthening the institutions. Forests in Mizoram are broadly under two forms of institutions: the reserve and protected forests are under the control of the State Government, while the supply and safety reserves are with the lower levels of government. Maintenance of both would require innovations in institutions. However, it may be useful to delineate the utilization of these two categories. The focus of the former can be on conservation and maintenance of forests and the inherent biodiversity, while the latter can be dedicated to enhancing the livelihood options within the State. Such delineation can help reduce the demands on protected forests and reserve forests by the people.

Strengthening the traditional institutions requires supportive policies and funds. Provision should be extended so that local community can access a share of funds under various Government schemes and programmes. In an effort to increase the accountability, there should be a careful restructuring of the institutional base to curtail the functioning of those overlapping institutions. This also calls for simplification of complex legal structure with conflicting laws and regulations. In the process there is an inherent need to integrate the formal laws with the customary laws of the local people. Finally it requires an attitudinal change of the forest department towards more decentralized regulations.

For managing the village reserves to enhance livelihood options, it is felt that the people should have long term interest in the maintenance of forests and associated activities. The institution of Village Council is the ultimate democratic answer to such a need, providing functional knowledge and local control over local resources. However, it is felt that the short term of the elected council mitigates against

development and maintenance of long term interest of the decision makers – some institutional innovations may be called for. One such option is to ensure that the entire council is not constituted at one go. If the term of all the members does not coincide, it is difficult to arrive at a consensus for over-utilizing the resources, before the end of the term. Awareness about conservation and regeneration of natural resources and environment for sustainable augmentation of livelihood options should be widely promoted.

Here it may be mentioned that if sustainable development is to be achieved, development projects must be assessed on a holistic basis. This involves taking into account not only their external economic consequences, but also their wider environmental and socio-economic implications, including long term ones. There is inherent danger of liberalization: laxity of environmental regulation and legislative loopholes could undermine long term sustainability. For instance there is an apprehension from the draft that that the National Environment Policy (NEP, 2004)[43] would override crucial parts of the Environment Protection Act. The Draft NEP has deliberately dropped public hearings for projects under 25 hectares, which certainly bear a serious implication for the North-East, including Mizoram. In a sensitive ecological region this provision could facilitate rampant exploitation of areas possessing irreplaceable flora and fauna.

[43] For the critique of the Draft NEP, see Annexure 4.1.

Annexure 4.1

Critique of the Draft of New Environment Policy (DNEP) 2004 Concerning North-Eastern Region

According to many environmentalists the approach of the Draft National Environmental Policy (DNEP) is unwilling to give legal recognition to traditional rights of forest dwelling tribes. The vast forest resources of the North-Eastern Region are largely managed by the tribal communities. The traditional pattern of possession of the forests in the region necessitates recognition of traditional customs and practices, the norms and customary laws which govern such practices in accessing different natural resources.

While the policy mentions Environmentally Sensitive Zones (ESZ) are areas requiring special attention for their conservation, it however remains silent about the specifics how the environment of the ESZ would be protected against unscrupulous activities. It fails to activate what kind of legal status would be accorded to the areas for ensuring the conservation of their unique eco-systems. The NEP also raises a critical question in its framework for legal action, when it States, 'a judicious mix of civil and criminal processes and sanctions will be employed in the legal regime for enforcement, through a review of existing legislation. Civil liability law, civil sanctions, and the processes would govern most situations of non-compliance. Criminal processes and sanctions would be available for serious, and potentially provable, infringements. According to some environmentalists, the tilt in favour of civil law would definitely constrain efforts in environmental protection.

The draft NEP has also come under fire for its failure to address the problems emerging from the indiscriminate felling of trees in the North-East. Most proposals are very inadequately designed and without appropriate back-up of scientific and environmental data. There is absolutely no concern for the displacement and submergences, these proposals are expected to bring about in the region. The draft NEP has not taken into account of the grave environmental issues of the North-East, such as climate change, floods, land-slides, siltation, and river bank erosion, which deserve immediate attention.

There is an apprehension that the NEP would over-ride crucial parts of the Environment Protection Act. A critical analysis is needed on the proposal made by the draft policy document on the issue of process related reforms. Some environmentalists have described the NEP's present format as mechanisms to reduce the Ministry of Environment and Forest into a 'clearing agency for unsustainable and destructive economic and commercial activities'. For instance the public hearing have been dropped for projects under 25 hectares also bears serious implications for the North-East. This provision could facilitate rampant exploitation of areas possessing irreplaceable flora and fauna, in a ecological sensitive region like North-East.

The activists claimed that formulating the National Bio-Diversity Strategy and Action Plan (NBSAP) is a long drawn process, which requires the involvement of people at the grass-root level throughout the country. But the present document is prepared in a quite opposite manner in a very hefty way.

Chapter 5

Employment Generation, Industry and Trade

AGRICULTURE is an important part of the economy of Mizoram, both in terms of its contribution to GSDP and in terms of the number of people who depend on it for livelihoods. Development in the State therefore has to address the issues and concerns of these people. However, with development and increase in incomes, as well as with rapid urbanization being witnessed in the State, people's aspirations take them out of agricultural employment. Expansion in economic activities in the non-agricultural sectors therefore is imperative. Further, while there is some scope for increase in productivity in agriculture, industry usually offers greater potential for productivity expansion. The transition away from traditional economies and the emergence of a modern economy are closely related to the development of the non-agricultural sectors. An important precursor to such a transition is to establish a dynamic labour market, which provides the pool of human resources for recruitment into these alternative economic activities. Following up from the discussion in earlier chapters, Section 5.1 seeks to characterize the problem in formation of dynamics labour market and seeks some solutions. Section 5.2 documents the small size of industrial activity in the State and explores the constraints to development of industrial activity in the State.

The small size of the market facing investors is one of the major constraints for industrial development as well as expansion in economic activity in Mizoram, which is compounded by the lack of options to explore markets in neighbouring countries (Myanmar and Bangladesh). This constraint in conjunction with prohibitive costs of transportation to the mainland or even to other parts of the North-East suggests that the local market is the only source of demand. The proposed strategies for development in the agriculture sector therefore seek to look inward in identifying activities for expansion. However, there is no avoiding the fact that expansion in industrial activity and the ability of the State to attract potential investors from within

the State or outside is critically related to expansion in the scope for trade across these two international borders. Section 5.3 summarises the underlying issues and attempts to look forward.

5.1 LABOUR AND EMPLOYMENT GENERATION

If development means income growth with equity, generation of employment opportunities remains a formidable challenge for the State and arguably the main objective of development. It is only through employment generation that economic well-being of the people can be ensured and poverty phased out on a sustained basis. Though the size of the population is rather small, the fact that a growing number of educated youth are entering the job market every year cannot be ignored. Employment generation is all the more challenging in the context of the ongoing economic reform, which seeks to redefine the role of Government as more of a facilitator rather than an employer, with a greater emphasis on efficiency and competition, coupled with integration with the global economy.[44]

Over the years Mizoram has experienced a sluggish growth of employment opportunities that has not been in consonance with its reasonably high rate of income growth. This is because the high inflow of transfer payments (due to Central assistance) is capable of generating income growth, but not expansion of economic activities. The issue of employment generation cannot be divorced from issues related to expansion of economic activities. What needs to be developed therefore is an employment oriented development strategy.

As per 2001 Census, there were altogether 4,67,159 workers out of which 2,04,151 (43.7 percent) were female workers. Out of the total workers, 3,62,450 were main workers and 1,04,709 were marginal workers. The largest share of workers is in the categories of *cultivators* (54.9 percent) and *other workers* (37.9 percent, which includes workers in the service sectors and petty trading activities). *Household industry* and *agricultural labourers* have a very negligible share in the total workforce of main workers, 1.9 and 5.7 percent respectively. The work force participation rate in Mizoram has increased from 48.9 percent in 1991 to 52.7 percent in 2001. However

[44] The employment elasticity of the labour force in the era of post reform has been considerably low. (Report of the Task Force on Employment Opportunities, Planning Commission, Government of India, July, 2001).

the number of job seekers registered in the live register up to 2005-06 stood at 37534[45] while the vacancies notified during 2005-06 was 2231. This figure suggests some interesting implications.

- The number of job seekers is a rather high proportion of the total workforce of the State – close to 20 percent, suggesting that there is a high degree of demand for better employment opportunities. This suggests that there is either unemployment or under-employment in the State.
- Since recruitment through employment exchanges is usually for Government/public sector jobs, which generally requires some minimum level of education, the huge backlog of registered job seekers reflects a demand for such jobs. Taken as a proportion of total educated labour force, even with elementary educational qualifications, the proportions would be alarmingly high.
- The aspiration for a risk free Government employment also captures the low risk profile of the workforce.

In what follows, we attempt to characterize the workforce of Mizoram using some more indicators, to understand the nature of the labour market, which would be the first major constraint to expansion in employment opportunities in the State.

Labour Force Participation Rates (LFR), Work Force Participation Rates (WPR) and Employment Situation

During 2004-05, in Mizoram, 65.2 percent of the population in the age group 15 and above, was either working (i.e., employed) on the usual principal and subsidiary status or seeking or available for work (i.e., presently unemployed).[46] This is the labour force participation rate in the State, which has steadily increased from 48.4 percent in 1983 and 61.9 percent in 1993-94 and 63.8 percent in 1999-00. This is also a period over which there is a consistent increase in the LFR for women, especially in the rural areas, which has contributed to widening disparity between rural and urban areas in their LFR. See Table 5.1. These figures compare quite well with the averages for the entire country.

[45] This number increased to 50605 by 2007-08.

[46] This is the latest year for which state-wise data is available from the NSS reports. The latest report on Employment and Unemployment Situation in India (Report number 522 for 2005-06) provides only an aggregative picture.

Table 5.1: Persons in the Labour Force

(Percentage)

	1993-94			1999-2000			2004-05		
	Male	**Female**	**Persons**	**Male**	**Female**	**Persons**	**Male**	**Female**	**Persons**
Combined									
Mizoram	78.8	43.6	61.9	78.5	48.7	63.8	79.4	50.9	65.2
India	85.4	42	64.5	83.5	38.5	61.8	82.5	36.9	60.3
Rural									
Mizoram	82.7	48.1	66.3	88	64.4	76.6	86.7	62.3	75.0
India	87.6	48.8	68.8	85.4	45.6	66.2	85.9	49.4	67.7
Urban									
Mizoram	75.3	39.8	58	72.8	39.9	56.4	72.1	39.6	55.4
India	79.9	23.4	53.3	78.6	20.9	51.1	79.2	24.4	53.0

Source: The 50th and 55th & 61st Rounds of the NSSO on Employment and Unemployment Situation in India.

According to the 55th Round of NSS, 1999-00 (on Employment and Unemployment Situation in India), the growth in employment in the State reflects a robust performance of 4.0 percent against the Indian average of 1.6 percent. Much of the growth in employment is urban centric (5.6 percent in 1999-00) and much of it is in the Government service sector. It is to be noted that most of the special category States of North-East India have a highly inflated service sector (and that too in the public sector). This generates rural-urban imbalance in employment growth pattern, where the scope of expansion in the rural areas is constrained by the poor agricultural productivity and poor infrastructure. The unemployment rate is 1.1 percent of population in 2004-05 against the national average of 3.1. The incidence is relatively higher in the urban areas 1.9 (as against the national average of 4.5) as compared to the rural areas, 0.3 (as against the national average of 1.7)[47]. The higher opportunities in the urban areas are resulting in rural-urban migration, at a rate much higher than the rate of employment generation. This is further exacerbated by constraints to expansion in Government employment in recent years in an attempt to improve fiscal responsibility.

However, there are some problems in interpreting the data on LFR and workforce participation rates. As would be evident from the various indicators of

[47] The stated unemployment rate is in the category of usual status (ps+ss).

employment-unemployment situation of NSS and Census data, the performance of the State in relation to the other Indian States and UTs is extremely good. For instance, so far as the work participation ratio (main and marginal workers) is concerned Mizoram has improved its ranking from second (48.91 percent) in Census 1991 to first (52.70 percent) in Census 2001 among the Indian States and Union Territories. The dependency ratio (non-worker per worker) is less than unity (0.89) against the national average of 1.55. The WPR ranking of the State in terms of main workers has also improved to third position (40.83 percent) in Census 2001, from fifth position (42.09 percent) in Census 1991, among the Indian States and UTs. All these indicators suggest a comfortable employment scenario, except for the rapid increase in the share of marginal workers. While the latter can be considered evidence of growing unemployment in the State, these figures do not capture potential under-employment. Given the pre-dominance of Jhum, employment as conventionally defined has limited meaning especially in the rural areas. While people may not be productively employed, these estimates would classify them as being employed.

From an examination of the data of last five Census (from 1961 to 2001), one thing clearly emerges: the percentage of cultivators has declined sharply but still remains high at 54.9 percent in 2001. On the other hand, the category of other workers (which in the absence of industry basically includes Government and semi-Government services and petty trading) is steadily claiming an increasing share, with a sharp increase during 1981-99 (Table 5.2)[48]. The other two categories, agricultural labourers and household industries as a percentage of employment to the main workers are showing only a very marginal change.

Table 5.2: Percentage Distribution of Main Workers by Occupation

Category	1961	1971	1981	1991	2001
Cultivator	87.14	83.53	70.63	61.34	54.90
Agricultural Labourers	0.03	0.37	2.49	3.28	5.70
Household Industry	4.04	0.32	0.85	1.02	1.50
Other Workers	8.79	15.78	26.03	34.36	37.90

Source: Constructed from Census, 1961, 1971, 1981, 1991, 2001.

The sectoral distribution of rural and urban workers in the NSS data for the 61st Round (2004-05) too documents a similar picture – while primary sector accounts

[48] There was a major expansion in the Government service sector, after Mizoram attained statehood.

for 87.5 percent of the rural work force, tertiary sector claims the lions share of 53.7 percent in the urban areas. Number of people with irregular employment over the year per 1,000 working population captures one dimension of under-employment. The figures for Mizoram are similar to the national average in case of urban areas and lower than the national average in case of rural areas in 2004-05. This is a significant improvement over 1999-00, both in urban and rural areas. While urban employment is wage employment in most cases, the notion of irregular work is clear, and this would be evidence of underemployment. However, in rural areas, with Jhum, the extent of wage employment is low, explicit layoff too would be low. Therefore, this form of underemployment is less likely. Other indicators for underemployment are the number of people looking for additional work or for alternative employment (Table 5.3). Over the three surveys considered, there is a steady increase in the percentage of people who are looking for additional employment or those looking for alternative employment. This is more so in rural areas than in urban areas. This provides some evidence of underemployment or disguised unemployment in the Mizoram economy.

Table 5.3: Indicators of Underemployment

(Percent)

	Workers Seeking Additional Work					
	Rural			***Urban***		
	1993-94	***1999-00***	***2004-05***	***1993-94***	***1999-00***	***2004-05***
Male	2.1	12	12.5	1.5	3.4	5.1
Female	0.8	4.5	4.8	1.1	4.5	3.7
Persons	1.6	9.1	9.5	1.3	3.8	4.5
Workers Seeking Alternative Work						
	1993-94	***1999-00***	***2004-05***	***1993-94***	***1999-00***	***2004-05***
Male	2.6	8.8	11.9	1.8	5.1	5.1
Female	0.5	1.8	4.2	1.6	6.1	3.7
Persons	1.9	6.1	8.5	1.8	5.5	4.7

Sources: NSS Rounds 50, 55 and 61, Employment and Unemployment Situation in India.

Note:Figures are as percentage of employed persons in the usual principle status.

Formal measures of underemployment however, sugget some decline in incidence, as documented by NSS data (Table 5.4). These changes are accompanied by high and rising. Table 5.5 and 5.6 give numbers for two NSS reference periods. These numbers show a consistent increase, where the increase is higher than all India average. This is reflected in the increase in nominal GSDP from agriculture per cultivator as well. Between the three Census periods, the per cultivator GSDP in

nominal terms has increased by 18 times, from Rs 5.25 per capita per day in 1981 to Rs 93.47 in 2001. Since, this value, in a sense, constitutes the benchmark for wages in the State and especially in rural areas, underemployment with high wages is a paradox here. As discussed in chapter 2, Jhum is based on only one factor of production-labour. All other inputs like land, are "surplus", and therefore get no return. All returns from agriculture therefore are appropriated as returns to labour. These returns set the opportunity cost for labour, and possibly explain the high cost of labour in the State.

Table 5.4: Employed Persons without Regular Work throughout the Year

(Per 1000 Employed Persons in the Usual Principal Status)

States	Rural			Urban			Rural Person	Urban Person
	Male	Female	Person	Male	Female	Person		
Arunachal Pradesh	199	225	210	222	348	248	183	398
Assam	58	134	70	32	29	32	73	30
Manipur	116	95	109	96	141	108	190	151
Meghalaya	81	76	79	14	20	17	66	46
Mizoram	**45**	**55**	**49**	**61**	**72**	**65**	**94**	**177**
Nagaland	51	61	56	23	20	22	45	40
Tripura	90	125	93	54	16	48	147	77
All India	**110**	**139**	**118**	**62**	**89**	**67**	**113**	**69**

Note: Last two columns refer to NSS Round 55, while the rest of the data is for Round 61.
Source: NSS Rounds 55 and 61, Employment and Unemployment Situation in India.

High cost of labour renders Mizoram an unattractive investment destination, especially in the case of industrial investment for export out of the State. Neighbouring States would provide a more attractive cost package, or alternatively, labour would be brought in from these States to lower the costs. While regulations prevent the latter solution from being a long term arrangement, it is common information that for harvesting the bamboo, the contractors do prefer to bring in labour from Assam and cart the bamboo out as well, with no value addition in the State.

Table 5.5: Average Daily Wages for Rural Casual Workers Engaged in Public Works (Rs)

States	1999-00			2004-05		
	Male	Female	Persons	Male	Female	Persons
Arunachal Pradesh	79.23	121.43	80.66	75.14	64.14	71.12
Assam	67.97	27.14	59.81	70.00	-	70.00
Manipur	60.15	24.74	42.31	86.23	40.00	85.00
Meghalaya	63.31	53.31	57.8	106.98	-	106.98
Mizoram	**85.55**	**71.43**	**77.14**	**95.04**	**81.75**	**92.58**
Nagaland	84.39	109.41	87.67	98.60	68.72	87.65

States	1999-00			2004-05		
	Male	Female	Persons	Male	Female	Persons
Tripura	86.59	123.88	95.64	84.43	40.00	76.71
All India	**48.14**	**38.06**	**45.55**	**65.33**	**49.19**	**56.33**

Source: NSS 55th and 61st Round, Employment-Unemployment Situation in India.

Table 5.6: Average Daily Wages for Casual Workers in Non-Public Works (Rs)

States	Rural			Urban			Rural Person	Urban Person
	Male	Female	Person	Male	Female	Person		
Arunachal Pradesh	104	51	91	134	462	139	57.64	159.07
Assam	63	53	60	74	56	70	46.63	65.58
Manipur	73	64	71	95	208	134	56.88	65.86
Meghalaya	73	43	64	80	40	73	51.29	72.06
Mizoram	**112**	**89**	**110**	**117**	**115**	**117**	**92.33**	**79.23**
Nagaland	146	150	146	93	73	85	68.23	81.47
Tripura	64	43	61	75	54	72	47.83	59.12
All India	**55**	**35**	**49**	**75**	**44**	**69**	**39.64**	**56.96**

Source: NSS Round 55 and 61, Employment and Unemployment Situation in India.

Note: Last two columns refer to NSS Round 55, while the rest of the data is for Round 61.

A Strategy

Ensuring gainful employment to people in the State is intrinsically related to any development strategy. There are two components to this goal – one, ensuring improved livelihoods to people and two, to ensure the development of an effective labour market, which is a precursor to the development of industry in the State.

In the rest of the country, Governments seek to address the problem of unemployment and underemployment through various employment generation/ guarantee programmes or through providing assistance for enhancing self-employment opportunities. These however will not be effective in transforming the rural economy in Mizoram, since wage employment and resulting uncertainties are not the key problem faced by the people. Incentives and change have to be directed towards improving the standard of living through improvement in productivity in the chosen and established activities.

The strategies spelt out in chapters 3 and 4 seek to augment livelihoods in the rural economy. The core of the strategy is to induce some organisational changes so that investment in agriculture emerges as a viable proposition. Intrinsic to this change, is the possibility of separating the returns to capital and labour. This would encourage the development of a labour market. Here, it may be mentioned that while agriculture

appears to be an activity normally associated with rural areas, in Mizoram, as many as 36 percent of usually working urban residents depend on agriculture for livelihood, as per the NSS 61st Round, 2004-05. Thus, the impact of such a strategy is expected to be quite widespread.

Necessarily wages in the State need to compete with those in the other States of the North-East to make the State an attractive destination for investment in industry. While opening up the economy to inflow of labour – easing the restrictions relating to inner line permit - would relax the wage rate, the gains are not expected to be local. Therefore, major strategic interventions in industry should follow some progress in agriculture. Given the large urban population in the State and the initial effective forays the State has made into fields of health and education, some strategies could be devised to encourage expansion in these sectors. These are discussed in chapter 7 and chapter 10. Differences in wages in skilled manpower are expected to be lower than those for unskilled labour, making such an option feasible.

5.2 INDUSTRIES

Mizoram is predominantly an agrarian State. There are not many major industries in the State to provide regular source of income to the people. Upto March 2002 the total number of small scale industrial units registered was 4,610 with a total employment of 26,629. As on September 30, 2007, the number of small scale units is 6443 with employment of 22471 (Economic Survey of Mizoram, 2007-08). During 2000-01, 127 SSI units were registered. The total number of units registered under Khadi & Village industries also has reached 5,772 upto March 2001. Besides, people practice poultry, piggery, pisciculture and dairy in the homestead. People are also engaged in sericulture, weaving, knitting and tailoring, bakery, workshops, trade, and in various cottage industries. About 50,000 persons alone are employed in various Government and Semi-Government undertakings, which is 6 percent of the total population and 70 percent of the main workers in category of other services[49].

The final report on 4th Economic Census conducted in 1998 reveals that there were 24,943 enterprises (excluding crop production & plantation) in Mizoram, out of which 1,744 were agricultural enterprises and 23,199 were non-agricultural

[49] Census 2001, Directorate of Economics and Statistics, Mizoram Government.

enterprises. Further, a total of 77,457 persons were employed in all the enterprises out of which 55,081 (71.1 percent) were hired workers and 54,476 persons (70.3 percent) are employed in urban areas. Compared to the figure of 467,159 workers in the State, the above covers only about 16 percent. Excluding agricultural and trading operations from the above, the contribution of industry to employment generation in the State turns out to be rather limited. As per the 5th Economic Census (2005) the number of enterprises increases to 47,378. This is a commendable achievement for the State. It registers an average annual growth rate of 9.60 percent for the period 1998 to 2005[50]. Of these, 29 percent are agricultural enterprises not engaged in agricultural production and plantation. Total employment in these enterprises increased to 1,06,706 persons of which 60 percent were hired hands. While this constitutes considerable progress, the activities covered by the Economic Census continue to account for less than 25 percent of the total workers in the state. Further, while agricultural enterprises recorded an average annual growth in employment between the fourth anf the fifth Census of 24 percent, that in the non-agricultural enterprises increased only by 3.3 percent per annum.

Contribution of manufacturing to GSDP in Mizoram is barely 2.24 percent.[51]A number of Government initiatives have been introduced and implemented in the State, the impact is rather limited. Number of registered small scale units has increased from 917 to 4,610 during 1987-88 to 2001-02. The corresponding employment grew from 4,223 persons to 26,629 persons. While this would appear to be a substantial increase, in terms of the size of the Mizo economy, this sector fails to make a dent.

There are several Government schemes in operation, such as the establishment of District Industries Centres, provision of financial assistance and loan for employment generation among unemployed youths, TRYSEM, etc. and several official bodies for running small industrial units by the local entrepreneurs. One of the latest in the series is the establishment of North-Eastern Development Finance Corporation. However, the utilization of such options within Mizoram is quite limited.

[50] Economic Survey, 2007-08, Govt. of Mizoram

[51] According to a study by Goswami H. and J.K. Gogoi (2004), in which Indian States (total 25 States excluding Jharkhand, Chhattisgarh and Uttaranchal) are ranked on the basis of economic development- by constructing a composite index of the performance of the four sectors viz.; agriculture, industry, infrastructure and social sector, Mizoram was ranked second from the bottom- only after Arunachal Pradesh.

For instance, as a part of the initiative to encourage investment in the North-eastern States, the Union Government has provided a package of initiatives including exemption from income tax and CenVAT, transport subsidies for bringing in raw material as well as for sending out finished products, capital investment subsidy and working capital interest subsidy. Of the total funds disbursed under the latter three schemes, Mizoram claimed Rs. 23.53 crore as transportation subsidy, Rs. 0.72 crore as capital investment subsidy and nothing towards working capital interest subsidy. These amounts are over a seven year period. The share of Mizoram in the total amount disbursed in the entire North-East under these heads is 3.5 percent, while the distance to be traversed to bring goods from Mizoram to mainland States or vice-versa is the longest.[52]

Evolving Industrial Environment

In Mizoram traditional artisans like weavers and blacksmiths play an important role. Basically former is the activity for the home consumption only and the later was traditionally for making weapons and implements for war, hunt, agriculture and domestic use. While there is plenty of raw material for agro-based and forest based industry in the State, historically there were no major industries in Mizoram. Prior to independence, bamboo from the State was supplied to Karnaphuli Paper Mills, at Rangamati, Bangladesh and now it is sent to Cachar Paper Mill just across the border in Assam.

After the attainment of Statehood in 1987, the State Government formulated *First Industrial Policy* for the State on 1989. The policy implemented during the fiscal year 1989-90, was framed taking full cognizance of *National Industrial Policy* resolutions. The objectives of the State Industrial Policy were not only rapid industrialization in the State but also all-round development with an aim to provide gainful employment and self employment to the rural poor engaged in shifting cultivation. The *New Industrial Policy of Mizoram 2002*[53] was announced after a

[52] The website of NEC provides statewise information on each of the central subsidies utilized.

[53] Subsequently, after the discussions at the common fora and coming out of the North East Industrial and Investment Promotion Policy (NEIIPP) 2007 (effective from 1.4.2007), the State has also revised its policy. The new policy seems to have given certain relaxations to attract outside investors into the State. But the official website is still carrying the old message of 2002 of encouraging joint ventures between local entrepreneurs and industrialists from outside the State on selective basis; and also encouraging joint venture from outside the State with State's own public sector undertakings and with resourceful local entrepreneurs. *(footnote continued)*

decade of implementation of first industrial policy. The new policy was framed to accelerate the industrial process through the promotion and modernization of textile industry. While hitherto Mizoram was closed to investment from outside the State, this policy document opened up the scope for investment from outside the State 'on selective basis' along with local entrepreneurs. A number of State Government undertakings were set up to encourage establishment of industry and to help in finding markets for the output. Some such initiatives are:

1. ***Mizoram Food and Allied Industries Corporation*** for industries based on agro-horticultural products. Some ginger and fruit processing plants have come up in the State.
2. ***Zoram Industrial Development Corporation (ZIDCO)*** set up in collaboration with the Industrial Development Bank of India (IDBI), to set up industrial units as well as to provide assistance to other enterprises.
3. ***Zoram Electronics Development Corporation*** **(ZEDCO)** for promoting the electronics industry. The climate condition, pollution free atmosphere and delicate skill of the Mizo women are conducive for successful electronic units like manufacture and assembly of television, radios, amplifiers, calculators, etc.
4. ***Mizoram Handloom and Handicraft Development Corporation (MHHDCO)*** for encouraging production of clothes and handicrafts native to the State. A craft center was started in Aizawl, which produces floor rugs, bags, aprons, cane works etc. This organization takes care of the marketing issues as well.
5. ***Mizoram Khadi and Village Industries Board*** **(MKVIB)** to promote various types of village industries. Different training-cum-production centers were set up covering silk spinning and weaving, cotton spinning and weaving, soap making, oil extraction, carpentry, cane and bamboo works etc.

However, from the status of industrial development in the State, it appears that these initiatives met with limited success at best. The major impediments sought to be addressed by the various Government initiatives are the infrastructural bottlenecks, lack of adequate market and inadequacy of financial resources. The initiatives mentioned above address the latter two constraints. In order to address the infrastructural bottlenecks, the State has set up industrial estates at three places – Aizawl, Kolasib and Lunglei. A vertical industrial complex has been constructed in

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It is claimed now this stand has been softened. The study team vainly endeavoured to get post-2002 information. If this is the state of affairs, how a willing entrepreneur would get information from such a remotely located state. Web browsing is the easiest way; therefore, such critical updates are essential and should be done to elicit information.

the Zuangtui industrial estate area to house pollution free small and cottage industries. 66 plots have been allotted in this complex of which 28 are reported to be operational at present. More estates are proposed at Chawngte, Mamit, Serchhip and Lawngtlai. An Industrial Growth Centre is being set up at Luangmual, 8 km from Aizawl, with the active support of Government of India, for a wide range of industries including, agro-based industries, forest and livestock based, chemical, electrochemical and electronics and so on. An Export Promotion Industrial Park (EPIP) is proposed to be established at Lengte village, near Lengpui Airport, about 30 km from Aizawl city, for units which will produce light, value added items with an eye on export. Further, a Food Park is being proposed at Chhingchhip, about 80 km. away from Aizawl, with facilities such as approach road, national highways, water availability, transport facility, proximity to Airport Facilities. Integrated Infrastructure Development Centre (IIDC) has been established at Pukpui, Lunglei district, for promoting and strengthening of small, tiny and village enterprises in backward districts and rural areas in the country. As the site is located in the Southern part of Mizoram the product from the centre is expected to cater to the trading needs of Bangladesh, which is in the region of 90 kms from the IIDC. Another IIDC is proposed at Zote.

Further, the industrial policy announced provides a spate of incentives aimed at reducing the cost to the entrepreneur.[54] Sector specific policies too have been announced for IT sector, Bamboo and Power. The success so far has been, proposed investment by Cement Corporation of India for a clinker grinding unit, bamboo mat ply manufacturing unit, (close to Kachar border) and another venture to manufacture medium density fibre board and bamboo chips, all at Bairabi. The former is supported by funding from the Industrial Development Bank of India and with equity participation of the Government of Mizoram. Through the Bamboo Development Agency, the government is undertaking a number of initiatives to encourage value addition in bamboo processing within the state. Some of these are – a joint venture units at Lengpui and Sairang to produce bamboo particle board and construction board, where the one at Sairang is proposed as hundred percent export oriented unit.

[54] These include lower interest rate and interest subsidy, power subsidy, grants-in aid for artisans, land subsidy, factory rent subsidy in industrial estates, subsidy on manpower development, subsidy on drawing of power line and power generating net, concession on State and Central sales tax, Reimbursement of the cost of project reports, State transport subsidy on plants and machinery.

Of the plots developed in the older industrial estates, while 59 have been allotted to various SSI units, only 23 are functional, in the Aizawl Industrial estate. At Kolasib, the Government has constructed 6 work sheds which have 3 SSI units functioning.

A number of studies have identified suitable activities, depending on the relative strengths of Mizoram. However, given the status of development of Industry in Mizoram, it is perhaps useful to return to the drawing board and re-examine the constraints to industrial development in the State.

1. Inadequate infrastructure is the first constraint identified by most studies. The State has a poor network of roads, inadequate availability of power and poor connectivity in terms of telecommunications. Some of these aspects would be addressed in chapter 6 on infrastructure.
2. Lack of access to markets – the distance from the mainland States of India coupled with the absence of a "safe corridor" to reach these markets raises the cost of accessing these markets. Therefore, most studies seek to identify products which have low volume/weight and high value, so that transportation by air could be an option. Given that Mizoram shares a long international border with Bangladesh as well as Myanmar, these provide economically more attractive options for marketing when compared to mainland India. However, this option is not available, given the current State of trade agreements and the development of associated infrastructure.
3. Labour market difficulties – as discussed in the earlier section, the costs of labour in Mizoram are high. While the State can provide a better educated labour force, the cost factor works against investments in the State. Free entry of people from outside the State could contribute to reducing the costs of labour, however, this would defeat the purpose of attracting industry into the State. While constraints to free entry and free exit are often detrimental to the development of a free market and the associated gains to efficiency and productivity, in terms of policy decisions, the timing of such a change in the policy environment can influence the impact and the acceptability of the policy.
4. Paucity of financial resources is often considered a constraint to investment in less developed States. There are number of initiatives taken by various Government agencies to ease the extent of problem. It should however be mentioned that the core capital that the promoter has to invest in any project needs to be mobilized and to the extent that non-Mizos do not have an easy entry into the State for earning a livelihood, these have to be financed out of surpluses generated in the other sectors in the State or through finances coming through repatriated incomes from outside the State. Here, the non-resident Mizos can play an important role. In recent times, the government is making efforts to selectively encourage non-Mizos to come in the State.
5. Lack of entrepreneurship/risk taking: As the chapter on *Jhum* suggested, people accustomed to this mode of cultivation are geared to face risks vis-a-vis nature but not those relating to the market. This is also evident in the

high demand for Government jobs, even when the individuals are "over-qualified" for the concerned job. Investment in industry however is exposed to market related risks and some risk bearing capacity is an integral part of entrepreneurship.

As mentioned earlier, most studies identify 1, 2 and 4 above, but seem to miss out on 3 and 5. The Government initiatives too address 1, 2, and 4 in various ways, and seek to alleviate 5 through Government operations. This however, defeats the purpose since the beneficiaries of the intervention do not develop the capacity for risk bearing even in the future – the intervention therefore is transformed into a persistent price support mechanism. Some examples of such interventions are those reported for sericulture and floriculture. Similar reports are available on some other crops as well.

Strategy for Development

There are two real dilemmas faced in the State, so far as the policy option is concerned. One is the conflict between industrialization and ecological balance. The fragile ecology of the region does not permit rapid industrialization in the large scale sector as this is likely to lead to destruction of valuable flora and fauna, cause soil erosion and water pollution and affect the environmental balance. Secondly, human resource development (including entrepreneurial ability at the local level) has not reached the required stage, so as to make possible increasing participation of the local people in the process of industrialization. Rapid growth of large and medium industries may mean that geographical areas are being developed without affecting the local people, or even at the cost of the local poor.

Given this context, we propose an alternative approach. While the Government can explore the possibility of selective negotiations with private investors from the rest of the country/world, the overall strategy has to address the underlying problems mentioned in 3 and 5 above. Increase in incomes in the agriculture and allied activities, through the integrated approach discussed in chapter 3, coupled with rapid urbanization, will gradually generate market for the produce within the State itself. A similar cooperative-based initiative in the industrial sector with technical inputs for outside – either by Government or by experts or by potential demanders, will mitigate the uncertainty with respect to labour. The risk-bearing capacity can only be built over time. Cooperative marketing efforts too ease this risk as demonstrated by the dairy experiment in Mizoram. The advantage with initially catering to local demand arises from insider knowledge of the structure of demand

and its evolution over time. For the initial years, the Government could aid the effort by undertaking some market analysis and quantifying the scale of operations sustainable in the State. Such information would be useful for potential investors in deciding what activities to operate in. some efforts in this direction was evident in the presentation made at the 3rd N.E. Business Summit[55].

In the event of identified external sources of demand, the Government could negotiate with the demanders for an initial long period contract that would help mitigate short term risks and develop capacity for risk taking. As a backdrop to these activities, it is essential to explore the options for expanded trade with the international neighbours for sustainable growth in industrial sector. Issues relating to the enhanced trade are discussed in the next section.

As regards the activities suitable to the State of Mizoram, existing studies have identified a number of activities for the State. While some of these fit in with the profile of the State and its comparative strengths, the others branch out to explore completely new territory. It is useful to focus on the strengths of the State and on local demand as the major sources of sustenance if the fledgling steps towards industrialization are to fructify into a dynamic industry. With this focus, and given the basic needs of human beings, food and clothing emerge as two important components of expenditure by households. Derived from these are food processing and handloom at the basic consumption level and the demand for construction material, spare parts, cables and so on for other sources of local demand. The SSI sector output from the Industrial estate in Aizawl possibly reflects the demand for the latter set of goods, since it includes roller floor mills, aluminium conductor/cables, steel tabular poles, tyre retread, wooden furniture, steel fabrication, offset printer, handloom etc. The discussion on the agro-products however, tends to focus more on exports of the products than on local consumption. Some re-orientation might lend greater stability and independence to this sector from the need for support from Government.

[55] It was organized by the MDoNER and ICC and was held at New Delhi from 10-11 April 2007 under the chairmanship of thr Minister, DoNER and participated by all the NE States. The issues for discussion were: Thrust areas for investment in the North Eastern States; Investment and incentives in the North East; Incentivising investments in the North East; Investment hubs of each state to be operational; Enhancing infrastructure in the North East; Horizons of heaven - opportunities in the tourism sector; North East: Advantage agro & food processing; and Look East Policy: Developing the North East as a hub for international business.

Agro-Horticulture/Food Processing

Urbanization in Mizoram takes a sizeable chunk of population away from the rural areas. Their need for food crops as well as the inability of the immediate neighbourhood to satisfy all their demands for fresh produce and other agricultural goods indicates a potential rising demand for agro-horticultural products as well as processed/packaged food products. It is this opportunity that needs to be tapped into in developing quality products for the market. Once such a process is underway, there is scope for developing branded products or brand affiliations so as to explore markets outside the State as well. In the medium term however, it is desirable that the focus remains on local and regional demand, to lend stability and predictability to the demand and the market. The choice of products is therefore led by the nature of local demand/perceived needs. It should be mentioned that with increasing interactions with other regions, the urban population in the State can sustain demand for a wide variety of products not all of which would be associated with the traditional consumption patterns in the State. This fact would actually contribute to the expansion in the product basket for this segment of industry as well.

Handloom, Sericulture and Handicrafts

Handloom and sericulture derive part of their demand from the local economy. Gradually expanding the scope of production to readymade garments in various fabrics can be an option geared to tap the local market. Given the significant exposure to Christianity, education, and urbanization, there is a growing demand for branded apparel. The high cost of goods shipped in from the mainland has generated a market for seconds and second-hand clothes, as an institution in the urban areas of the State. This segment of demand therefore is ready for tapping and capacity building in this direction can bring in brand affiliations as well, in order to tap the local and regional market. Here, it should be mentioned that the State Government had made commendable break-through in all round development of seri-culture in Mizoram – the breeding Centre established by the State now provides “seeds” to cultivators in Assam as well. However, as it is presently structured, it is completely a Government led initiative, with all the risks being borne by the Government. There is need to make a transition from this approach to one where some sharing of risks takes place and in the process the market develops. The chapter on agriculture and allied activities does

mention the gains from an integrated approach, in raising the quality of silk and thereby its market value. This is only one of the many steps that can be explored in making the sector sustainable.

Bamboo Based Industry

Bamboo forest covers 12,54,400 ha out of the total area of 21,090 sq. km. of the Mizoram State[56]. The bamboo forest contributes to 14 percent of all-India bamboo area of 8.96 million ha, which further constitutes 11.71 percent of the 74.96 million ha of forest area of the country. The total bamboo yield of Mizoram is 32,37,689 MT/Year. This therefore represents a valuable resource for the State. Attempts to tap the potential from bamboo related value addition therefore should be welcomed. In order to exploit huge resource of bamboo reserves in the State, the Government of Mizoram has tied up with Beijing-based International Network for Bamboo & Rattan (INBAR) and China National Bamboo Research Center, for effective utilisation of bamboo in a productive manner. The State Government has also prepared DPR for manufacture of floor-board and submitted to the Planning Commission which has sanctioned Rs. 4 crore for one unit of bamboo floor board. Bamboo processing industry for manufacture of Bamboo Board is in the process of being set up at Sairang, about 25 kms. away from Aizawl city. An international quotation for supply and installation of machinery was floated. The State has immense potential for setting up of more bamboo-based industries for processing bamboo mats and blinds, bamboo chopstick, bamboo incense sticks and bamboo toothpick.

While all these initiatives are useful, it is useful to keep in perspective, what the gains to the overall economy of Mizoram from such initiatives are – do they contribute to the incomes of people in the State through expanded job opportunities, or do they improve the lifestyles of people through the demand side? If neither is found valid, such expansion would only mean that the GSDP of the State would record an increase, but the income so generated would accrue to agents from elsewhere. While in an open economy, this is fait accompli, Mizoram has to create the capacity for people to gain from such openness before such policies are found acceptable. This concern however is not addressed solely by requiring a joint venture

[56] http://mizoram.nic.in/about/physiography.htm

with the Mizoram Bamboo Development Agency or with local entrepreneurs, as prescribed currently.

Tourism

In any State, there are two sources of demand for the products supplied by the travel and tourism sector – that originating from within the local economy and that arising from outside the local economy. All forms of tourism require good infrastructure, not only for road travel but also for satisfying the needs and expectation of the tourist. Mizoram suffers from some serious disabilities in developing the State as a major tourist destination for out-of-State tourists. Insurgency problems in some of its neighbouring States make it difficult to place the State in a broader circuit for tourism. The high cost of travel from the mainland distracts the budget tourist and the insurgency coupled with inadequate infrastructure deters the high-end tourist. Without adequate numbers of potential tourists, development of sites is not viable. Any attempt to develop tourism in Mizoram should therefore first focus on tourists from within the economy. This would generate activities for sustainability and subsequently, the same can be stepped up for tourists from outside the State in changed environment.

Information Technology

Being the second literate State it is believed that Mizoram can also become the most IT literate State in the country. Keeping this objective in mind the Government of Mizoram has recently notified IT Policy of Mizoram 2001. The policy provides a number of incentives and opportunities for entrepreneurs in the State. The Government has also constituted a Mizoram IT Task Force to monitor the progress of implementation of IT policy. A number of initiatives have been taken to step up penetration of IT in the economy. Given the presence of a large pool of English speaking people and a pollution free environment, it is possible to derive significant benefits from this initiative. There are two potential roles that IT can play in Mizo economy – first, call centre kinds of initiatives provide employment opportunities and hence incomes to some of the educated unemployed. Second, IT is used as a way to radically improve service delivery in the State, both of Government services and of other services such as medical services. The former has very few backward and forward linkages with the rest of the economy. The latter can radically transform the

economy. However, there are some constraints which need to be addressed before such a transformation is feasible. The two major hurdles are adequacy of power and of tele-connectivity. These concerns are addressed in the chapter on infrastructure.

5.3 TRADE WITH MYANMAR AND BANGLADESH

The Need and Potential

References to trade links between Myanmar and Mizoram on the one hand and with Bangladesh on the other have been frequent. The cultural connections between these regions as well as the history of a flourishing trade relationship is often mentioned in discussions of feasibility and desirability of improving the present day trade links in this region. Most discussions refer to border trade. It is useful to remember that there are three separate notions of trade between neighbouring countries.

1. ***Trade in Goods Produced Anywhere in the Country (General Trade)*:** When we talk of trading relationship between India and China for instance, one is referring to the potential for trade in goods produced any where in these two countries. Further, it includes trade in goods partly processed elsewhere in the world or even those transiting through the exporting country[57].
2. ***Trade in Regionally Produced Goods (Border Trade)*:** Here the idea is to encourage the regional economies through expansion in trade opportunities. Border trade tends to synchronize the local resource base with the foreign demand structure. This helps in bringing vertical linkages between local resource base, production structure and trade and ultimately leads to economic development.
3. ***Trade in Locally Produced Goods Specified, Within a Specified Radius on Both Sides of the Border (Border Area Trade)*:** Goods, commodities and services that are allowed to be traded are specified and are generally restricted to those of local origin. Imports and exports are either fully or partially exempted from EXIM duties. In fact, the framework of border area trade is devised in order to reduce the economic hardship of people living in the border areas far away from the market place on both sides of the divide.

Trade in either of the first two forms is expected to generate positive externalities in the form of decentralization of economic benefits. Transport of goods along the land border generates a number of economic activities like (i) infrastructural

[57] It is only in the context of preferential trade treaties that conditions regarding minimum value addition in the country of export are brought into the picture.

development in the form of roadways, railways and communication, (ii) generation of demand for various services like hotels, restaurants, medical facilities, vehicle servicing, petrol pumps and so on, all of which contribute to incomes and employment in the State. However, the small scale exchange avenues associated with the *border area trade* do not generate significant instrumental value in terms of propelling economic development of the border region.

Mizoram is often referred as a landlocked State and the most remote among all the States in the country and this has serious consequences on economic and social life. Over 70 percent (722 km.) of total boundary length (1006 km.) of the State is along an international border. The southern part which comprises at least twelve rural development blocks of six districts with about 60 percent of total geographical area is sandwiched between the two neighbouring nations (Myanmar and Bangladesh). Border length with these countries is 404 km. and 318 km. respectively. In places, the east-west length of the State reduces even below 45 km. Bangladesh border with Mizoram however has a unique feature that over 80 percent is riverine. The bordering river Kawrpui Lui (Thegakhal) which flows down the districts of Lunglei and Lawngtlai of Mizoram and hilly areas of Bangladesh is navigable during rainy season.

Mizoram is yet to experience formalised trading activities with its neighbouring countries – extent of permissible activity includes barter trade in goods produced within 40 km. of the border with Myanmar, free of customs duties[58]. However, given the long and porous border, the extent of interaction is often substantially higher than that permitted by existing agreements. The markets across the border do support a lot of livelihood generating activities in the State. Trade is basically informal. Absence of formalised arrangement and porous border also encourage huge volume of smuggling activities and/or informal trade. But a detailed analytical discussion in this regard is deeply constrained by absence of reliable data and published information. However, some notable sources of information on border trade (through Mizoram) are the following reports and articles:

- Industrial Development and Export Potential of the North-Eastern region (1998), GOI, Ministry of Commerce & IIFT.

[58] With Bangladesh, a similar agreement was signed in 1972. However, the status of India Bangladesh border trade issues has not progressed much due to the lack of interest from Bangladesh in its implementation. As both the countries have moved towards the concept of South Asian Free Trade Agreement (SAFTA), which has become effective from January 2006, the issue of Border Trade now is significantly diluted.

- Export Potential Survey of North-East Region, (1987), IIFT, New Delhi.
- India's Border Trade with Selected Neighbouring Countries, (1997), RIS, New Delhi.
- Presented papers in the International Seminar on Indo-Bangladesh Border Trade: Status and Prospects (12-13 July 2005, NEHU, Shillong).
- 'Border Trade: North-East India and Neigbouring Countries', Gurudas Das and R.K. Purkayastha (eds.) (2000), Akansha, New Delhi.

These studies document lists of commodities exported from Mizoram and imported into the State from the two neighbouring countries (both formally and informally). These lists suggest some interesting patterns. The formal exports from India to Bangladesh include minerals and stone chips, bamboo, and unprocessed agricultural and horticultural products. Informal trade on the other hand spans bidis, sugar, pharmaceutical preparations like phensedyl cough syrup, betel nut and leaves, cattle, textiles such as lungis/sarees, kerosene/diesel, motor parts, agricultural products, liquor etc. Similarly, in the case of Myanmar, informal trade spans drugs, pharmaceuticals, diamonds, fine chemicals, paints, cotton yarn, clothes, bicycles and other transport equipment, baby foods, wheat flour, sewing machines, finished leather products, cotton yarn (in bales), cotton made-ups, light building materials like kitchen and sanitary fitting and fixtures, plastics and linoleum products, stainless steel articles, etc Most of these items are not produced in Mizoram and are possibly transported a long distance from the mainland to Mizoram, before they find their way into Bangladesh or Myanmar. Further, it is also argued that these goods are further shipped off to South China, especially the pharmaceutical products. On the other hand, a number of goods coming in through Myanmar are actually manufactured in Korea, China, Japan, Thailand and Taiwan. These characteristics of the informal trade suggest that attempt to limit trade to "border trade" alone where the goods exported are produced in the region maybe a fruitless attempt to control the actual flow of goods.

A more appropriate strategy would be to discuss general trade options. General trade arrangements with Myanmar would provide India with a link to one ASEAN member and thereby access to the ASEAN markets. Similarly, Myanmar gains from access to the West and to the SAARC countries. This would encourage larger flows of commodities – the scale of exports from India to Myanmar through Champhai was estimated at Rs. 500 crore way back in 1998, in an environment where

such trade is considered illegal. A more recent study by RITES in the context of trade through Moreh placed the scale at Rs. 2,000 crore for that sector alone. Ministry of Commerce estimates that Indo-Myanmar trade in 2007-08 was to the tune of USD 185 million in exports and USD 809 million in imports. These figures provide some dimensions to the potential expansion in trade if such trade is made legal and formal. Such a measure would have two broad consequences: first, it would help reduce the cost of living in Mizoram – the distance of Aizawl from Siliguri, the entrance to mainland India is over 941 kms. This along with the risks associated with insurgency in some of the North-Eastern States including Assam as well as Bangladesh inflate the cost of provision of goods in the State, which is further compounded by the poor State of road connectivity in the State. Second, with low volumes of trade, investment in setting up a Land Customs Station (LCS) and its monitoring are considered unviable, as is reflected in the time lags involved in translating a decision to set up an LCS near Champhai into a functional reality – the decision was taken in 1995, the LCS is yet to become functional. It operates only as a border trading point. On October 16, 2008, India signed an agreement with Myanmar to convert the border trade centre at Zowkhathar near Champhai into a normal trading post. The number of eligible goods too has been expanded to 40 from 22. While this trading post has remained more or less non-functional till now, with this new initiative, there would be better incentive to pursue active trade in this new context.

A positive externality of such a move would be better monitoring of the borders, especially in the context of rising concerns of drug trade flowing to the North-East and through the North-East to the rest of country. The proximity and contiguity of some of the States in the North-East to the infamous Golden Triangle of drug production and trade makes this region particularly vulnerable to such illegal activities, which is reflected in the rising concerns of drug abuse in Mizoram and Manipur.

On the export front, the profile of informal exports from Mizoram, as mentioned above, suggests that there is scope for investment in some of these activities in Mizoram, provided opportunities for expanded trade exist. Today there are not many takers for the industrial estates developed in the State, except for small scale sector. This could change. Further, transit through Bangladesh can greatly enhance the accessibility of NER (including Mizoram) to mainland India, on the one

hand, and to global market, through Chittagong port, on the other. Thus Bangladesh can provide markets, transportation linkages and transit facilities – all of which are critical infrastructure for the development of the State. Moreover, the geo-strategic location of the region (both Bangladesh and NER including Mizoram) offers a good deal of complementarities, which has the potential to boost the economies on both sides.

There is a renewal of interest between India-Bangladesh bilateral trade on account of SAFTA becoming operational and the discussions during the visit of the Prime Minister of Bangladesh, Begum Khalida Zia during 20-22 March 2006. Apart from the bilateral issue, combating drug trafficking was also high on the agenda.

Infrastructure for Trade: Initiatives Required

Historically, trade reference of Mizoram has been traditionally the Surma Valley and Sylhet (both are part of Bangladesh since partition). Considerable trade flourished across the river Tlang (Dhaleshwari) which merges into Barak near Badarpur in Assam and glides into Bangladesh. The main trade centre was Sairang about 30 km. away from Aizawl (on NH 54), where traders from Sylhet and Silchar had their depots. Goods of all types of food grains, salt, clothing, stationary, fancy items used to be brought on head loads to Aizawl. Trade in South Lushai Hills District (now Mizoram) under Bengal administration was carried along different riverine routes. Traders from East Bengal (Bangladesh) would reach via Tlabung (Demagiri in the Lunglei district) through the river Tuilanpui (Karnaphuli) which was navigable. The traditional Karnaphuli riverine route was the life for the district in accessing the rest of the country. River Tlang navigable upto Lunglei tears down the hills to meet Barak that steers through Bangladesh. Through the ages, Barak waters had been the mode of transport. The Kolodyne river route enters into Akyab Port whereas Karnaphuli river enters into Chittagong Port. The incidence of partition had completely cut-off main traditional market of Mizoram, now in Bangladesh, and rendered its only inland waterways, Karnafuli and the Daleshwari useless. Its only fragile link to the rest of the world became by a mountainous fair weather road from Cachar to Aizawl, which was subjected to frequent blockage by landslides during the rain. Though this road has been much improved and converted into a National Highway, it remains the main supply line for Mizoram. Even today, the old road links

and waterways between Mizoram and Bangladesh are more accessible and cost effective than this connection to mainland India.

India and Bangladesh have signed a bilateral inland water transit and trade protocol, the translation of this agreement into improved access is yet to take place. While Bangladesh is demanding more access for her exports to Indian market and expecting India to allow duty-free imports of more number of commodities of Bangladesh's interest, India is expecting Bangladesh to allow transit facilities for the two way movements of goods between the North-Eastern hinterland and mainland as well to open up border trade.

Actual areas of collaboration between India and Myanmar capture the interest in developing a stake in each other's economy and most of them are to improve the connectivity for potential trade. Some of the initiatives to improve border trade which India has offered include assistance to construct the Rhi-Tiddim and Rhi-Falam Roads along the Chin-Mizoram border. The ambitious India-Myanmar-Thailand (THP) project is also to commence soon. India and Myanmar are working together for the development of a hydro-electric power project at Tamathi. This project has a potential of generating 600-1,000 MW of electricity. The two countries are also cooperating in the hydro-carbon sector in, the offshore region near the Rakhine coast. Another major project is the Kaladan Multimodal transport Project which aims to connect Mizoram to Sittwe, where a port is being developed with Indian assistance. This port is at a distance of 160 kms. from Mizoram. This project, which is a part of the broader "Look East Policy" initiative of Government of India, will provide the much needed access to seas and commercial centres for the land- locked States of NER. Mizoram, being the gateway State, can potentially attract investment and benefit from filling to transit activities as well. (See Zoramthanga, 2006) These initiatives can be further augmented by extending the existing road link from Agartala – Aizawl – Champhai (Mizoram) to connect to the proposed Asian Highway Network either in Bangladesh at Sylhet itself or in Cachar (Assam). This will also integrate Tripura, Mizoram and Chin Hills, all underdeveloped States, into Asian Highway Network. The sections in Mizoram and Chin Hills in Myanmar pass through hilly terrains but can be upgraded without much difficulty, as they are essential supply lines constantly in use.

A medium term objective of establishing a Regional Network of Transportation would be very useful in encouraging the scope for enhanced trade

between these regions. All these initiatives need to be considered part of such an initiative.

Policy Initiatives

Presence of such huge volume of informal trade activity with relatively small scale of formal trade can be attributed variously to the existence of host of non-tariff trade barriers like, complex customs procedures, capacity constraints, corruption in the border, lack of infrastructure at LCS, lack of good road communication, lack of corporate culture and institutional factors like banking etc. Such structural impediments are difficult to directly measure. Apart from the infrastructural issues, there are underlying policy issues that need to be addressed before expanded trade is realizable.

As discussed in the context of trade with Myanmar, the formally announced policy takes very long to materialize in changed economic environment in these States. The same holds true in the case of trade talks with Bangladesh as well. While there are 32 officially recognised LCS along NER-Bangladesh border, only 13 are functioning. Out of the four NER States sharing borders with Bangladesh, Assam has 4 functioning LCS, Meghalaya has 6, and Tripura has 3 LCS. There is no LCS operating along Mizoram-Bangladesh sector. Mizoram has identified Kawrpuichhuah as the potential LCS for trade with Bangladesh, near Tlabung (Demagiri). A national initiative is expected to hasten the development on this front. Government of India has set up Land Port Authority of India to take 13 major border stations for fast track development to be completed by mid-2009. Kawrpuichuah is also on this list. These LCS it is proposed would be modern integrated check posts with state-of-the art customs, immigration and screening facilities, and associated modern infrastructure.

Apart from the transportation-related constraints, there are other constraints to expansion of trade. As mentioned above, the Border Trade Agreement with Myanmar lists only 22 commodities[59]. The trade takes place largely on barter terms and on head load basis. Generalised trade is constrained by the inapplicability of the Asian

[59] These 22 items are: Mustard/Rape seed, Pulses and Beans, Fresh Vegetables, Fruits, Garlic, Onion, Chillies, Spices (excluding nutmeg, mace, cloves, cassia), Bamboo, Minor forest products excluding Teak, Food items for local consumption, Tobacco, Tomato, Reed Broom, Sesame, Resin, Coriander Seeds, Soyabean, Roasted Sunflower Seeds, Katha, Ginger.

Currency Union Dollar Mechanism. In the absence of appropriate banking arrangements, the scope for expanded trade is rather limited. Some attempts are being made to resolve this issue by the Reserve Bank of India.[60] While this problem does not affect trade relations with Bangladesh, the inadequacy of banking infrastructure and elaborate procedures hinder trade. Till such time as the major exporters and importers in the region have a relatively small scale of operation, there is need for simplified procedures for operating through the LCS.

As regard non-tariff and para-tariff barriers, it is argued that while Indian treatment of imports from Bangladesh is very liberal, the same is not reciprocated. Indian exports are said to suffer Higher Tariff Barriers since the customs duty structure in Bangladesh includes value added tax, advance income tax and infrastructure development charge in addition to basic custom duty – they do not enjoy any concessional duty options.

Recent developments give reason to hope for improvements in the trade environment. There is some desirable shift in the relation between India and its neighbours, Bangladesh and Myanmar. The caretaker Government in Bangladesh has taken a positive stance for improving economic and social links with India. In addition to the existing bus services which connect Dhaka with Kolkata and Agartala, a train link is to be opened up from April 14, 2007. Bangladesh is also willing to consider transit through its territory; this would include a gas pipeline from Myanmar to India. (See "Train to Dhaka from April 14", *Indian Express*, March 10, 2007). The agreement with Myanmar to convert an existing dysfunctional border trade post into a regular trade post represents a major step in this direction.

Bangladesh-India Myanmar Growth Triangle: A Vision for the Future

Taking the potential for border trade forward, it is possible to imagine the formation of a growth triangle in this region. One of the principal features of a growth triangle, as the term suggests, is that it tries to bring about growth and development in three or more countries by including only a particular area or part of each country. These would be areas with geographical proximity, common cultural background and/or regions with differential levels of development/resource endowments seeking to benefit from the synergies of working together. This blend of some similarities and

[60] "Ministry proposes full border trade with Myanmar at Moreh" Hindu Business Line, October, 6 2006.

diversities provides the scope of cooperation. Existence or generation of complementarities is important characteristics of a growth triangle.

Interestingly, growth triangle can promote export better than what the trading blocs could. Trading blocs concentrate on intra regional trade whereas growth triangles are export-oriented and therefore not constrained by size of the internal market. Due to the involvement of three or more countries it helps in reaping the benefits of economies of scale and exploiting resource endowments of many countries together. However it is not an insulated zone, it is very much an integral part of the whole economy in each country.

Many of the prerequisites for the formation of growth triangle exist in these three countries. The prerequisites are that the three countries in this group are at different stages of economic development, coupled with their geographical proximity, similarity in cultural background, etc. The concept of growth triangle itself makes it relevant for the development of border regions, creation of mutual complementarities, and by aiming equitable distribution of benefits through which balanced regional development could be envisaged. The approach of growth triangles also has the potential for bringing informal trade flows into the mainstream trade flows, thus enhancing border trade through economically viable projects rather than tackling the problem of informal trade flows through legal channels provided for in the agreement alone. There could be potential for increasing border trade with the help of intra-product group trade in the areas like minerals, wood products, agricultural products, tourism, environmental projects, energy management and infrastructure and other areas including sericulture, horticulture/ floriculture, food processing, handicrafts.

Based on the resource endowments and existing infrastructure base in the border areas and also the commodity basket in the informal trade flows, some core areas which are relevant for Mizoram and where the potential of complementarity creation can be established are energy management and infrastructure, minerals and manufactures, wood and bamboo products.

Chapter 6

Infrastructure

INFRASTRUCTURE is one of the key constraints to expanding the production potential of any economy. While investment in productive activity can come and should desirably come through private investment, most infrastructure projects involve one or more of the following features which makes private investment feasible only under limited circumstances.

1. Some of the infrastructure services are in the category of public goods – pure or quasi. Service delivery would be sub-optimal if such services are to be financed through price mechanism. Roads are a good example of such services. Private investment in roads becomes worthwhile only when the roads become congested and therefore people are ready to reveal their preference for smoother flow of traffic by paying for it.
2. Externality benefits – the gains from the investment and the related service provided extend beyond those directly related to the service. To give an example, education and preventive aspects of health care. The gains from education for an individual are usually perceived in terms of improved access to job market and better income earning potential. However, the gains to the society would be larger, like improved health indicators and hence better quality of life, improved ability to articulate demands on the Government and to capture the gains from the policies proposed, i.e., improvements in the service delivery system.
3. High initial cost with uncertain demand and uncertain policy environment – investment in the power sector is afflicted by these problems. Private investment would be forthcoming for investment in industrial estates in developed regions, since the demand for the product is certain and the realizations are more or less assured. However, things look different in relative less developed regions where a large component of the demand is from the household sector and the costs of realization tend to be higher while the tariff is also subject to control by the State Governments, in the larger interest of the people. The same holds true for large irrigation projects.

While conventionally, these sectors would therefore become the responsibility of the Government, in recent times, a number of routes have been explored for alternative arrangements for service provision and cost realization. The arrangements seek a combination of the private sector form of organization with public sector assurances for service provision. This chapter seeks to present the state of

infrastructure in the state and identify mechanisms, where feasible, for improving the quality of the service. The chapter on Human Development discussed infrastructure and other issues related to health care. This chapter deals with economic infrastructure, i.e., those components of infrastructure that interact with and interface with the production and marketing systems.

Section 6.1 presents a snap shot of the infrastructure in Mizoram. A review of individual sectors in provided in the following sections – section 6.2 deals with irrigation, section 6.3 with roads and connectivity to markets, 6.4 with electricity, 6.5 with telecommunication and 6.6 with banking.

6.1. OVERVIEW

Table 6.1 presents a snapshot picture of the infrastructure in the state, in comparison to the national averages. In terms of rail as well as road density the performance of Mizoram is well below the national average as well as levels achieved in the North east. In per capita power consumption, the state performs better than other states in the North-East while the entire region falls far short of the all India average. Increase in the scale of economic activity however is expected to change this picture. However, in terms of access to affordable power sources, the state is not very well placed – the hydel potential for power generation in the state is only in minor power projects, which does not attract big investors including the public sector units, since the gains to the entire economy of such interventions are not perceptible. Similar is the story for irrigation potential and its utilization – when compared to the all India realization of irrigation potential, Mizoram has a long way to go. However, since the potential can be realized only through minor irrigation projects, it involves a large number of projects, and separate initiative in each case.

Table 6.1: Overview of Key Infrastructure Indicators

	Years	Mizoram	North-East (Max)	India (Average)
Road Density (Km./Sq. km.)	2002	0.2407	0.6608	0.755
Rail Density (Km per '000 Sq. km. of area)	2004-05	0.09	11.1195	19.31
Power consumption (Per Capita) (KWH)	2003-04	140.3	120.344	390
Potential for small hydel projects (MW)	30.6.2007	136	1968	12842
Tele-density	31.12.2007	23.32	16.65	23.9
Irrigation Potential (hectare)	2003-04	1,00,000		139.5 million
Irrigation Realization (000 hectare)	2003-04	16	439	58867
Urban Services				
a) Water Supply- Percentage of households that use piped drinking water	2005-06	81.6		71
b) Garbage disposal facilities – percentage of households with no facilities	2004-05	33.9		19.9

Sources:
1) Statistical Abstract of India (2004) – Table 19.1C.
2) CMIE May 2006. Meghalaya & Sikkim figure were not available, so the value for North- East does not include Meghalaya & Sikkim
3) Central Electicity Authority
4) http://mnes.nic.in/prog-smallhydro.htm
5)http://mdoner.gov.in/writereaddata/sublink2images/telecompercent20connectivitypercent20inpercent20NER4943944812.htm
6) http://www.trai.gov.in/trai/upload/Reports/41/preport10april08.pdf
7) Statistical Abstract of India, 2007, table 8.1(A)
8) National Family Health Survey 3, Mizoram summary. http://www.nfhsindia.org/pdf/MZ.pdf
9) CMIE 2006.

6.2 IRRIGATION

The irrigation potential as well as the realization of this potential is rather limited in the state. While there is an assessed potential for irrigation of one lakh hectares of land, the realization is only 9920 hectares. Further, this is from 125 projects, spanning irrigation potential of 6 hectares to 300 hectares (See Table 6.2). by 2006-07, the coverage has increased to 11388 hectares, suggesting that there exists some un-utilised potential. While Mizoram has excellent rainfall for 6-7 months in the year, the rest of the year, at least four of the remaining months are dry. The rivers are rain-fed, implying thereby that rivers have water when there is little need for water and converse when the need arises, there is very little to offer. Given the topographical features of the state, major reservoirs are not an option. The assessed potential is therefore only from small irrigation projects. Since the gains from these

projects are highly local, the investment too should be left to local initiative. The Government should play the role of a facilitator rather than the investor in such projects. Of the realized potential, very little of the area can be extended to cultivation of a second crop – the area sown more than once is only 5.2 thousand hectares.

Table 6.2: Size Composition of Irrigation Schemes in Mizoram

Irrigation Division	<20 Hectares	20-50 Hectares	50-100 Hectares	>100 Hectares	Total	Irrigation Potential (Hectares)
Aizawl	4	15	7	11	37	3054
Champhai	2	3	9	10	24	2512
Kolasib	1	3	5	14	23	2602
Lunglei	13	13	9	6	41	1752

Source: Statistical Abstract, Department of Agriculture and Minor Irrigation, 2003-04.

All the above arguments raise doubts about the form in which the existing potential should be exploited. The ability of Government to realize the cost through irrigation charges is limited. Given these factors, it is useful explore a combination of private investment in irrigation dedicated for a specific use. This could be in the form of horticulture/floriculture crops, the form of a long term contract.

6.3 ROADS AND CONNECTIVITY TO MARKETS

Road connectivity in the State is rather poor. The density of roads is 240 km per thousand square km. in Mizoram as against a national average of 755 km per thousand sq. km. in 2002. Since that time, the density in Mizoram has improved moderately to reach 274 km per thousand sq. km by 2007-08, the difference however remains substantial. Even in the North east, Mizoram comes second only to Arunachal Pradesh. Of the total road length in the state, the national highways account for 6.27 percent, state highways for 13.37 percent and the rest are district highways and PWD roads, apart from village roads.[61] Of these less than half are surfaced. Of the village panchayat roads almost none is surfaced, while for the other PWD roads, the proportion less than half are surfaced. This reflects on poor connectivity, with the quality of connection deteriorating in the interiors of the state and especially in the long rainy season. The Statistical Abstract, 2002-03 published by the Directorate of

[61] Some upgradation and reclassification has taken place as a result of which share of state highways has increased sharply.

Agriculture and Minor Irrigation, captures this problem poignantly. Of 764 villages, 341 are connected by all weather roads, 338 by fair weather roads and 81 are yet to be connected. Further, of the required 869 km. of roads to connect rural areas to the nearest town/urban market, only 466 km of motorable roads exist. Interestingly, there are sharp inter-district differences in this indicator as well. For instance, the district of Kolasib has 100 percent motorable roads while Saiha has barely 6 percent. Both these districts have a population of about 61,000 each.

The cost per km of constructing an all weather road varies from Rs. 3 lakh to Rs. 12 lakh depending on the terrain and the extent of involvement of the intended beneficiaries.[62] In earthquake or landslide prone areas, the cost is not one time but a repeated cost. While the need for connectivity cannot be undermined, the rate of progress suggests that improved infrastructure cannot be a precursor for other developmental activity in the state. Strategies for improving the local conditions of roads have to go hand in hand with other strategies for improving standards of living, so that by the time, there are a significant marketable surpluses generated in the rural countryside, their ability to market is not hindered by the absence of roads. To give credit where it is due, Government of Mizoram has been making substantial efforts to augment road connectivity in the State, using various schemes of Government of India, like Pradhan Mantri Gram Sadak Yojana. During 2001-06, reports suggest that the State has added 882 kms and plans to add another 613 km in the near future. (Zoramthanga, 2006).

Roads are the main form of connectivity between Mizoram and the rest of the world. A rail-link operates till Bhairabi, which is connected to Sichar in Assam. While there is a project underway to convert the present meter gauge to broad gauge, there is also some talk of extending the route up to Aizawl.[63] While these efforts would continue, in an attempt to encourage value addition and exports of the state, Government of Mizoram has setup an industrial estate close to the Lengpui airport. The implicit idea is to encourage air-lifting of the output to markets outside Mizoram. It is learnt that the cargo holds of flights into Mizoram tend to be full while those on

[62] Costs of highway construction can be as high as Rs. 1-8 crore per km, as reflected in some of the other projects being implemented in the country.

[63] PIB Press release, October 24, 2008, http://209.85.175.104/search?q=cache:cztmiJ0-TtwJ:pib.nic.in/release/release.asp%3Frelid%3D44219+bhairabi+to+aizawl&hl=en&ct=clnk&cd=23&gl=in

flights out of the state have reasonable spare capacity, which can be used to transport some of the goods to other states/markets. With growth in this segment of production, it would be worthwhile to explore the options for augmenting air cargo transport capacities from Mizoram in particular and all the North-eastern states in general.

6.4 ELECTRICITY

Electicity generation in Mizoram was 14.22 million units in 2006-07, with installed capacity of 37.17 MW. Consumption on the other hand, 151.22 MKWH of which 288.65 MKWH was procured from outside the state.[64] While the peakload requirement in the state at present is 60 MW, the installed capacity is only 37.17 MW, reflecting the sharp mismatch between local capacity and demand. Electricity generation in Mizoram is partly hydel and partly based on diesel. The hydel capacity in the state is summarized in Table 6.3 below. There is assessed potential of 2196 MG in hydel based power generation; a dam with a capacity of 60 MW was taken up for construction at Tuirial. Following protracted agitation against the dam, construction has been suspended and the entire project is being reviewed. No other projects are on the anvil for NEEPCO. National Hydel Power Corporation too does not have any immediate plans for taking up projects in Mizoram.

From discussions with the state electricity department, in appears that while the projects with small capacity have to be located near the water sources in the valleys, there is usually no habitation around – the nearest habitation being on hill tops. Transporting this power to the grid and ensuring maintenance of the project turns out to be an expensive proposition, thereby dissipating the cost advantages of hydel power. As it is the present scenario of transmission and distribution losses in the North-Eastern states is very dismal. (See Graph 6.1) Only Meghalaya with a figure of 16.73 percent performs better than the national average of 32.53 percent. In Mizoram more than half the power distributed is lost in T&D losses. (Economic Survey 2007-08 reports T&D losses at 35 percent.) These measured losses do not take into account the unrecovered component of billed power supply. Given incomplete recoveries, the

[64] Installed capacity in 2007-08 was down to 31.17 MW. All diesel units are dismantled, in the context of the high cost of inputs.

Aggregate Technical and Commercial Losses (ATC) for the state are over 72 percent.[65]

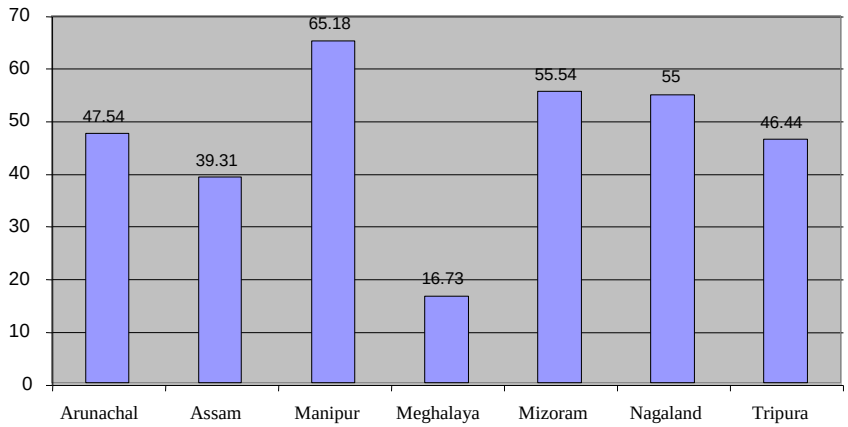
Table 6.3: Installed Capacity and Generation of Electricity

Year	Installed Capacity in MW				Generation of Electricity in MU			
	Hydel	Thermal	Diesel	Total	Hydel	Thermal	Diesel	Total
2002-03	8.25		25	33.25	6.85		3.08	9.93
2003-04	8.25		25	33.25	9.81		0.75	10.56
2004-05	13.75	22.92	9.92	46.59	5.92	0.59	0.07	6.58
2005-06	13.75	22.92	9.92	46.59	8.66	2.43	0.38	11.47
2006-07	13.75	22.92	0.5	37.17	11.14	3.05	0.03	14.22

Source: Economic Survey of Mizoram, 2007-08.

The economic viability of centralized grid based power distribution system is severely undermined in such circumstances. A study of the Regional Centre for Strategic Studies points to the difficulty in constructing and maintaining the long transmission lines, which require large investment and time. This inaccessibility in the hilly terrain is further responsible for the transmission and distribution losses resulting in the very high costs of power supply. See Box for technological options for decentralized Distributed Generation.

Graph 6.1: Transmission and Distribution Losses (Percent)



Source: http://www.apdrp.com/apdrp/projects/pdf/310,4,AT&C LOSS

Turning to the consumption side of the picture, per capita power consumption in the state is 140 KWH per year in 2003-04. When compared to a national average of

[65] AT&C Loss(percent) = (Energy Input – Energy Realised)X100

Energy Input

Energy Realised = Energy Billed X Collection Efficiency

Collection Efficiency (percent) = Amount Realised X100

Amount Billed

http://www.apdrp.com/apdrp/projects/pdf/310,4,AT&C LOSS

390 KWH per year, the figure is very low.[66] The supply of power from the state grid towards agricultural use is zero. Further, given the sparse distribution of population and limited capacity of power, while there are reports of 99.6 percent electrification of villages, the census for 2001 indicates rural household electrification status at only 44 percent. Correspondingly, the number of pumpsets energized is zero. Economic Survey of Mizoram, 2007-08 reports that 570 out of 707 villages are electrified, based on the new definition of village electrification from Government of India. The remaining are proposed to be electrified by accessing resources through the Bharat Nirman programme. All the power available in the state is directed towards urban areas. However, industries account for only 2.29 MKWH of total demand or consumption of electricity in 2006-07, marginally higher than 1.93 MKWH of 2004-05. Desired expansion in the level of industrial activity, rapid urbanization would place additional demands on power systems. Attractiveness of Mizoram as an investment destination, even if the investors are from within the state, will depend on the power availability as one of the parameters.

Strategy for Improving Power Situation

Within these considerations, it appears appropriate to explore the possibility of redesigning the structure of the electricity sector in the state. The choices for the state therefore are the following:

1. Exploring the potential of entering into a MOU with NHPC for a share in the power produced in the major projects in the North-East.
2. ONGC & ILFS are in the process of setting up the 750 MW Palatana Gas Power Project in Tripura. Only Tripura and Assam have entered into MOU with ONGC/ILFS for purchase of power. Mizoram too can explore the possibility.
3. Invest in small hydel projects with dedicated use in mind, say for providing power to a selected industrial estate, which would make cost recovery feasible. This could also take the form of permissions for dedicated use for the private sector investor. The Ministry of Non-Conventional Energy Sources (MNES) offers a number of incentives towards developing Small Hydel Projects (up to 3 MW capacity), such as:
    (i) Incentives for detailed survey & investigation and preparation of DPR.

[66] These figures are quoted from http://www.cwc.nic.in/Water_Data_Pocket_Book_2006/T8.2final.pdf.

(ii) Incentives during the execution of the project in the form of capital/interest subsidy.

(iii) Special incentives for execution of small hydro projects in the North-Eastern Region by the Government departments/SEBs/State agencies.

(iv) Financial support for renovation, modernisation and up-rating of old small hydro power stations.

There are proposals to incentivise somewhat larger projects as well – for those with capacity upto 25 MW.

4. Expand thermal capacity: since the state derives a significant part of its capacity from diesel gensets, it is important and useful to explore the feasibility of extending capacity based on expanded use of bio-fuels rather than diesel, since the former can be locally produced. This is all the more important in the present context of volatile prices of petroleum products internationally.

It is proposed that all these initiatives be oriented towards the urban areas and industrial production. For the rural areas, it is proposed that decentralized systems of power supply would be more appropriate. In the context of the discussion in the chapter on agriculture, the Government should actively explore a scheme of decentralizing power generation to the village level. An example of powering the energy needs of villages in India through the use of non-edible oils can be found in the experiments of Dr U. Shrinivasa and his team at Kagganahalli in Karnataka.[67] This experiment worked with an initial grant of Rs 2.78 crore on devising systems for water supply through ground water tapping as well as power generation to meet the needs of 7 villages in the region. A one time investment by the Government in generators, preferably generators adapted to run on pure jatropha oil for instance, with technical inputs provided periodically would be a viable solution for small scale operations. Two specific schemes of the Government of India, the RGGVY (Rajiv Gandhi Grameen Vidyutikaran Yojna) and the RVE (Remote Village Electrification) scheme, provide upto 90 percent capital subsidy for rural electrification projects using DDG (decentralized distributed generation) options based on conventional and non-conventional fuels respectively (Box 6.1).

On the other hand, the notion of people to people carbon trading is gradually taking root. A number of alternatives are emerging. (See Sutter (2001), and Meijer and Damania (2006), for a discussion on the problems and prospects of marketing

[67] http://www.goodnewsindia.com/Pages/content/discovery/honge.html.

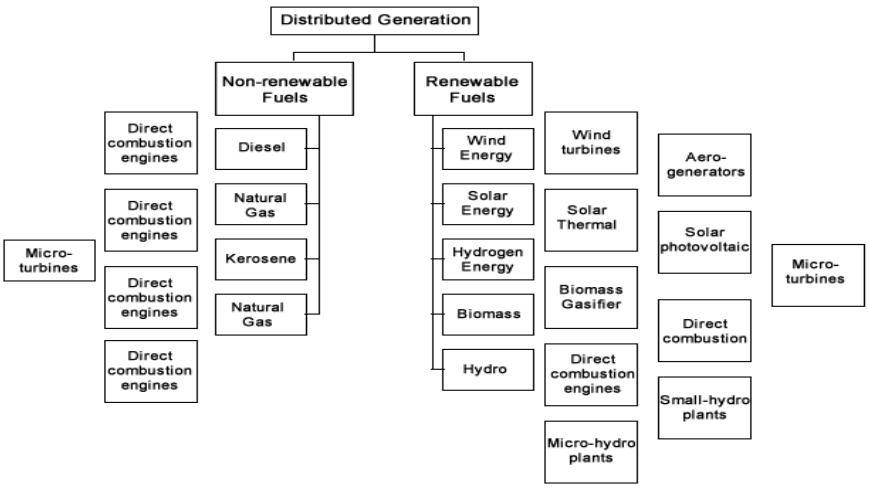
small CDM projects.) One such route is that provided by organizations like "500 ppm", which has helped two villages in India earn precious resources through carbon

Box 6.1

Decentralised Distributed Generation

DG (distributed generation) is defined as installation and operation of small modular power generating technologies that can be combined with energy management and storage systems. It is used to improve the operations of the electricity delivery systems at or near the end user. These systems may or may not be connected to the electric grid. The size of a distributed generation system typically ranges from less than a kilowatt to a few megawatts.

Technological options are summarized in the Chart 6.1.



Also, in compliance with sections 4 and 5 of the Electricity Act 2003, the Central Government prepared the Rural Electrification policy. The policy in section 3 (3.3) identifies decentralized distributed generation of electricity by setting up of facilities together with local distribution network based on either conventional or non-conventional resources methods of generation.

Source: http://www.indiaenergyportal.org/subthemes_link.php?themeid=14&text=dis_gen

trading.[68] Other villages have followed suit. The use of non-polluting fuels in place of polluting ones was considered a basis for carbon trading.[69] In the case of Mizoram, in addition to this dimension, with gradual transition to settled agriculture, the extent of

[68] http://www.500ppm.com/en. The CDM and carbon trading part of the activities of this organization has now been passed on to another organization called South Pole Carbon Asset Management Ltd. (www.southpolecarbon.com) This organization has an India office, with Christoph Sutter as the local contact person. (c.sutter@southpolecarbon.com). The organization provides services in

[69] See Sharan (2004) for a case of electrifying 100 villages through bio-gas. There is case built for using carbon credits for making the project economically viable.

area under managed forests can be expanded – this would provide harvestable forest based resources to the people as discussed in chapter 4, and with the proposed expansion in the forest cover, create a carbon sink, the gains from which can be traded as well. These options can provide the State Government with supplementary resources for financing the scheme of rural electricity supply as discussed above or alternatively, it can help provide incentives to people in the village to accept this changed regime. The incremental receipts to the village community can be dedicated to the maintenance of the proposed new system. If the Government chooses to substituted part or all of its diesel use with biofuel, the opportunities are expanded even further.

6.5 TELECOMMUNICATIONS

The key to a lot of innovation in service delivery in recent times passes through utilization of information technology and connectivity. Teleconnectivity therefore increasingly emerges as an important input for providing critical inputs to the economy. Teledensity is one indicator to capture the extent of penetration of telecommunications into the economy. Some reports suggest that Mizoram is doing reasonably well in terms of teledensity, with averages better than that for other North-Eastern states. (Table 6.4) However transformation from telephones to advanced use through the information technology route requires internet connectivity, where the state does not seem to be performing as well. As of 2003, Mizoram had 950 connections.

Table 6.4: Comparative Teledensity in the NER as on 31.12.2007

State	Tele-density Per 100 Population
Arunachal Pradesh	18.3
Assam	12.3
Manipur	18.5
Meghalaya	17.6
Mizoram	23.3
Nagaland	18.8
Tripura	11.0
India (March 2006)	12.7

Source: DONER website[70]

[70] http://mdoner.gov.in/writereaddata/sublink2images/telecompercent20connectivitypercent20inpercent20NER4943944812.htm

As per a NCAER Report on "E-Readiness Assessment in States", Mizoram has been classified among the under-achiever states, with the caveat that it is performing better than Nagaland, Manipur, Assam and Arunachal Pradesh from the North-East.

The Government is taking a number of initiatives to improve access to information technology. Before one asks the question, what more can or needs to be done, it is important to ask what is expected out of this system. If the vision of the Government does not match the vision of the people, the initiatives of the Government would remain poor use of the money spent. To give an example, some of the states have been experimenting with the establishment of Community Information Centres.[71] While conceptually, these are interesting initiatives conceived with optimism, the inability to anticipate local concerns and constraints poses a limitation on the effectiveness and usefulness. Sikkim experience[72] suggests:

(i) The geographical condition of the area is such that one CIC in one block (catering to 50-100 villages) is quite far away from the houses of most of the villagers.
(ii) The level of computerization and database development in North-Eastern States of India is in a poor state, making it difficult to implement the project.
(iii) Heavy capital investments in the CICs and the network have caused increased inputs into maintenance and management of the technology. It has become very difficult to maintain the equipment in far flung areas.
(iv) Most services provided in the project are not considered essential or useful by most villagers.
(v) A lack of IT skilled manpower in these areas has also been a major stumbling block in percolating the technology and its impact done to the communities.

Similar difficulties would be felt in other parts of the North-East as well, including Mizoram. Demand for telecommunication has to be built up before it can be effectively utilized for providing services and information. In the specific case of Mizoram, information technology can help the Government can build its information base, which can serve as a powerful tool for providing appropriate

[71] These projects are part of an initiative by Ministry of Information Technology, Government of India.

[72] (For an assessment of the performance of two such experiments see http://www.iimahd.ernet.in/egov/documents/connecting-the-north-east.pdf on Nagaland experience and http://www.apdip.net/resources/case/in05 on Sikkim experience).

interventions/guidance as required. In the process, demand for telecommunications can be developed. This gives Government some time to develop the infrastructure required. It should also be kept in mind that any internet connectivity based interventions require electricity which is in scarce supply in the state, especially in the rural areas.

6.6 BANKING

Penetration of banking sector in the state is somewhat poor. The state has 740 habitations and 80 branches of banks of which 19 are in urban or semi-urban locations. Compared to the per capita incomes from agriculture or the per capita income for the state as a whole, the per capita deposits are quite low – less than one year's earnings. This is disconcerting if one considers a completely market based economy. In a self-sufficiency based system, the resources mobilized by the banking sector represent not the resources saved for a rainy day but truly surplus, after fulfillment of needs.

Table 6.5: Deposits and Credits by Commercial Banks in 2002 & 2003

(Rs. crore)

State	Number of Reporting Offices		Deposits		Credits		Credits to Deposit Ratio (Percent)	
	2002	**2003**	**2002**	**2003**	**2002**	**2003**	**2002**	**2003**
Arunachal Pradesh	69	69	6,910	6,576	1,091	1,115	15.78	16.96
Assam	1,232	1,216	4,337	4,763	1,362	1,362	31.40	28.60
Manipur	77	77	2,558	2,351	653	658	25.53	27.97
Meghalaya	179	180	8,629	8,222	1,557	2,367	18.04	28.79
Mizoram	78	78	5,589	6,479	1,448	1,707	25.90	26.35
Nagaland	70	69	5,290	6,727	664	880	12.55	13.08
Tripura	180	178	5,850	5,138	1,307	1,313	22.34	25.56
Total of 7 states	**1,885**	**1,867**	**4,760**	**5,052**	**1,283**	**1,354**	**26.95**	**26.81**
India	**66,276**	**66,436**	**10,682**	**12,253**	**6,656**	**7,275**		

Source: Ghosh, Buddhadeb and Prabir De (2005).

Interestingly, on the other hand, all of the North-East is surplus in deposits. Credits account for less than 25 percent of deposits in most states (Table 6.5). This suggests that potentially there are resources available for investment in the state itself. Paucity is of appropriate investment opportunities. Finding ways of channelising these resources into the state itself can augment productive capacity in the state. In the years since 2003, there has been some improvement in some of these ratios. Total deposits on March 31, 2007 were Rs 1345 crore, almost double the level of 2003. Credit

deposit ratio for Mizoram has increased from 50.61 percent in 2004-05 to 56.52 percent in 2006-07. Recovery of loans too has improved from 59.79 percent in 2005-06 to 69.95 percent in 2006-07. These numbers suggest some increase in the confidence of the average citizen in the banking system.

Underlying these numbers is a constraint faced in the expansion of bank credit in Mizoram as well as in other states of the Northeast. It is often mentioned that there is a mismatch between production systems structured around common property resources and credit systems based on collaterals. Common property resources preclude the individual's access to credit, in systems where bulk of the credit is based on collaterals either in the form of assets or in the form of monetized income streams. This is a serious issue that can constrain transformation of the economy since the financing options available to the individual entrepreneur become severely curtailed. Cooperatives and self help groups provide one mechanism for breaking through this bind. However, these too do not encourage an individual entrepreneur. While the economy grows and potential entrepreneurs emerge, there is need to device mechanisms where the formal sector institutions can protect this entrepreneurial zeal.

Chapter 7

Human Development

'HUMAN DEVELOPMENT is a process of enlarging people's choices. The most critical of the wide ranging choices are to live a long and healthy life, to be educated and to have access to resources needed for decent standard of living. Additional choices include political freedom, guaranteed human rights, and personal self-respect. Development enables people to have these choices…..Human development thus concerns more than the formation of human capabilities such as improved health and knowledge. It also concerns the use of these capabilities.'

These are the identified choices by UNDP that are related to leading a long and healthy life, and acquiring knowledge and access to resources, to achieve a decent standard of living. It includes wide spectrum of factors, in addition to the income, working upon the overall human wellbeing. Transmission of the benefits of development for human welfare is the crux of the concept. Hence rising incomes and expanding outputs, in the human development framework, are seen as the means and not the end of development.

Analysis of human development in the State involves an assessment of the performance of the State – its strengths and weaknesses, and identifing a strategy for improvement. Any assessment of performance relates both to evolution over time and to distances from desirable goals. For the social sector, a number of such goals are already enunciated.[73]

The National Human Development Report documents the performance of the States in India in terms of the Human Development Index, a Gender Disparity Index

[73] MDGs, Vision NER 2020, Vision 2020 India are some examples for instance. It is known Millennium Development Goals commit to a comprehensive vision of development – one that places human development as the centerpiece of social and economic progress. Since the launch of MDGs, 2000, at the United Nations Millennium Summit, the MDGs have become widely accepted yardstick for measuring development progress across countries. The first detailed country report ('Attaining the MDGs in India', World Bank) on India argues very strongly that India's performance on the MDG will hinge critically on the MDG performance of the poorly performing States. The report focuses on the attainment of five major human development related MDGs by sub-national units in India – child and infant mortality, child malnutrition (both of these includes institutions of service delivery like nutrition supplementation, immunization, anti natal care), schooling, enrolment and completion, gender disparities in schooling and hunger poverty (as reflected by inadequate calorie intake).

and a Human Poverty Index. Table 7.1 summaries the numbers for the North-Eastern States. Mizoram displays an improvement in performance between the two years considered, in all the three indices. Further, in 1991, the performance of the State has been better than the national average on each one of these indices, suggesting that the focus of enquiry is not so much on the relative inadequacy of services in the State, when compared to the rest of India, but on need for better services and the scope to design an appropriate delivery mechanism, whereby the various interacting components of human development can be visualized together, and not as separate indicators and actions points[74].

Table-7.1: Human Development Indices for the North-Eastern States

States	Human Development Index		Gender Disparity Index		Human Poverty Index	
	1981	1991	1981	1991	1981	1991
Arunachal Pradesh	0.242 (31)	0.328 (29)	0.537 (28)	0.776 (18)	59.86 (32)	49.62 (30)
Assam	0.272 (26)	0.348 (26)	0.462 (32)	0.575 (30)	56.00 (29)	48.95 (27)
Manipur	0.461 (4)	0.536 (9)	0.802 (3)	0.815 (3)	50.82 (21)	41.63 (21)
Meghalaya	0.317 (21)	0.365 (24)	0.799 (12)	0.807 (12)	54.02 (26)	49.19 (28)
Mizoram	0.411 (8)	0.548 (7)	0.502 (18)	0.770 (6)	47.97 (18)	32.20 (14)
Nagaland	0.328 (20)	0.486 (11)	0.783 (16)	0.729 (21)	49.37 (19)	42.07 (22)
Sikkim	0.342 (18)	0.425 (18)	0.643 (23)	0.647 (20)	52.76 (25)	34.84 (17)
Tripura	0.287 (24)	0.389 (22)	0.422 (31)	0.531 (29)	51.86 (22)	44.89 (24)
All India	**0.302**	**0.381**	**0.620**	**0.676**	**47.33**	**39.36**

Source: National Human Development Report, 2001. (Further development of Human Development Index can be updated only after the latest report on NHDR is made available in the public domain).

Note: Figures in the Parentheses are the ranks for respective indices. States arranged in alphabetic order.

This chapter attempts to analyse the process and status of Human Development in Mizoram. While there are a number of dimensions of human development as discussed above, health and education – both closely related to each other – tend to influence the present standards of living as well as the potential

[74] Further development in Human Development Indices can be drawn from the forthcoming National Human Development Report (Plannning Commission).

standards of living of people. This chapter focuses only on these two sectors. Section 7.1 attempts to identify the weaknesses in the education system in the State. Section 7.2 analyzes some indicators of status of health in the State and attempts to identify the strengths and weaknesses of the health care machinery. Taking off from the discussion in these earlier sections, the last section 7.3, addresses the issue of translating the gains from human development into expected economic opportunities for the State and its people. It tries to develop a potential strategy for addressing the concerns raised in the context of bridging the gap between various strengths and weaknesses.

7.1 EDUCATION

'Education in the present day context is perhaps the single most important means for individual to improve personal endowments, build capacity levels, overcome constraints, and in the process enlarge their available set of opportunities and choices for sustained improvement in well-being' (NHDR, 2001).

Education improves the human capabilities and has a significant contribution in enhancing economic growth, quality of life and social stability. It not only helps in the reduction of poverty and in ensuring better distribution of gains from economic growth, but simultaneously imparts health and nutritional information, which improves family health and welfare. Thus education not only has direct bearing in human resource development but it also generates positive externalities in almost all indicators of social well being.

One of the first indicators of performance of a State in terms of education is the literacy rate. Mizoram has displayed remarkable performance, with a steady increase in literacy from 59.90 percent in 1981 to 88.49 percent in 2001. Mizoram ranks second only to Kerala in terms of literacy rate, as per the Census of 2001 (Table 7.2). The table also captures the impressive performance of the State in terms of low gender based differentials in achievements – the differentials are the lowest in the entire country. The NSS 61st Round as well as the National Family Health Surveys -2 and 3 document this impressive level of literacy in the State.[75] Another fascinating

[75] The data provided by Census Report, NSS Report and NFHS -2 & 3, show a quite consistent trend. According to Census 2001, literacy rate in Mizoram is 88.49 percent. Rural urban differentials are low with 80.46 in rural areas and 96.35 percent in urban areas. Gender differentials in rural areas (8.21) is little higher than in urban areas (1.07). Mizoram ranked second in terms of combined literacy rate, next to Kerala. However when urban literacy is concerned the State ranks first (96.35 percent) ahead of Kerala (93.38 percent).

(footnote continued)

dimension of literacy is that the State has attained quite a high level of adult literacy. The estimate of overall adult literacy is 88.43 percent according to the NSS 52nd Round, 1995-96 (83.84 percent for the rural areas and 97.07 percent for the urban areas) in Mizoram. In terms of the rural-urban divide too, Mizoram has been performing quite well, with rural literacy improving from 69.2 percent (1981) to 80.5 percent (2001) and that in urban areas from 89.5 percent to 96 percent. The 61st Round NSS records similar levels of 88percent for rural and 92percent for urban populations. It should be noted that female median year of schooling is highest in Mizoram among the other NER States (NFHS-2). The median years of schooling for males and females are 6.4 and 5.5 respectively. The median number of years of schooling tends to rise with age group until 15-19 or 20-29 and tends to fall among older persons, reflecting rising levels of school attendance over time. The increase in educational attainment over time in this State is also evident from the fact that the median number of years of schooling for both males and females rose between NFHS-1 and NFHS-2 (NFHS-3 data on median number of years of schooling is currently not available).

The action plan for literacy of the State suggests a target of achieving full literacy through 'Sarva Shiksha Abhiyan' (SSA) and 'Eradication of Residual Illiteracy' (ERIP). The former scheme for quality of education for all was introduced in 2003 in Mizoram. Under this scheme, all children in the age group of 6-14 years are expected to attend the school. In 2003, there were 8,985 'out of school children' from this age group as compared to 17,993 in 2002, representing singular progress. For the age group 15 to 35 years, a new project called 'Eradication of Residual Illiteracy' (ERIP) has been introduced. With the implementation of these two projects, the State expects to achieve full literacy very soon.

This overall picture of achievement needs to be qualified with two caveats. The first is that this overall picture glosses over the substantial inter-district differences persisting in the State (Table 7.3). Lawngtlai lags substantially behind

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The NSS data (2005, 61st Round) shows that the effective literacy rate is 88.5 percent and is highest among the Indian States. The literacy rate is 88 percent in rural areas and 92.7 percent in the urban areas. The gender differentials is minimal both in the rural and urban areas.

According to NHFS-2 (1998-99), illiteracy in Mizoram is lower than any other State in India. The male female differentials is least in Mizoram than any other States in North-East India.

Aizawl. Given that Aizawl houses more than a quarter of the total population of Mizoram, in terms of numbers, the problem is not as big as it appears, but needs to be addressed all the same.

Table 7.2: State-Wise Literacy Rate (1981-2001)

(In percent)

States	1981	1991	2001		
			Total	Male	Female
Kerala	70.4	89.8	90.9	94.2	87.7
Mizoram	**59.9**	**82.3**	**88.8**	**90.7**	**86.7**
Goa	N.A.	75.5	82.0	88.4	75.4
Maharashtra	47.2	64.9	76.9	86.0	67.0
Himachal Pradesh	42.5	63.9	76.5	85.3	67.4
Tripura	**42.1**	**60.4**	**73.2**	**81.0**	**64.9**
Tamil Nadu	46.8	62.7	73.5	82.4	64.4
Uttaranchal			71.6	83.3	59.6
Manipur@	**41.4**	**59.9**	**70.5**	**80.3**	**60.5**
Punjab	40.9	58.5	69.7	75.2	63.4
Gujarat	43.7	61.3	69.1	79.7	57.8
Sikkim	**34.1**	**56.9**	**68.8**	**76.0**	**60.4**
West Bengal	40.9	57.7	68.6	77.0	59.6
Haryana	36.1	55.8	67.9	78.5	55.7
Karnataka	38.5	56	66.6	76.1	56.9
Nagaland	**42.6**	**61.6**	**66.6**	**71.2**	**61.5**
Chhattisgarh			64.7	77.4	51.9
Madhya Pradesh	27.9	44.2	63.7	76.1	50.3
Assam	**N.A.**	**52.9**	**63.3**	**71.3**	**54.6**
Orissa	34.2	49.1	63.1	75.3	50.5
Meghalaya	**34.1**	**49.1**	**62.6**	**65.4**	**59.6**
Andhra Pradesh	29.9	44.1	60.5	70.3	50.4
Rajasthan	24.4	36.3	60.4	75.7	43.9
Uttar Pradesh	27.2	41.6	56.3	68.8	42.2
Jammu & Kashmir	26.7	N.A.	55.5	66.6	43.0
All India	**43.57**	**52.20**	**64.8**	**75.3**	**53.7**

Source: Economic Survey, 2006-07, 2003-04, Table 9.4, S-112, and Primary Census Abstract: Census of India 2001.

Note: '@' - Excludes Mao-Maram, Paomata and Purul sub-divisions of Senapati district of Manipur, in Census 2001.

The states are arranged according to their better performance in Census, 2001 Literacy Rate.

The second caveat springs from the definition of literacy. As per the definition adopted in 1991 census a person who could both read and write with understanding in any language was to be taken as literate. The census definition further States, "It is not necessary that a person who is literate should have received any formal education or should have passed any minimum education standard". Clearly, the gains from education are not completely realized with such a limited notion of education. This compelled the need for examining the other indicators of education.

Table 7.3: District-Wise Literacy by Sex, Census, 2001

Name	Total	Male	Female
Mizoram	**88.80**	**90.70**	**86.70**
Mamit*	79.14	82.98	74.81
Kolasib*	91.34	92.34	90.22
Aizawl	96.51	96.75	96.26
Champhai*	91.19	93.15	89.10
Serchhip*	95.15	96.18	94.07
Lunglei	84.17	87.44	80.59
Lawngtlai	64.74	70.90	57.81
Saiha*	82.19	86.11	78.07

Source: Census of India, 2001.

NSS 61st Round provides information on the education profile of people in the age group 15 years and above. The percentage of people with education up to primary school is 36.5 percent. While these people pass off as literate, the extent of gains from education to this mass of people is rather limited. The remarkable success in literacy fails to translate into consistent augmentation of human capital because of the poor retention rate even at the initial years of primary schooling (to be discussed at the following section). Table 7.5 shows that the state does not achieve even the national average level in population completing 12 or more years of school education. The figure provides a glaring contrast when compared with even some of the North Eastern states, for instance Manipur. This is the factor that needs to be addressed, if Mizoram is to capitalize on its literate labour force. The following sub-section seeks to characterize the pattern of education in the State and an attempt is made to assess the access and adequacy of schools and other educational institutions in the State.

While we discuss the trends and performance of education sector in Mizoram we are constrained by the data availability at least in some of the indicators. For instance, NSS 61 Round (Report No. 517, on Status of Education and Vocational Training: 2004 - 05) or some immediate earlier rounds do not talk about adult literacy, attendance rates, drop-out rates etc. Similarly the discussion is confined to the NFHS-2 key indicators only because of the unavailability of NFHS-3 detail report.

Table 7.4: Education Profile of Mizoram (2004-05)

(Percent)

	Total	Male	Female
Illiterate	2.3	1.4	3.3
Literate and up to primary school	36.5	32.0	41.1
Middle school completed	35.8	37.2	34.3
Secondary school completed	14.4	16.6	12.2
Higher secondary school completed	15.9	6.0	5.8
Diploma / Certificate	0.4	0.5	0.3
Graduate and above	4.5	6.1	2.7

Source: NSSO, NSS 61st Round, Report No. 517.

Note: The figures are as percentage of people in the age group 15 years and above.

Table 7.5: State-Wise Performance of School Education

(In percent)

States	No Education		12 or more years complete	
	Male	Female	Male	Female
Kerala	1.3	3.9	24.8	25.7
Mizoram	**5.5**	**5.6**	**16.0**	**14.3**
Goa	6.0	12.7	25.1	28.1
Maharashtra	7.3	23.5	24.1	16.4
Himachal Pradesh	5.3	18.5	30.0	21.4
Tripura	**11.1**	**22.4**	**11.7**	**6.7**
Tamil Nadu	9.3	21.7	23.2	19.2
Uttaranchal	11.6	32.6	29.9	22.0
Manipur	**5.6**	**21.8**	**31.5**	**20.9**
Punjab	14.0	28.5	17.2	19.1
Gujarat	13.2	32.2	17.3	13.2
Sikkim	**11.5**	**26.7**	**18.2**	**12.5**
West Bengal	22.9	36.3	16.0	8.6
Haryana	14.4	37.6	20.0	14.3
Karnataka	17.2	33.6	21.1	13.5
Nagaland	**15.3**	**21.7**	**16.3**	**10.9**
Chhattisgarh	21.0	49.9	15.4	7.4
Madhya Pradesh	22.9	50.1	18.1	8.8
Assam	**14.4**	**30.2**	**15.3**	**10.2**
Orissa	21.6	40.3	16.4	8.0
Meghalaya	**24.4**	**29.5**	**14.0**	**13.4**
Andhra Pradesh	23.2	45.4	18.4	8.8
Rajasthan	24.3	61.1	15.7	7.3
Uttar Pradesh	21.4	53.5	19.8	10.7
Jammu & Kashmir	15.3	41.0	19.3	14.2
All India	**18.0**	**40.6**	**19.7**	**12.0**

Source: NFHS-3 (Dutta, 2007, EPW, XLII No. 50).

Note: The states are arranged in the similar order as in Table 7.2.

Participation and Performance in Schools

The first indicator to assess the participation of children in schooling is the enrolment ratio. Enrolment ratio for the State is usually defined by age groups. For the age group 6-11 years, roughly corresponding to primary schools, the enrolment ratio is 127.53 during the year 2004-05.[76] The corresponding figure for 11-14 years is substantially lower around 82 percent (Table 7.5). The performance of the State is better than the national average as well as that in the other North-Eastern States, both in terms of the levels of gross enrolment and the decline in enrolment in the second category when compared to the first. Interestingly, this Table suggests that in terms of retention, girls are doing a relatively better when compared to boys. There are some differences between the rural and urban areas especially in the enrolment in the 11-14 years age group. For instance during 2002, rural areas record a level of 64 percent as against a figure of 75 percent for the State as a whole, implying a rather sharp rural urban divide.[77]

Table 7.6: Gross Enrolment Ratio Across the North-East: 2004-05

	Classes I-V (6-11 Years)			**Classes VI-VIII (11-14 Years)**		
	Boys	**Girls**	**Total**	**Boys**	**Girls**	**Total**
Arunachal Pradesh	129.95	115.90	123.12	81.75	69.16	75.53
Assam	105.59	104.80	105.20	72.05	67.22	69.70
Manipur	154.41	148.88	151.69	97.72	91.53	94.69
Meghalaya	145.34	149.95	147.62	72.08	80.96	76.45
Mizoram	**132.25**	**122.71**	**127.53**	**89.19**	**81.33**	**81.77**
Nagaland	88.68	87.15	87.94	55.68	55.50	55.60
Sikkim	144.46	142.71	143.58	66.50	72.16	66.70
Tripura	133.67	128.26	131.03	80.65	75.55	78.16
India	**111.41**	**105.48**	**108.56**	**74.84**	**65.76**	**70.51**

Source: Economic Survey, 2006 - 07.

Given the well-recognised difficulties in assessing the effectiveness of the formal education system from gross enrolment ratios,[78] some alternative indicators have been developed by educationists. The net enrolment ratio – percentage of

[76] Number of children in the age group 6-11 does not constitute the universe of primary school going children. The recorded number of students in the primary sections includes many who are older than the age group, and below the age group. Consequently enrolment ratios over 100 are common phenomena.

[77] 7th All India School Education Survey, 2002. See http://gov.ua.nic.in/NScheduleData/ns300.pdf.

[78] Mizoram experienced a decline in the gross enrolment ratio between mid eighties and early years of this century, alongside an increase in the literacy rates and in educational qualifications

children in the age group 6-11 for instance, enrolled in primary schools – presents a clearer picture of the number of students of the relevant age group enrolled for education. These figures do not provide an equally rosy picture: for instance in 1997-98, corresponding to gross enrolment ratio of 113.6, the net enrolment ratio is 72.6 percent for primary schools.[79] This indicates that a sizeable proportion of the children enrolled in the primary schools are either too young or older than the prescribed age. This ratio also highlights the fact that the coverage of education system is far from complete – a fact that is masked by the levels of gross enrolment ratio.

While enrolment suggests that a child has access to education, to be educated, the child has to attend school at the very least. The effectiveness of the schooling system therefore depends at the first instance, on attendance. The Gross and Net Attendance Ratios seek to measure the level of penetration of schooling in this sense. Gross Attendance Ratio captures the percentage of children attending an educational level as a percentage to corresponding age group population. On the other hand net attendance ratio limits the numerator to children of the relevant age group only. These figures are however not collected frequently enough to provide an idea of trends over time. The latest available figures are from NSS 52nd Round (1995-96) and NFHS-2 for 1999-00. The NSS figures presented in Table 7.7 highlight the fact that while the enrolment ratios are backed up by high attendance ratios as well, the difference between the gross and the net ratios sharply remains, indicating that the coverage of the education system is not yet complete. Further, the decline in the attendance ratios is very sharp, more so in net attendance ratios, indicating poor retention. The overall net attendance ratio by the State is 69, 39, 14 and 4 respectively for I-V, VI-VIII, IX-X, and XI-XII. The net attendance ratio declines sharply especially at the class groups-XI-X and XI-XII (Table 7.7). The NFHS-2 table on school attendance also supports that attendance rate drops sharply at the age group 15-17.[80] The flip side of attendance is drop-outs. The figures on drop-out rates suggest a worrisome trend. Along with high enrolment ratios, the State has also been witnessing high drop-out rates. The drop-out rate even in the primary level (class 1-V) is 63 percent in 1994-95, implying more than 60 percent students left studies even before completing class V.

[79] See http://www2.unesco.org/wef/countryreports/india/rapport_2_1.html.

[80] The NFHS Report too presents a similar decline in school attendance, with the level falling off from 92.5 percent in the age group 6-11 to 67 percent in the 15-17 years age group.

While the drop-out rates are declining over time, it is consistently high and always above 50 percent from 1981-82 to 1998-99 both for both boys and girls. Moreover the data is exposing an increasing trend in drop-out rates for the higher classes in the school level in 1998-99. Drop-out rate for the children in class I-X improves marginally from 89 percent in 1981-82 to 72.56 percent in 1998-99[81]. Rates remain consistently higher than the national average (right from the primary level), indicating that the efforts of enrolment do not translate into better educational achievements for the State and its people[82]. This is a worrying feature, since the State cannot hope to capture gains from an educated workforce with such a poor retention rate.

Table 7.7: Gross & Net Attendance Ratio: Mizoram (1995-96)

		1-V		VI-VIII		IX-X		XI-XII	
		Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Gross Attendance Ratio	Total	102		108		46		23	
	Rural	98	93	98	106	19	29	-	-
	Urban	124	111	115	126	91	103	66	46
Net Attendance Ratio	Total	69		39		14		4	
	Rural	57	60	34	19	3	11	-	-
	Urban	95	93	55	70	28	31	6	11

Source: NSS 52nd Round (July 1995-June 1996), India Year Book, 2003.

Table 7.8: Trends in Drop-Out Rates

	1981-82			1992-93			1998-99 (Provisional)		
Drop-Out Rates I-V									
State	**Boys**	**Girls**	**Total**	**Boys**	**Girls**	**Total**	**Boys**	**Girls**	**Total**
Mizoram	65.2	69.7	67.3	57.1	59.5	58.2	51.6	52.1	51.8
India	51.1	57.3	53.5	43.8	46.7	45.0	38.2	41.3	39.6
Drop-Out Rates I-VIII									
Mizoram	78	80.6	79.3	66.6	62.0	64.4	68.5	65.7	67.2
India	68.5	77.7	72.1	58.2	65.2	61.1	54.4	60.1	56.8
Drop-Out Rates I-X									
Mizoram	86.8	91.1	89.0	57.0	54.4	55.7	73.8	71.1	72.6
India	79.4	86.8	82.3	70.0	77.3	72.9	65.4	70.2	67.4

Source: NHDR, 2001 (latest one forthcoming).

[81] There is a positive short run trend in the drop-out rate during the period 1992-93 must be due to some incentive based policy induced change. This should be critically examined.

[82] The national average for this drop-out rate is showing a much positive trend, reflecting the responsiveness to the induced national policy changes like universalization of formal primary school education. The All India drop-out rate for the class 1-V is steadily declining from 53.5 percent in 1981-82 to 45.01percent in 1992-93 and 39.58percent in 1998-99. This is a sharp contrast for the State like Mizoram including all the North-Eastern States.

The incidence of drop-out is largely a rural phenomenon. The problem of drop-out seems to be related not only to a lack of consciousness about the value of education but also to the socio-economic constraints that lead to the early employment of children in the villages. This observation is in tune with the finding that economic constraint is the dominant reason for the non-enrolment and drop-out and that the private expenditure at the elementary level is prohibitive for the low-income groups.

Consistent with the high drop-out rates, the mean years of schooling in the State at the primary level is quite low. The mean year of schooling at the primary level is 2.29 (for the girl it is 2.31 whereas for the boy is 2.27). This is not impressive even compared to the standard of the NER. However the trend is quite consistent with high drop-out rates in the formal school level of education in the State. This naturally calls for the incentive-based policy mix to raise the retention level and the overall performance level of the State in the field of education.

It is useful to understand the factors contributing to such high levels of drop-out rates. NSS 61st Round (Report No. 517) explores the broad categories of reasons for per 100 distribution of persons (5-29 years) not currently attending any educational institutions. About 40.7 percent persons in rural areas and 34.1 percent in urban area quoted "has to supplement household income". This is followed by 43 percent of rural population and 48.5 percent of urban population who categorised "other reasons" for not attending education. Another 9.1 percent in rural areas and 15.4 percent in urban areas quoted "has to attend domestic chores". This is followed by "schools too far" (5.7 percent in rural areas and .02 percent in urban areas) and "education not considered necessary" (1.5 percent both in rural and urban areas).[83] These factors are critical in understanding the success or otherwise of any initiative to improve the system of education in the State.

Access to Education

Access to education is partly governed by the accessibility to schools and accessibility to the teacher. In terms of averages, the performance of the State compares well with that of other North-Eastern States. The National Human

[83] The NHFS-2 Report also attempts to answer this question from the household's perspective. The reasons quoted for children not attending school were "costs too much", followed by "education not necessary" and "required for household work" in the case of girls. In the case of drop – outs, the reasons were "not interested in studies", followed by "required for family/farm/household work".

Development Report, 2001 documents the fact that Mizoram has more schools per thousand population than other States in the North-East as also compared to the national average. This however is not adequate to ensure access to education to all children in the school going age, especially in rural areas where the density of population is low, thereby undermining the viability of a school. However in spite of these odds, the State has been performing reasonably well. In terms of access to schools in rural areas, Table 7.9 shows that between 1993 and 2002, the State has witnessed an improvement in the access to schools in rural areas – 89 percent of the habitations have primary schools within the habitation itself. The access to upper primary schools too has improved over time; however, coverage is far from 100 percent. The NFHS-2 data (1999-00) reports that 88.2 percent of the rural residents living in the villages have primary school facilities, 78.1 percent with middle school facility, 57.8 percent with secondary school facility. About 90.7 percent villages have anganwadi, 36.1 percent have adult education center.

Table 7.9: Accessibility to School in Rural Areas in North-Eastern States

(Percentage)

	1993				2002			
	Habitation with the Primary Schools		Habitation with the Upper Primary Schools		Habitation with the Primary Schools		Habitation with the Upper Primary Schools	
	Within Habitation	Total up to 1 km.	Within Habitation	Total upto 3 km.	Within Habitation	Total up to 1 km.	Within Habitation	Total up to 3 km.
Arunachal Pradesh	37.45	47.05	9.60	28.35	39.64	51.62	10.64	31.17
Assam	54.51	85.72	15.15	85.54	44.56	84.34	13.51	82.04
Manipur	73.88	87.83	21.28	66.79	61.35	79.44	20.87	63.26
Meghalaya	55.92	76.08	12.10	59.14	69.09	85.46	15.34	59.46
Mizoram	**85.82**	**87.94**	**52.34**	**64.40**	**89.01**	**90.35**	**58.04**	**65.95**
Nagaland	81.05	87.47	27.17	57.64	87.96	94.59	23.88	61.64
Tripura	38.50	75.48	11.51	74.55	37.52	75.86	12.00	79.91
India	49.79	83.36	13.87	76.15	53.04	86.96	18.45	78.11

Source: Seventh All India School Education Survey, Table -3 & 4..

However the proportion of trained teachers up to secondary level, is around 70 percent on an average, where the corresponding figure for the national level is about 87 percent. Another feature of the school educational system of the State is large number of temporary teachers especially after primary level onwards. There are 615 temporary teachers and 57 ad-hoc teachers, against the 3369 permanent teachers in the primary level. In the upper primary level the numbers of temporary and ad-hoc teachers are respectively 1783 and 75, against the 1921 number of permanent

teachers. Whereas in the secondary level the figure for temporary and ad-hoc are 871, and 63 respectively against the permanent teachers 82284.

Given the access to schools, the quality of education depends on the nature of interaction between the students and the teachers. Large classes are often argued to hinder good learning. The general norm in South Asia is 30 pupils per teacher as the optimum size. The Indian average is over 40 while Mizoram has been maintaining a level close to 30 at the primary level. Similar comparisons hold for the higher levels of school education as well, with figures as low as 9 pupils per teacher at the secondary level (Table 7.10)[85]. The figures for 2006-07 are 16 for primary schools, 8 for middle schools, 12 for secondary schools and 13 for higher secondary schools in Mizoram.

Table 7.10: Pupil Teacher Ratio of the North-Eastern States

States	1982-83			1992-93			1997-98		
	Primary	Upper Primary	Secondary	Primary	Upper primary	Secondary	Primary	Upper Primary	Secondary
A.P	33	21	21	32	23	14	36	27	29
Assam	35	24	25	39	31	28	37	24	21
Manipur	18	21	20	18	11	17	19	19	21
Meghalaya	31	17	22	36	19	24	40	17	19
Mizoram	**29**	**15**	**13**	**30**	**12**	**11**	**28**	**10**	**9**
Nagaland	21	15	23	19	21	27	21	19	25
Tripura	14	29	24	23	25	23	18	15	17
All India	**40**	**34**	**29**	**45**	**43**	**29**	**42**	**37**	**29**

Source: National Human Development Report, 2001, Table 4.30.

For institutions of higher education however, the scenario is completely different. There are very few institutions for education beyond the secondary level. The education system has been the continuing lack of technical equipment and quality staff for science and technical education at that school level. This is another weakening force in the delivery of education in terms of better faculty and manpower. There has been cumulatively low proportion of scientists and technologists among the educated Mizos. There are 49 pre junior colleges as on 2002-03[86] and 29 institutions imparting higher education (2000-01). The number of students enrolled in these

[84] Source: Sixth All India Educational Survey, Vol. VIII, NCERT, 1998.

[85] During 2006-07, pupil teacher ratio for the primary school is 25, middle school - 11, high school -11 and higher secondary – 12 respectively.

[86] Selected Educational Statistics (Abstract) 2002-03, department of secondary and higher secondary education, ministry of human resource development, GoI.

institutions during 2000-01 was 6737. As on 2005-06, there are only 25 arts, science, commerce and law colleges, 1 teacher training colleges, 2 poly-technique institutes, 3 industrial training institutes and 2 teacher training schools. Given the small implied scale of operation in a small State like Mizoram, the scope for sustaining other technical institutions of higher education is small at best. While the State does have a Nursing College, for all other streams of education State Government sponsors some students through seat quota in different institutions outside the State. The number of students sponsored for further studies were 180 during 2000-01 as against 179 during 1999-00[87]. As a proportion of the potential clientele for higher education, this is not a very high number. As a result, there is a perceived lack of opportunity for youth studying in the State. These features create a vicious circle – poor perceived set of opportunities translates into poor demand for education, and poor demand for education sets up a perception of unviability for any private/public initiative in this sector.

Although there are efforts in the supply side through various Government funded schemes like SSA, but there might be some serious intrinsic loopholes in the quality of education in the State. This fails to induce the demand side stimulus. Hence the strength of literacy is not translated into higher quality education in terms of higher retention rate especially at the middle school and higher school and beyond higher secondary level.

Financing Education

The budgetary estimates of expenditure on education to total State budget, 2001-02 (Revenue Account) suggest that out of total of Rs. 9,658.40 million budgetary expenditure, about 20.33 percent, i.e., Rs. 1963.64 million is spent on education (which includes adult education, physical education, language development and other general educational programmes). About 54.02 percent of estimated educational expenditure, is spent on elementary education, 20.62 percent and 9.14 percent of budgeted educational expenditure are on secondary and higher education respectively. Another 7.66 percent is on technical education, and 8.56 percent on others (Ministry of Human Resource Development: Analysis of Budgeted expenditure

[87] Selected Educational Statistics (Abstract) 2002-03, department of secondary and higher secondary education, ministry of human resource development, GoI.

on education 1998-99 to 2000-01). Given the fact that the Government is not the only provider of education in the State – the Church is also a provider of education and medical assistance ever since its initial interaction with the region - the issue is not merely one of inadequate expenditure but of finding mechanisms for breaking the vicious cycle mentioned above.

7.2 HEALTH AND RELATED DEMOGRAPHIC PARAMETERS

Health is another major indicator of human development. "For most individuals, the choice to live a healthy life – free from illness and ailments – and a reasonable lifespan are crucial attributes in the notion of personal wellbeing. It is only natural then, that the indicators of health as well as indicators that variously capture demographic concerns of society are important constituents in the framework for evaluating the development process under the Human Development approach". Progress in this respect is dependent on adequate provision of health care facilities for all and particularly for the women and the children, who form the basis for the future generations. Given high cost for private health care, the State has a significant role to play, in this sector, by creating infrastructure, providing access, improving service delivery, educating and developing mass consciousness about hygiene and basic health care etc[88]. In order to assess the well being of the people of the State, it is useful to examine various indicators of the status of health, like crude birth rate, crude death rate, infant and child mortality, maternal mortality rate etc.[89]

Table 7.11 provides a summary of the health profile of the State. Some of interesting observations captured in this Table are a relatively low dependency ratio so far as the population above age 60 is concerned, a total fertility level which is less than the national average, low infant mortality as well as under-five mortality rates. These features indicate that the overall performance of health in the State is better than national averages. However, as in the case of education, these figures mask some underlying concerns.

[88] National Rural Health Mission (NRHM) – a flagship programme launched in July 2005 in Mizoram along with 17 other specially focused states. The objective is to bridge the lacunas in rural health care through people oriented and community based approaches, decentralized involvement of local bodies, recognition of the traditional knowledge base of the communities, and promotion of new innovations, method and process development. The successful implementation of this decentralized approach is expected to give a boost to the handicaps of the service delivery mechanism of the health infrastructure of the state.

[89] It should be mentioned here that the discussion here is severely limited by non-availability of the detailed NFHS-3 reports in the public domain.

***a. Population Growth*:** Like most of the NER States Mizoram is undergoing a rapid rise in population. The average annual growth of population of the State during 1971-81 is 4.04. It declined 3.40 during 1981-91 and further to 2.59 during 1991-2001. The average annual growth rate of population is always higher than the national average. High rate of growth of population coupled with low infant mortality rate suggests that the State has crossed the first stage of demographic transition. The decline in rate of growth over time suggests a move towards the second stage – however that is still a long way off. The rapid rate of growth of population suggests a number of implications.

Table 7.11 Health Profile of Mizoram

Health Indicators	**Mizoram**	**All India**	**Range for Developed Countries**
Total Populations (Millions)	0.89 (2001)	1,027.02 (2001)	-
Annual Exponential Population Growth Rate (Percent)	2.59	1.95	0.3-1.3
Sex Ratio	938 (2001)	933 (2001)	
Population Aged 60 and Above (Percent of Total)	8.66 (1991)	12.19 (1991)	11.7-17.4
Total Fertility Rate (TFR)	2.9 (2005-06)	2.7 (2005-06)	1.4-2.0
Life Expectancy at Birth (Years)	-	60.7 (1992-92)	76.5-80.5
Infant Mortality Rate (IMR) (Per 1000 Life Births)	34* (2005-06)	57 (2005-06)	4-7
Under-five Mortality Rate (per 1000)	54.7 (1998-99)	94.9 (1998-99)	4-8
Crude Birth Rate (CBR)	19.1 (2006)	24.9 (2006)	
Crude Death Rate (CDR)	5.6 (1998-99)	8.9 (1998-99)	
Trend in Contraceptive Use by Currently Married Women in the Age Group of 15-59 (percent)	60 (2005-06)	56 (2005-06)	

Sources: National Family Health Survey 1 & 2 and Sample Registration System, April 2006, Vol. 40, No. 1.

* The IMR figure (14) available for 2006 Mizoram (Economic Survey, 2006-07, Govt. of Mizoram), seems to be inconsistent with the existing trend.

- With resultant increase in population density, coupled with high degree of urbanization – rate of urbanization increased from 24.67 percent in 1981 to 46.10 percent in 1991 and 49.50 percent in 2001 - the demand for health care services is expected to expand rapidly as well. The increase in

demand in urban areas could potentially dwarf/supersede the needs of the rural areas.

- Rapid increase in population results in a young population and correspondingly a young workforce. However, to capture the benefit of a youthful workforce, they have to be gainfully employed. In absence of such gainful employment, the result could be a demoralized workforce or rapid out-migration, neither of which contribute positively to development in the State.
- Rapid growth in population also implies that the dependency ratio of the very young – children of the age group 0-6 years on the rest of the population would tend to be high. In Mizoram the level is 16.2 percent in sharp contrast to 8.7 percent in the case of people aged over 60 years. This profile should place specific demands on the health care system – greater importance needs to be placed on health care and nutrition for infants and children to ensure the healthy future generation.
- In terms of birth rate and death rate, Mizoram has been performing remarkably well. With a birth rate of 19.1 per thousand and a death rate of 5.6 per thousand, the State records the lowest levels in the entire country. The urban areas in the State record even lower levels, suggesting that corrections in favour of the second demographic transition depend on some transformation in the rural areas of the State.

***b. Sex Ratio*:** This indicator helps to get an overall idea of the factors like sex ratio at birth, male-female mortality differential and also sex specific migration. It also captures gender parity in the context of report of female feticide and infanticide. It is generally expressed as the total number of females per 1,000 of males in particular locality. As compared to the national average of 933, Mizoram records a marginally higher level of 938 as per Census 2001. The rural urban variation in sex ratio is 923 (rural) and 948 (urban). The district wise profile too indicates a fair degree of variation with a high of 955 in Champhai, and the lowest being 901 in Lawngtlai. Interestingly, the profile does not follow the urbanization pattern of the State, suggesting that other factors play a more important role. Interestingly, the sex ratio of children in the age group of 0-6 years is higher at 964 for the entire State and 965 and 963 in rural and urban areas of the State (Census 2001). A district wise comparison of sex ratio of children indicate that the highest ratio of 991 is in Serchhip district, the lowest 953 being in Mamit district. This high incidence could either be the result of differential incidence of mortality by age or more importantly, because of better survival of all children including female children. If the latter is the main contributing factor, it reflects well on the health status of people in the State.

***c. Total Fertility Rate*:** The NFHS Reports indicate an increase in the fertility levels in the State over time. The level recorded in the NFHS-3 is 2.86 for the entire State (with 3.33 for rural areas and 2.50 in urban areas). The reports also document a strong negative relationship between education of the women and total fertility rate – there is a difference of 2.44 between the fertility rates of illiterate women and the women who have completed at least high school. Fertility in this region also varies considerably by the household's standard of living. Depending upon the household's high standard of living to low standard of living (on which the women belong), TFR ranges from 1.7-4.6 in the State, as recorded in NFHS-2. These two features suggest that improvement in the levels of education of females and improvements in the standards of living would both contribute towards lower fertility rates, thereby reducing the pressure on existing resources.

***d. Mortality and Morbidity Rate*:** Morbidity rate is the number of persons (per 1000 population) reporting ailment (PAP) during 15 days preceding the date of survey, where each type of ailments means acute and chronic ailment. This information is relevant both for the assessment of demographic transition, for the formulation of appropriate health policies and programmes. This also helps to identify some vulnerable groups that are at the high risk of morbidity against some diseases and is in need of health services.

In Mizoram the morbidity rate is quite low compared to the other Indian States. The morbidity rate for 2004 in the rural areas for the male and female is 23 and 18 respectively, whereas in the urban areas it is 17 and 18 respectively. The national average of morbidity rate for male and female in the rural areas are 83 and 93 respectively, whereas it is 91 and 108 in the urban areas.[90] The substantially low levels of morbidity suggest a significantly healthier population. Interestingly, the major sources of morbidity are jaundice, malaria and tuberculosis[91] – all are ailments

[90] National Sample Survey Organisation, 60th round, Report No. 507.

[91] Table: Incidence of ailments per 100000 population

Disease	*Mizoram*	*India*
Tuberculosis	1,063	544
Jaundice	3,155	1,361
Malaria	7,359	3,657

Source: Health Administrator, Issue 1, 2004. www.medindi.nic.in/haa

Other States in the Northeast share some of these trends.

the incidence of which can be reduced through improved sanitation and other prevention measures. It is not inappropriate to suggest that improvements of education can provide people with solutions for reducing the incidence of such ailments. The other major source of morbidity is said to be cancer[92] – Mizoram has the highest incidence of cancer in the world in hypopharynx (males), tongue cancer (males), oesophagus cancer (males) and stomach cancer. This has been attributed to the dietary specificities of the people – consumption of smoked meat and exposure to tobacco on a regular basis is said to an important culprit. While the recent numbers reported in the Economic Survey of Mizoram, 2007-08, indicate a change in relative incidence of these ailments, the fact remains that over 35 percent of mortality even in this year is attributable to malaria, cancer and asthma and bronchitis.

***e. Nutritional Status of Women*:** Given the importance of the nutritional status of women and children in a society, and the numerous initiatives taken by various Governments to provide nutritional supplements and enhance the overall quality of health, it is useful to assess this dimension of the status of health in Mizoram for a complete picture. From the tables of NFHS-2 on women's diet, it is seen that illiterate women have poorer and less varied diet than literate women, and their diet is particularly deficient of nutritious foods like milk/curd, fruits etc. Household standards of living too have a strong positive effect on the consumption of nutritious type of foods. Women in the household with a low standard of living are much less likely (than other women) to eat proper balanced diet on a regular basis. The report suggests age does not generally play an important role in women's consumption pattern.

NFHS-2 has used weight and height data to calculate several indicators of women's nutritional status. The height of an adult is the outcome of a several factors including nutrition during childhood and adolescence. Small stature of mothers is often associated with difficult delivery and low birth weight. After standardizing the mean safe cut-off points for height for women (which varies from one region to

[92] Mizoram has topped all the States of India in cancer cases, according to the finding of the Development of Atlas of Cancer in India in its First All India Report 2001-02 (NEPS, June 23). Aizawl district, whose Minimal Age Adjusted Incidence Rate (MAAR) is 217.9, has the highest cancer incidence among all districts in India among males, followed in order by Serchhip district (155.1), Lunglei district (126.4), Kolasib district (125.1) North Goa district (119.0), Champhai district (114.2), Mamit district (107.6) and Chandigarh district and so on. (The Development of Atlas of Cancer in India is a project of National Cancer Registry Programme (NCRP) under the Indian Council of Medical Research, and supported by the WHO). Moreover, MAAR includes only microscopically diagnosed cancer cases the actual cancer incidence rates may be higher.

another), it is found about 10-12 percent of women have less than the mean height in Mizoram. Further, about 22 percent of women are nutritionally deficient according to their body mass index (BMI) measurements. This problem is particularly serious for women who are illiterate and living in a household with a low standard of living. In Mizoram about 39 percent of illiterate women and 35 percent of women with low standard of living are with a low BMI. Similar trend is observed in NFHS-3, with higher percentage (26.2percent) illiterate women having below normal BMI than literate women.

Specifically, the incidence of anaemia is critical for both the health of the mother as well as potential children. According to the NFHS -3, the incidence of anaemia for married women in the age group 15-49 is 38.2 percent in the State. The background characteristics suggest slightly higher incidence for breastfeeding women, who are not pregnant. As expected the prevalence of anaemia tends to fall as the education of women increases and as the standard of living of the household increases. Women with a lower BMI have a higher prevalence of anaemia, than other women.

f. ***Nutritional Status of Children*****:** Nutritional status is the major determinant of the health and wellbeing of the children. According to the NFHS-3 report more than one fifth of children are under weight in this State although lower than the national average of 47 percent. The proportion of stunted children is quite high in the State (30.1 percent). In addition wasting is also quite evident in the State, affecting around 10 percent of the children below three years. Although this percentage is lower than the national average for all the three parameters, the underlying numbers are large enough to be disturbing. Further, there is a strong positive correlation between the mother's literacy and the household's standard of living and children's nourishment in this State like all other State in NER of India. Moreover the nutritional status of the children is strongly related to the maternal nutritional status. Under-nutrition is more common for children of mothers whose BMI is below 18.5 than for other children in almost every case.

Table 7.12: Child Immunization and Nutritional Status

	India			Mizoram		
	NFHS -3 (2005-06)	**NFHS -2 (1998-99)**	**NFHS –1 (1992-93)**	**NFHS -3 (2005-06)**	**NFHS -2 (1998-99)**	**NFHS -1 (1992-93)**
Children 12 to 23 Month fully immunized	43.50	42.00	35.50	46.40	59.60	56.90
Children under three years who are Stunted (percent)	38.40	45.50	Na	30.10	34.60	36.40
Children under three years who are wasted (percent)	19.10	15.50	Na	9.20	10.20	3.00
Children under three years who are underweight (percent)	45.90	47.00	51.50	21.60	27.70	28.40

Source: NFHS–3, Key Indicators.

Note: Full immunization refers to BCG, Measles and three doses each of polio and DPT.
Stunted refers to low height by age.
Wasted refers to low body weight by height.
Underweight refers to low body weight by age.

Anaemia is a manifestation of nutritional deficiencies, and is an issue of serious concern for young children because it can result in impaired cognitive performance, behavioural and motor development, coordination language development, coordination, language development, and scholastic achievement as well as incereased morbidity from infectious diseases (Seshadri, 1997). The prevalence of anaemia for the children aged 6-35 months is widespread (57.2 percent against the national average of 74 percent) in the State. It is prevalent among 40 percent of children in every group (6-11 months, 12-23 months 24-35 months) in Mizoram (NFHS-2). It is to be noted a much larger proportion of children than women have moderate to severe anaemia in almost all the States of North-East including Mizoram. There is strong relationship between the anaemia status of mother and the anaemia status of children. As expected, children less than 24 months age, those whose mothers are illiterate and children from the households with low standard of living have particularly high rates of anaemia. Supplementary nutrition programme is being implemented through the network of 21 ICDS project in Mizoram where 79,935 number of mal-nourished children (0-36 months) have benefited during 2000-01. There were also 1,341 number of Aganwadi Centres in Mizoram upto 2000-01 with an enrolment of 1,50,652 children.

***g. Immunization Programmes*:** Alongside nutritional considerations, immunization programmes have been the cornerstone of the solid health care system in India. The National Immunization Programme of Government of India seeks to

reduce the morbidity, mortality and disability due to six identified diseases by making vaccinations available free of cost to all eligible children – the diseases are tuberculosis, diphtheria, pertusis, tetanus, Polio and Measles. According to NFHS-2, in Mizoram the proportion of children fully vaccinated is highest among the North-Eastern States (59.6 percent)[93]. In Mizoram about 19 percent of the children dropped out by the third dose of polio vaccine. The coverage of BCG vaccines is 88 percent and that of measles is 71 percent. However, Table 7.11 captures a decline in the percentage of children completely immunized in 2005-06 when compared to 1998-99. According to NFHS-3, 46.4 percent of children had all basic vaccinations and 7 percent children still belong to the category who doesnot receives any vaccination. This is a worrisome factor for the overall health of children in the State.

The NFHS-2 study reveals that in Mizoram girls are somewhat more likely to be fully vaccinated (66.1 percent for females and 54.5 percent of males in the age group 12-23 months are likely to be vaccinated). This is contrary to the pattern observed for India as a whole. This indicates that discrimination against female children in Mizoram and most part of the NER with regard to immunizations is not a major problem. Children who are not vaccinated (aged 12-23 months) vary for boys and girls. It is 14.9 percent for male child and 4.8 percent for female child.

NFHS-2 report identifies a positive relationship between mother's literacy status and children's vaccination coverage. Again as expected, household standard of living has a positive relationship with vaccination coverage in every State. In re-vamping the health care delivery, it is therefore important to consider factors which can provide a boost to the effectiveness of the systems as well.

The discussion above consistently highlights the role of education and improvements in the standard of living as crucial variables influencing the quality of health of people in the State. Strategies for improving health care therefore should be viewed in conjunction with the strategies for overall improvement in penetration of education and in standards of living.

[93] In NFHS-2, children who received BCG, measles and three doses each of DPT and polio (excluding polio 0) are considered to be fully vaccinated.

Access to and Use of Health Care Services

***a. Rural Population Covered by Health Care Infrastructure*:** There are 366 sub-centres, 57 PHC and 9 CHCs, each of which supports on an average 1,223 rural population, 7,852 and 49730 rural populations respectively as on September 2005.[94] There are 75 male health assistants, 78 lady health visitors, 351 MPW (male multipurpose health workers) and 108 nurse midwife, 385 female health workers[95]. In Mizoram the total number of doctors is reported to be 260, along with 26 dentists. The population served per doctor is 3,427 and that of dentist is 34,269 (as on 2001). This is among the highest in the country. Given that bulk of the hospitals and medical facilities are located in urban areas, the coverage would be even poorer in the rural areas. Attempts are being made to augment quality of healthcare in rural areas through the National Rural Health Mission. Untied funds are being provided to each health centre/sub-centre to be utilized for improving service delivery with active involvement of "Rogi Kalyan Samitis" setup for the purpose.

NFHS-2 (1999-00) data reports that only 14.9 percent of rural residents have primary health centers, 61.3 percent have sub-centers, 10.8 percent have hospital (includes community health centers, rural hospital, Government or private hospital) and 12.8 percent have dispensary/clinic in their own habitation. About 40.7 percent rural residents can avail visiting doctor facilities, 43.1 percent have village health guide, 53.3 percent have traditional birth attendant, 16.2 percent residents have the access to mobile health unit.

***b. Availability of Hospital Beds*:** There are total 12 hospitals (with a total 1,021 beds), out of which 7 are Government hospitals with 671 beds and 5 hospitals are run by private and voluntary organisations with a capacity of 350 beds. As of 1998, this meant that there were 872 persons per bed[96]. When compared to a national average of 1,451 persons per bed, this is no mean achievement. However the disparity is that, out of the 12 hospitals, 10 are urban centric. This implies average number of rural persons per hospital is much larger than the State average, stating the uncertain plight of the rural poor population. Hence the entire rural health care system is highly

[94] Directorate General of Health Service, Bulletin on Rural Health Statistics in India, 2006. These numbers remain unchanged even in 2006-07.

[95] As on 31.03.01 (Directorate General of Health Services, Bulletin of Rural Health Statistics in India, 2002).

[96] Directorate General of Health Services, Health Information of India 1997 & 1998.

dependent on the primary health centers and sub-centers and community health centers. Moreover it is even more critical on the efficiency of their functionality.

***c. Quality of Health Care and Sources*:** In Mizoram public medical sector supports around 87 percent rural health care and 73.5 percent of the urban health care. The pattern of health service institutions is quite different in rural and urban areas of all States. The private medical sector plays a more important role in urban than rural areas. About 60.3 percent of urban households and 30.1 percent of rural households obtain health services from Government municipal hospitals. Community health centers, rural hospitals and PHCs serves a much larger proportions of rural than urban households. The source of health care service is influenced by the standard of living of the households. Utilization of services provided by the Government medical sector declined. On the contrary, use of services provided by private medical sector increases as the standard of living of the household increases. For Mizoram private medical support increases from 5.5 percent for low standard of living to 38.2 percent for the high standard of living (NFHS-2). The family welfare programme is doing well in Mizoram compared to other North-Eastern States. 31 percent of women in Mizoram report that they received a home visit from health and family planning workers during the twelve months preceding the survey. There are some variations by background characteristics. In Mizoram home visits are quite common for women ages 35-49, literate women who completed less than high school education, women who live in households with a moderate standard of living, women who have three or more children and women who are sterilized (or whose husbands are sterilised).

According to the NFHS-2 report, the quality of health care services is better in Mizoram than the other NE States. Almost all women (99 percent) in Mizoram who were visited by health or family planning workers were satisfied that the worker has spent enough time with them. But less than 6 percent of all women in any of the NE State, including Mizoram say that they discussed family planning during their visits to a health facility. Even among pregnant women and women with children under age three, not more than 7 percent in any of the State discussed family planning during visit to a health facility. The NFHS-2 data suggest that delivery of health and family planning services in the North-Eastern States were not well integrated.

Given the available trends it is useful to ask the question – what is the expenditure on health care in the State and how does it get distributed between public and private expenditures. Table 7.13 below highlights the remarkably high level of per capita public spending on health care in the State. Among the North-Eastern States, Mizoram ranks the highest in terms of public expenditure and lowest in terms of private health care expenditure.

However, as the trends above suggest, with an increase in the standards of living and in the levels of education, the demand for private health care increases. (Table 7.14) Similarly, urbanization, by making available more choices to the people, induces a shift in demand in favour of the private health care services. This needs to be kept in focus while designing any strategy for intervention in this sector.

Table 7.13: Per Capita Expenditure on Health Care 2001-02

State	**Public Expenditure (Rs.)**	**Private Expenditure (Rs.)**	**Total Expenditure (Rs.)**
Arunachal Pradesh	627	717	1344
Assam	176	393	569
Manipur	345	297	642
Meghalaya	407	106	513
Mizoram	**836**	**101**	**937**
Nagaland	414	803	1217
Tripura	301	489	790
All India	**207**	**790**	**997**

Source: National Health Accounts India, 2005. (Latest available version)

Notes: data for States excludes health expenditure by local bodies, firms and NGOs.

Table-7.14. Choice of Health Care Facility in Mizoram, 1999-00

Source	Residence		Standard of Living Index			Total
	Urban	Rural	Low	Medium	High	
Public Medical Sector	73.5	86.8	87.3	83.4	57.5	79.7
NGO or Trust	2.2	3.5	2.0	2.8	3.9	2.8
Private Medical Sector	23.1	6.4	5.5	11.9	38.2	15.3
Other Source	1.2	3.3	5.2	2.0	0.4	2.2
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0
Number of Household	731	642	201	927	227	1,373

Source: NFHS-2.

***d. Maternal and Reproductive Health Care*:** Child is usually the responsibility of the mother. So, general health, mortality and morbidity condition of the child will largely depend on mother's health, education and economic condition. Mortality is high among the mothers who are agricultural or manual labourers. The quality of natal care and the working condition of the mother are also two significant

factors, which highly determine the maternal mortality rate. Interestingly, maternal mortality in Mizoram is distinctly lower than the national average. While there are a number of programmes of Government of India promoting maternal health, there is very little consistent data available on maternal mortality rate and life expectancy of the State including all the North-Eastern States. This is a serious lacuna in assessing the impact of such policy interventions.

***e. Anti-Natal Care*:** As a part of antenatal care, it is recommended that women receive two dozes of tetanus toxoid vaccine, and adequate amounts of iron and folic acid tablets or syrup. This is to prevent and to treat tetanus and anaemia. At least three antenatal check-ups are also recommended, to detect possible complications in the pregnancy. Table 7.14 suggests that the coverage of women as per these prescriptions is marginally less the national average in most of these categories. Over the three survey results now available, it also is evident that there is some increase in the proportion of women undertaking the prescribed check-ups at the national level, but a somewhat sharp decline in the reference period for NFHS-3 in Mizoram when compared to the earlier Reports. This is a troublesome indicator and needs to be examined further, especially in the light of the various initiatives being undertaken by the Central and State Governments. The proportion of births for which mothers receives anti-natal checkups rises slightly with the mother's age, but declines sharply with birth order. The proportion of birth whose mothers received anti-natal check-ups and the proportions where mothers received check-ups from a doctor increases sharply with mothers' education and household's standard of living. The summary reports for NFHS-3 suggest that while only 11 percent of uneducated mothers had the prescribed check-ups, this number rises to 82.8 percent for mothers who have completed at least 10 years of education. Mothers in Mizoram who did not receive any anti-natal check-ups reported either that the check-ups were not necessary or that it costs too much.

Table 7.15: Maternity Care (for Birth in the Last 3 Years)

	India			Mizoram		
	NFHS-3	**NFHS-2**	**NFHS –1**	**NFHS -3**	**NFHS -2**	**NFHS -1**
At least 3 antenatal care visits for their last birth (percent)	50.70	44.20	43.90	57.80	75.10	69.20
Consumed Iron and Folic Acid for 90 days or more during last pregnancy (percent)	22.30	Na	Na	25.00	na	na
Births assisted by a health worker (percent)	48.30	42.40	33.00	69.40	67.50	62.20

Received Postnatal care from a Health Personnel within two days of last delivery (percent)	36.40	Na	Na	51.50	na	na

Source: NFHS -3, Key Indicators.
Notes: NFHS -1 has 1992-93 as the reference year, NFHS -2 has 1998-99 and NFHS -3 has 2005-06.

***f. Institutional Delivery Coverage*:** In contrast to the observations on maternal health, NFHS -3 captures an increase in the proportion of institutional birth from 48.5 percent in 1992-93 to 57.7 percent in 1998-99 to 64.6 percent in 2005-06. This could partly be on account of rapid urbanization – where urban areas are witness to significantly higher levels of institutional birth – 89.8 percent as against 39.1 percent in rural areas. There has been a more rapid expansion in coverage in urban areas than in rural areas [(29.7 percent in rural and 66.3 percent in urban areas as per the results of NFHS-1 (1992-93)]. Like all other indicators of maternal health and child health, institutional deliveries decline sharply with the birth order, and increase sharply with education and with household standard of living.

Performance of Other Health Co-relates

***a. Provision of Safe Drinking Water*:** As per definitions used by Census of India, 2001 if a household has access to drinking water supplied from a tap or a hand pump, tube well situated within or outside the premises, it is considered as having access to safe drinking water. Both Census and NFHS data reports that drinking water situation throughout NE India is poor and Mizoram is worst affected. This explains the higher rate of illness and high morbidity in various water borne diseases. The Census 2001 States that only 36 percent of the household in Mizoram has access to safe drinking water, as against the national average of 77.9 percent. Of these urban household have better access (47.8 percent) than rural households (23.8 percent). It should however be commended on significant improvement over the levels reflected in the earlier Census – 4.88 percent in 1981 and 16.21 percent in 1991. NFHS -2 indicates further that about 74.1 percent of the households do not access to supply of drinking water for more than 15 minutes per day. About 67.2 percent of the population of the State boils water as a method of drinking water purification.

***b. Sanitation*:** Apart from the availability of safe drinking water lack of sanitation has been observed as the main reasons for prevailing ill health and morbidity levels in the society. The Census 2001 data shows that in Mizoram about 89 percent of the households have toilet facilities and rural-urban differentials are also not significantly wide (79.7 percent in the rural areas and 98.03 percent in the urban

areas). 70.2 percent of the households have pit toilet/latrine facility, only 27.5 percent have flush toilet (NFHS-2). These numbers are more reassuring, in terms of coverage. However, since a bulk of the supply is through private initiative, the interventions to improve quality of service has more to do with better information, maybe through better education than through major expansion in service by the public sector. As a part of the National Rural Health Mission, sanitation efforts are being encouraged through flow od resources to be monitored and utilsied by Village Health and Sanitation Committees.

7.3 A STRATEGY FOR DEVELOPMENT

From the discussion in this chapter, should be clear that any strategy to improve the performance of the State in these sectors needs to work by recognising the inter-linkages between education, health and present standards of living. Improvements in education clearly lead to an improvement in health. However, people appear unsure whether it contributes to an improvement in incomes and/or standards of living. Different ways of incentivising participation in education is desirable. In some places mid-day meal scheme works wonders while in others anganwadis provide the answer. The applicability of solution depends on the underlying problem. Some cash incentives for completion of primary education in the rural areas might be one such incentive. Given the cohesion in the Mizo society and proposal to organize agriculture through the cooperative sector, it is possible to incentivise the cooperative or the village community depending on the participation of the children in the schools. The community then takes responsibility of the education of the children. Once the cooperative starts earning higher incomes, the demand for markets as well as the need for accounting practices and other such imperatives will establish the role of education in the perception of people as well.

An identified lacuna in the school education system in Mizoram is the inadequacy of trained teachers. The Government is taking measures to remedy this situation – it has signed an MoU with Cambridge University in May 2006, for training of teachers[97]. While it is difficult to perceive that all school teachers would receive such training in a short duration, augmenting emphasis on training can improve the

[97] Zoramthanga (2006).

morale. Suitable incentive structures can encourage people to undertake training on a self-financing basis as well.

Another perceived lacuna with the education system in the State, so far as the popular perceptions go, the paucity of facilities for higher education. Given the small scale of demand, it is difficult to conceive of all manners of specializations being offered within the State, unless the State chooses to transform itself into an education hub. However, what appears feasible and desirable is the identification of a few core specializations, in line with the overall strategy of development. These could be developed in the State, or students could be offered scholarships to attend these specializations in institutions elsewhere, with a commitment to serve the State for a minimum prescribed period. One such specialization that immediately comes to mind is agriculture including allied activities. The gains from internalizing the process of research on new crops as well as on the process of identification of crops suitable for the local environment and improvisation of cultivation techniques to suit local needs would go a long way towards establishing the credibility of education as means of improving livelihoods.

While Information Technology (IT) is not prescribed as a growth engine for Mizoram at this moment because of the bottleneck associated with entrepreneurship building, entry barriers, infrastructure etc. but IT as an administrative tool can be used effectively for better governance. The scope of IT has its potential in the tertiary health care services.

Turning to health care, part of the strategy for improvements in the health conditions of the Mizo people relates to the improvements in the educational status of the population. With improved education, information on improving consumption patterns to address and nutrition concerns too becomes more easily acceptable and hence internalized/ implemented. This process can contribute to a better informed choice of cropping patterns as well, for improving the nutritional choices and thereby the welfare of the entire family. These dimensions relate to the preventive part of health care. The curative part of health care, the part that commands the larger part of expenditure on health care both at the individual level and at the level of the State, too needs some special strategies. Expanding the health insurance net work through the route of public private partnership is one answer which is being experimented successfully in at least some States ((Box on Yeshaswini). Mizoram can also conceive s imilar kind of scheme along the line of cooperatives and self-help groups (SHGs).

Box: 7.1

Yeshaswini

In association with the Government of Karnataka, Narayana Hrudayalaya created a unique concept of farmer's health scheme '*Yeshaswini',* as it came to be known. It was launched by the State Co-operative Department. It offered all types of operations of the stomach, brain, gallbladder, spine, bones, kidneys and heart entirely free of cost to 1.7 million farmers' families across Karnataka for a nominal monthly fee. Today, any farmer who is a member of a co-operative society in Karnataka can get the necessary treatment and have access to expensive medical procedures by becoming a member of this scheme. Within a year of its launch 9,100 patients underwent various operations and over 36,000 people underwent free outpatient consultations in the 92 recognised hospitals in Karnataka under this scheme. The beneficiaries are offered cashless treatment at the Network of over 135 Hospitals spread across the State of Karnataka.

This is the World's largest scheme of Self-Funded Healthcare scheme recorded as on date, offering a low-priced product for a wide surgical cover, (covering over 1,600 defined surgical procedures) to the farmer cooperators and his dependent family members. Its amazing success has led many Indian States to re-launch it under various names.

The scheme is open to all co-operative society members, having a minimum of 6 months membership in the co-operative society. Ages of insured are from newborn to 75. The plan is open to all members on a voluntary basis. The local co-operative society, with the assistance of the co-operative department, signs up the members, issues a receipt and deposits the premium with a local co-operative bank, prior to the start of the plan year. In Year 1, receipts plus a letter from the district Registrar of Co-operatives, certifying authenticity, was required to receive services at one of the network hospitals. In Year 2, photo ID cards were issued to the majority of members via the co-operative society, those without ID's accessed services based on a letter from the district Registrar of Co-operatives.

Contribution:

The amount to be paid by each individual co-operative farmer is as under:

Rs. 10/- per life per month for the adult member and children (Rs. 120/- per annum)

15 percent rebate on contribution for families of five or more members.

Coverage Details:

- Rs. 2 lakh per annum per individual.
- Sub-limit of Rs. one lakh per surgery per individual and as mentioned below for each category of benefit.
- All procedures are limited to one incidence per year.
- Cashless services at all participating hospitals.

One dimension of health care relates to ailments that do require the physical

intervention of a doctor – surgeries are one such case.[98] The system of referral hospitals is in place in the State, with each district having a hospital and the hospital in the capital serving as the highest institution in the chain of referrals. However, the level of services available at these institutions in Mizoram as well as in the rest of the North-East is far from satisfactory. A significant proportion of the people, traveling by train or air to Kolkata or the Southern States of India from the North-East or to Delhi, travel for medical reasons. This is true not only for the affluent sections of the population, but a fairly wide cross section. It follows, therefore, that there is scope for developing some reliable health care services in the region. Mizoram is known for a pleasant climate through out the year. It is also a peaceful State, making it a viable choice as a health service provider.

Air travel now connects the State to most of the other States in the region as well as to Kolkata. With some improvement in technology, Lengpui airport can be transformed into an all-weather airport. Alternatively, the location of the hub can be closer to the border with Assam so as to have access to the airport at Silchar as well as to travel by train. These will facilitate inflow of patients. It will also make feasible the establishment of working relationships with doctors in other hospitals, with period visiting arrangements.

Scope through Tele-medicine

As has been noted, the access to health care, while not dismal does indicate distance and cost as two hindrances to better access. Technology now provides some solutions in the form of tele-medicine, where the doctor can remote treat most ailments without physically examining the patient.

Tele-medicine system consists of customized medical software integrated with computer hardware along with diagonistic instruments connected to the VSAT (Very Small Aperture Terminal) at each location. Specialist doctors provide diagnosis and treatment during video conference with the patient's end. The facility enables transmission of patients' medical records including images besides providing live two way audio and video link. Moreover the doctor or the para medical can get to know about the course of treatment to be followed. In the rural and distant areas it therefore provides a very cost-effective solution. Experiments with tele-medicine have been

[98] Robotics may provide an answer to this problem as well, but as a utilizable solution, especially in remote areas, it is still a pipe dream.

yielding interesting results in a number of cases. Some super specialty hospitals in South India have already successfully extending the consultations through tele-medicine network in the rural underdeveloped region. One such initiative proposes linking of district hospitals of Mizoram with Apollo hospital in Delhi. With para-medical staff, such a system can provide far greater access to health care services, especially in remote areas. Linking to hospitals in Delhi, however, implies inaccessibility of these doctors for advanced case if required – or high cost of transportation. If the proposed hospital hub in Mizoram can be developed, these services can be provided closer to home for most of the NER States.

To add to this, is the location of the Nursing College, Aizawl in Mizoram, which provides a useful pool of talent to recruit from. Nurses from Mizoram are found in most major hospitals in the country now. Tertiary health care facilities can also encourage the establishment of medical colleges, attached to these facilities, thus expanding the scope from health care services to expansion in technical education services as well. Such hospitals can be set up in association/partnership with the major hospital chains as well, thereby benefiting from the existing experience of establishing and running world class treatment facilities. If credibility can be established, the State can also gain from the burgeoning business of health tourism and be the hub of the entire Eastern region. Given the extent of the demand for cost effective good health care services in the entire eastern region Mizoram can pool the strength of the English speaking population for creating an infrastructure of e-health networking. The strength can be augmented with expansion in medical and para medical colleges and other related human resource development.

Chapter 8

Development Through Decentralized Governance

THE NORTH-EAST REGION (NER) of India is a home to numerous diverse communities having conflicts and confrontations over land use and control as well as issues of language, identity formation, demographic change and minority-majoritarian relations. The framers of the Constitution conceived the instrument of tribal self-rule to tackle the problems of this unique area and to preserve the democratic traditions and cultural diversity of its people. This stands embodied in the Sixth Schedule of the Constitution of India. The effort was to accommodate the collective aspirations of tribal communities within the broader framework of a democratic political system characterized by centralized powers.

The Sixth Schedule operates in Mizoram also. This State with its large number of (tribal) communities and emerging educated elite has a peculiar political history. Most of these communities have self-governing Village Councils (VCs) and were organised as tribal chiefdoms even during the late British period. Nation and State formation was virtually absent and even in the most advanced area of the region, ruled then by the Ahoms, the economy was monetised only by the British. Constitutions by themselves cannot make for good people. But they can and should provide the framework for good governance and good conduct, for Governments and societies, in the sense that social and political realities are reflected in the framework of governance.

The chapter discusses first the status of the provision of certain civic services in the State along with its comparison with other NER States and all-India also in section 8.1. The important one is safe drinking water supply with an argument how can they be improved. It is followed by an argument for decentralized governance in section 8.2. In this section, the present and transitory status of decentralized governance in Mizoram is covered. In section 8.3, the finances and powers of District Councils (DCs), Autonomous District Councils (ADCs) and VCs, which are the units

of decentralization in Mizoram are discussed. In section 8.4, a need for reforms is highlighted. Finally an option for reforms is suggested.

8.1 STATUS OF CIVIC FACILITIES IN MIZORAM

Adequate provision of civic services, social and economic infrastructure is basic to development. These services are provision of safe drinking water, sanitation, medical and health services and basic education to children. The State Government provides these services in general through Local Administration Department (LAD) under joint supervision of VCs. The LAD also undertakes the programme of constructing dumping grounds, fly-over bridges, footpaths, market centres, minor roads, pavements, parks, shops, and steps under urban development.

Based on a sample survey, an inter-State comparison among NER States of households covered by a few key facilities for the year 2005-06 is shown in Table 8.1. In Mizoram, most households are covered with these facilities compared to other NER States as well as all-India average. It may be observed that electricity supply is better in Sikkim, piped safe drinking water supply better in Mizoram, toilet facilities are better covered in Manipur and Tripura. The need of pucca houses depends on local conditions. Sikkim and Meghalaya perform better than Mizoram, where the performance fails to match even the national averages.

Another important observation is that rural households on average, have poorer facilities when compared to urban areas. They need to be better covered. PURA programmes and Bharat Nirman initiatives seek to augment public services in rural areas. While these programmes are funded by the central government, implementation responsibilities rest with the local bodies. It is pertinent to ask whether augmentation of resources through well structured and streamlined programmes would be adequate for improving services or whether decentralized decision making has some role to play. In remote rural areas, for instance, there could also exist no perceived need for some of these services, in which case providing resources alone may not be adequate to address these concerns.

Table 8.1: Household Profile of NER States: 2005-06

State	Household	Mean household size	Electricity	Piped drinking water	Toilet	Pucca house
Arunachal Pradesh						
Total	100.0	4.8	67.9	42.0	66.4	20.4
Urban	32.6	4.6	93.1	71.0	92.9	37.5
Rural	67.4	4.9	55.7	27.9	56.4	13.9
Assam						
Total	100.0	4.7	38.1	11.6	76.4	19.7
Urban	20.2	4.0	80.6	30.4	97.5	49.4
Rural	79.8	4.8	27.3	6.9	71.1	12.2
Manipur						
Total	100.0	5.0	87.0	32.7	95.5	10.6
Urban	32.3	5.0	92.5	49.6	99.6	19.2
Rural	67.7	5.1	84.3	24.7	93.6	6.5
Meghalaya						
Total	100.0	5.1	70.4	42.2	71.3	34.9
Urban	26.0	4.7	95.0	79.0	98.7	59.1
Rural	74.0	5.3	61.7	29.3	61.6	26.4
Mizoram						
Total	100.0	4.8	92.3	60.8	98.0	22.8
Urban	53.9	4.6	99.2	81.6	100.0	37.6
Rural	46.1	4.9	84.3	36.6	95.8	5.3
Nagaland						
Total	100.0	4.5	82.9	40.1	85.4	20.6
Urban	27.0	4.3	96.0	30.9	99.4	46.0
Rural	73.0	4.6	78.1	43.5	80.2	11.2
Sikkim						
Total	100.0	4.5	92.1	36.1	89.0	50.9
Urban	20.3	4.2	99.9	96.1	99.7	88.6
Rural	79.7	4.6	90.2	20.9	86.3	41.4
Tripura						
Total	100.0	4.3	68.8	33.5	96.6	11.9
Urban	17.6	3.8	91.8	51.5	100.0	35.3
Rural	82.3	4.4	63.8	29.7	95.9	6.8
India						
Total	**100.0**	**4.8**	**67.9**	**42.0**	**44.5**	**41.4**
Urban	**32.6**	**4.6**	**93.1**	**71.0**	**83.1**	**74.1**
Rural	**67.4**	**4.9**	**55.7**	**27.9**	**25.9**	**25.5**

Source: Government of India (2006)

Water Supply and Sanitations Sector in Mizoram

This is an important provision at local level governance. Initially, Total Sanitation Campaign (TSC) had been introduced in two districts of Mizoram, namely, Mamit and Saiha (Table 8.2). TSC projects for three districts, namely, Serchhip, Lunglei and Lawngtlai has been submitted to the Government of India, Department of

Drinking Water Supply and approved in principle by National Schemes Sanctioning Committee (NSSC) of Government of India. In urban areas, the Economic Survey of Mizoram, 2007-08 suggests that 9 towns are fully covered with water supply of 70 litres per capita per day. While piped water is provided in 8 others, the quantum falls short of 70 litres per capita per day. Projects for Aizwal and Champhai are being executed, leaving 3 towns that are yet to be covered. In terms of the number of habitations in rural areas, the Survey reports that of 777 habitations, 354 are fully covered, 295 are partially covered and 128 are not covered. In rural areas, water supply schemes are a combination of piped water, hand pumps, rain-water harvesting schemes and impounding reservoirs.

State-wise details show that the provision of safe water supply and sanitation in the State, as covered in the Table are not that satisfactory and need to be taken care by the Government. The NGOs and social activists do take care of some of them in rural areas. However, in the urban areas Government is more active.

Table 8.2: District-Wise Level Provision of Water Supply, Sanitation and Rain Water Harvesting in Mizoram

District	Number of Rural Habitation	Number of Towns	Number of Habitation/ Towns with					
			Water Supply		Sanitation		Rain Water Harvesting	
			Rural	Town	Rural	Town	Rural	Town
1. Aizawl	100	4	99	4*	NA	NA	5,185	Nil
2. Champhai	93	4	90	1*	NA	NA	1,431	Nil
3. Kolasib	48	4	37	3*	NA	NA	1,131	Nil
4. Mamit	84	3	83	2	NA	NA	2,392	Nil
5. Serchhip	43	3	37	2	NA	NA	1,727	Nil
6. Lunglei	179	3	172	-	NA	NA	3,414	Nil
7. Lawngtlai	150	-	129	-	NA	NA	806	Nil
8. Saiha	68	1	68	1	NA	NA	565	Nil
Total	**764**	**22**	**715**	**16**	**NA**	**NA**	**16,656**	**Nil**

Source: Government of Mizoram, Office of the Chief Engineer, PHED, Aizawl.

* One on-going project.

Notes:

1. Habitations (Percent), i.e. Water Supply Level between 10-40 litre per capita per day. Data are based on the latest Habitation Survey of 2003 which is yet to be approved by the Government of India, Ministry of Rural Development, Department of Drinking Water Supply (RGNDWS) after validation of Indian Institute of Public Administration, New Delhi.
2. Approximately 80 percent of urban population is estimated to have Pit Latrine/ Septic Tanks.

In addressing these issues, Mizoram has some specific concerns and constraints. The topography of Mizoram comprises rugged, hilly terrain and most of its rivers are fed by monsoon rain alone. The ground sources of these rivers are not

plenty in nature nor there many dependable rivers for each town and village for the whole year. Moreover, presence of underground water is so deep that most of bore pipe could not reach down to it. This results in under-utilization of underground water in spite of enormous efforts rendered by PHE Department. Not less important, the Government of Mizoram is constantly facing financial constraints that lead to inadequacy of expenditures in water supply and sanitation sector in the State.

Rain Harvesting

Rainwater harvesting has been in practice by the people since many decades. Keeping in view the unique feature of Mizoram, the PHE Department has been constructing a number of Rainwater Harvesting Tanks (RWHT) of various sizes for individual households of rural dwellers. Construction of a large RWHT collectively owned by a particular habitation is not in practice in Mizoram; instead, it is constructed for each household for facilitating easy maintenance by individual house owners. Not less than 16,656 tanks had been constructed by the department till March 2005. The success story is given the Box 8.1.

Box 8.1

Some Success Stories on Rain Water Harvesting

PHE Department has been implementing RWHS since 1986-87 with a view to conserving monsoon rain for use not only in lean periods but also during monsoon when all springs and rivers are usually found to be contaminated with abundant mud and debries. Implementation of RWHS by constructing various size of tanks for individual households is found favorable by the beneficiaries. This could easily be substantiated by mentioning some villages as example like Sialsuk in which there are 379 households including churches and Government buildings. All the private households have been provided with tanks for collecting rain water from their own roofs that make them free from consuming time to draw from springs and that eventually leads them to contribute more time on their day-to-day works. Collection of rainwater from rooftop is found not only economical but prevents landslides to some extent that has a vital importance for the life of human being and his belongings.

Government of Mizoram, PHED.

8.2 A CASE FOR DECENTRALIZED GOVERNANCE

Federal system is a decentralized system of governance. Broadly, decentralization can take either the form of (a) governance structures in which

member units have a significant autonomy and independence, or (b) administrative structures of the principal-agent variety in which Governments at lower level implement decisions and policies that are made at higher levels.

The Welfare Economics approach rests on (1) Matching the span of public goods with the spatial boundaries of jurisdictions; (2) Assigning powers to lower level Governments because they are "closer to the people"; and (3) Securing equilibrium on the trade-off between economies of scale in the production and delivery of publicly provided goods and services and the heterogeneity of preferences in societies.

Whereas the Public Choice approach rests on the oldest idea of what has come to be known as neo-classical economics, namely, that the best way to control self-interested individuals is the creation of a competitive framework, so that the federal and decentralized structures should be competitive.

The fiscal federalism literature uses efficiency criteria, i.e., the 'maximization' of social welfare, in assigning individual public sector activities and revenue sources to the various levels of Government within federal system. It refers to market failure, tax incidence, public choice, and other theories to determine the level of Government most appropriate for delivery of specific public sector outputs. There is a presumption in favour of decentralization because it facilitates the matching of public sector outputs and local preferences, so promoting allocative efficiency.

Fiscal decentralization also has become part of a world-wide "reform" agenda, supported by the World Bank, USAID, the ADB, and many others, and has become an integral part of economic development and governance strategies in developing and traditional economies (Bahl, 1999). Along with "globalization", fiscal decentralization and the desire for local discretion and devolution of power is seen by the World Bank as one of the most important forces shaping governance and development today (World Bank, 1999). Fiscal decentralization is the devolution of specific functions with the administrative authority and fiscal revenue to perform those functions by the local governments.

Local governments can be thought of as democratically elected bodies whose jurisdiction is of a local (rather than regional or national) scale, backed by powers to levy local taxes by which to exercise genuine discretion over service provision (Cole, et. al., 1995). The conventional argument for local Government is that it secures the

public interest in facilitating representative democracy, a crucial component of the democratic State in promoting pluralism, participation, and public choice (Young, 1988).

Local governments provide opportunities for participation by citizens in a number of ways (Council of Europe, 1995): It provides additional opportunities for voting. It confers upon citizens other participatory rights, including pressure group activities. Local government politicians tend to be more fully representative of the population than is Central (State) Government, particularly in terms of the proportion of women holding political office. It extends the instrumental concept of the individual consumer into a developmental concept of citizen in a wider community so that voting is not simply an expression of self-interest. Local Government represents sub-national communities as territorial collectivities, for example, in the field of local economic development, and so provides for a counter to the supposed tendency for the nation State to be captured by producer interests. Local communities are able to resolve their internal conflicts for themselves without recourse to Central (State) Government, so enhancing the political stability of the nation state.

Decentralization is also likely to produce more diverse and innovative policies and ways of dealing with particular issues, piloted first at the locality. Mistakes at local level will be of lesser impact than those resulting from decisions of national Government.

History and Status of Decentralized Governance in Mizoram

It is a combination of the theoretically stated systems and approaches of decentralization which exist in Mizoram. Though the State is covered by the Sixth Schedule, yet there are only three ADCs and rest of State is outside ADCs and has VCs under the DCs. In this area also there have been the demands for autonomy. Rural level bodies are more autonomous in their functioning. The urbanization in the State is as per Census definitions; whereas, there is no municipal governance in the State. The towns and cities are clusters of VCs under the DCs. Traditionally it has a system of village level governance under the tribal head. These heads became the Chief for the villages. There were no written codes of conduct. The Chieftainship developed into a family heritage. They had in their hands the total rein of administration of the village in all matters including settling of disputes and trial of offences.

After the Independence of India, the territory of present Mizoram virtually became a District, Lushai Hills District subsequently known as Mizo District and it was the most backward district of Assam. In 1952, the Mizo DC was constituted, covering the then Aizawl and Lunglei Sub-divisions and also the Pawi-Lakher Regional Council, covering the present Lawngtlai District and Saiha District under the Sixth Schedule to the Constitution of India. The chieftainship was abolished. VCs were set up in all the villages under the Lushai Hills District (Village Councils) Act, 1953 promulgated by the DC. Now there are three ADCs in Mizoram, namely, the Lai Autonomous District Council, the Mara Autonomous District Council and the Chakma Autonomous District Council (Table 8.5). They represent numerically small populations. The percentage of Scheduled Tribes in each Council area is 98.7 percent, 97.7 percent and 100 percent respectively. Besides, there are 212 VCs in these ADCs and 531 VCs in rest of Mizoram totaling 743 VCs in the State (Table 8.6). VCs consists of members elected by the adults of the village who are in the Electoral Roll of that village and also members nominated by the Government not exceeding one-fourth of the strength. The number of elected member is determined on the basis of the number of houses in the village. Under the present arrangement, all villages/ sub-towns/ towns have VC. Even Aizawl, the State Capital is re-organised and divided into a number of villages each having its own VC. The duration of the term of VC is 3 years. It has a President, a Vice President out of the Members and also a Secretary who is not an elected member but appointed on the advice of the President.

The Chakmas have 13 elected posts and three nominations. The Lai ADC has 23 elected members; there are four nominated members by the Governor. The Mara ADC has 19 elected members and four nominated members.

Various Acts have been passed for creation of bodies to take care of decentralized governance. They are:

i. **The Lushai Hills District (Village Councils) Act, 1953** (amended 1985, 1986, 1991) provides for establishment of VCs and their powers, and for other matters relating to village administration, including village police and public health and Sanitation. It extends to the Lushai Hills District except the areas under jurisdiction of the Pawi-Lakher Regional Council (now Lai (Lawngtlai), Mara (Saiha), Chakma (Chawngte) Autonomous DCs).

ii. **The Lushai Hills District (House Site) Act, 1953** for allotment of sites within the jurisdiction of VCs.

iii. **Mizoram Urban & Regional Development Act, 1990 (as amended in 1996)**. It extends to the whole of the notified planning areas, urban areas or regions. It is to make provision for the regulation of planned growth and development of urban and rural areas and regions in relation to economic growth and protection and preservation and development of natural setting and urban environment and archaeological monuments and historical places within Mizoram. Under this Act the Mizoram Urban & Regional Development Rules, 1998 were framed. The Mizoram Urban Planning & Development Board is set up to give shape provision of the Act. This Board is an advisory body to the State Government in the matters of determining principles and policies for integrated spatial and economic planning and co-ordinated development of villages, towns, cities, regions and districts and use of rural and urban land in the State. The Chief Town and Country Planner is appointed. District, Town/City Planning Committees are also set up to prepare Perspective Plan, Development Plan/ Master Plan for the district region, block taking into account the State Perspective Plan or Interim Plan and the plans formulated by various Local Authorities. The Board constituted District Planning and Development Committees and Town/City Planning and Development Committees to advise, assist and guide member-Spatial planning in preparation of Perspective Plan, Development Plan/ Master Plan for the district region, block taking into account the State Perspective Plan or Interim Planned and the plans formulated by various Local Authorities. Urban Development Plan and Rural Development Plan along with Action Plan are the unit level plans, namely, (i) Interim Development Plan; (ii) District or Regional Development Plan; (iii) Urban Development Plan; and (iv) Rural or Sectoral Plan.

iv. **The Aizawl Development Authority (ADA) Act, 2005.** The Act applies to whole of Aizawl city and comprises the area called *Greater Aizawl City Development Planning Area* notified in Government Notification dated October 24, 2000. Its objectives would be to promote and secure the development of Aizawl according to plan and for that purpose the Authority shall have the power to acquire, hold, manage and dispose of land and other property to carry out building, engineering, mining, and other operations, to execute works in connection with supply of water and electricity, disposal of sewage and other services and amenities and generally to do anything necessary or expedient for purposes of such development and for purposes incidental thereto.

Table 8.3: District Councils in Mizoram

District Council	Particulars	
1. Lai, Lawngtlai	Area	1,870.75 Sq km
	Population (As per Census, 2001)	51,878
	No. of Voters	29,174
	No. of villages	83
	No. of Members of the Council	
	Elected	23
	Nominated	4
	Composition of Executive Committee	
	Chief Executive Member	1
	Executive Member	9
	No. of Employees under the Council	
	Plan	467
	Non-plan	1,181
	Date when the last General Election was held	May 16, 2002
	Headquarters	Lawngtlai
2. Mara, Saiha	Area	1,399.90 Sq km
	Population (As per Census, 2001)	50,188
	No. of Voters	24,832
	No. of villages	60
	No. of Members of the Council	
	Elected	22
	Nominated	4
	Composition of Executive Committee	
	Chief Executive Member	1
	Executive Member	7
	No. of Employees under the Council	
	Plan	436
	Non-plan	1,144
	Date when the last General Election was held	February 2, 2000
	Headquarters	Saiha
3. Chakma, hawngte	Area	686.35 Sq km
	Population (As per Census, 2001)	32,807
	No. of Voters	16,048
	No. of villages	69
	No. of Members of the Council	
	Elected	13
	Nominated	3
	Composition of Executive Committee	
	Chief Executive Member	1
	Executive Member	5
	No. of Employees under the Council	
	Plan	462
	Non-plan	534
	Date when the last General Election was held	February 14, 2003
	Headquarters	Kamalanagar (Chawngte)

Functions and Powers of ADCs

The ADCs are vested with extensive legislative and judicial powers. They govern themselves and try the cases under their own customs and laws through their

own judicial set-up. Following are the powers and functions of the ADC, which emanate from the Sixth Schedule and also and to make laws for the purpose:

1. Allotment, occupation or use or setting apart of land other than any land in any reserved forest, for the purposes of agriculture or grazing or for residential or other non-agricultural purposes or for any other purpose likely to promote the interests of any village or town;
2. Management of any forest, not being a reserved forest, within the autonomous district;
3. Use of ant canal or water-course for the purpose of agriculture;
4. Regulation of the practice of *Jhum* or other forms of shifting cultivation;
5. Establishment of village or town committees or councils and to regulate any other matter relating to village or town administration;
6. Village or town police;
7. Public health and sanitation;
8. Regulation, by laws, of inheritance of property, marriage and divorce, and social customs;
9. Constitution of VCs or courts for trial of suits and cases between the parties all of whom belong to Schedules Tribes;
10. Establishment, construction or management of primary schools, dispensaries, markets, cattle ponds, ferries, fisheries, roads, road transport and waterways;
11. Assessment and collection of land revenue;
12. Levying and collection of taxes on lands and buildings, and tolls on persons resident within the ADCs;
13. Levying and collection of taxes on professions, trades, callings and employment; on animals vehicles and boats; on the entry of goods and tolls on passengers and goods carried in ferries; for maintenance of schools, dispensaries or roads; and
14. Regulation and control of money-lending or trading by persons resident in the ADC.

Functions of VCs

1. Distribution of village lands for yearly shifting *Jhum* cultivation.
2. Regulation and enforcement of community labour for community works without wages for the welfare of community. Voluntary work is however is part of YMA initiatives at the village level.
3. Sanitation of the village.
4. Of late, the Government constituted from time to time Village Development Committee to be involved in the process of development activities taken up by the Government. VC Members are included in the Committee. They have to verify that the projects have actually been undertaken.

As may be noticed the functions assigned to the VCs are out-dated in the context of their counterparts in large part of the country where 73rd and 74th amendment is implemented. No authority or power is delegated to the VC. A Council without appropriate authority or power delegated to it cannot meet the aspiration of

the people. VC established in pursuance of the Act promulgated by the erstwhile DC cannot meet the demands of the people.

Table 8.4: Number of Village Councils in Mizoram

Sl. No.	District	No. of VCs
Mizoram Districts		
1	Aizawl	164
2	Serchhip	40
3	Mamit	67
4	Champhai	92
5	Kolabis	39
6	Lunglei	129
	Total	***531***
Autonomous DCs		
7	Lai, Lawngtlai	83
8	Mara, Saiha	60
9	Chakma, Chawngte	69
	Total under Autonomous District Council	***212***
	Total in Mizoram	**743**

As regards the functional domain under 73rd and 74th Amendments (Table 8.5), it is wider compared to as given under Sixth Schedule. Out of the list of Eleventh Schedule only rural housing (item no. 10), drinking water (item no. 11), rural electrification including distribution of electricity (item no. 14), and health and sanitation (item no. 23) are under VCs.

Table 8.5: Functional Domain under Eleventh & Twelfth Schedule of the Constitution

(Article 243G)

FUNCTION	
XI SCHEDULE FOR RURAL LOCAL BODIES	
1.	Agriculture, including agricultural extension
2.	Land Improvement, Implementation of land reforms, land consolidation and soil conservation
3.	Minor irrigation, water management and watershed development
4.	Animal Husbandry, Dairying and poultry
5.	Fisheries
6.	Social Forestry
7.	Minor forest produce
8.	Small-scale industries
9.	Khadi, Village and Cottage Industries
10.	Rural Housing
11.	Drinking water
12.	Fuel and Fodder
13.	Roads , Culverts, Bridges, Ferries, waterways and other means of communication
14.	Rural Electrification including distribution of electricity
15.	Non-conventional energy sources
16.	Poverty alleviation programme
17.	Education including primary and secondary schools
18.	Technical training and vocational education.

19.	Adult and non-formal education
20.	Libraries
21	Cultural activities
22.	Market and fairs
23.	Health and sanitation, Including hospitals, primary health centers and dispensaries
24.	Family welfare
25.	Women and child development
26.	Social welfare including welfare of the handicapped and mentally retarded.
27.	Welfare of the weaker sections, and in particular of the scheduled castes and tribes
28.	Public distribution system
29.	Maintenance of community assets
XII SCHEDULE FOR URBAN LOCAL BODIES	
1.	Urban Planning Including Town Planning
2.	Regulation of land use and construction of buildings
3.	Planning of economic and social development
4.	Roads and bridges
5.	Water supply for domestic, industrial and commercial purposes
6.	Public health, sanitation conservancy and solid waste management
7.	Fire services
8.	Urban forestry ,protection of the environment and promotion of ecological aspects
9.	Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded
10.	Slum improvement and up gradation
11.	Urban poverty alleviation
12.	Provision of urban amenities and facilities such as parks, gardens, playgrounds
13.	Promotion of cultural, educational and aesthetic aspects
14.	Burial and burial grounds, cremations, cremation grounds and electric crematorium
15.	Cattle ponds, prevention of cruelty to animals
16.	Vital statistics including registration of births and deaths.
17.	Public amenities including street lighting, parking lots, bus stops and public conveniences
18.	Regulation of slaughter houses and tanneries

The administrative district-wise dispersion of rural population in Mizoram is given in Table 8.6 and Table 8.7. It shows the domination of small sized villages where 40 percent of villages have less than 500 persons and 70 percent do have up to 1,000 persons.

Table 8.6: Rural Population of Mizoram

District		RD Block		Block-wise						District wise rural aggregates			
				Rural House-holds	No. of Villages	Population	Area	Average House-hold Size	Average Village Size	Aggregates	Average House-hold Size	Average Village Size	Density
1	Saiha	1	Sangau	2,877	19	15,118	1,399			*61,608*	*5.25*	*796*	*44.04*
		2	Tuipang	7,947	59	46,490		5.85	788				
2	Lawngtlai	1	Lawngtlai	7,277	67	41,543	2,557			*79,776*	*5.71*	*620*	*31.20*
		2	Chawngte	6,853	69	38,233		5.58	554				
3	Lunglei	1	Hnahthial	4,661	22	24,946	4,536			*140,568*	*5.35*	*1,134*	*30.99*
		2	Lunglei	12,680	60	64,482		5.09	1075				
		3	Bunghmun	2,937	35	15,571		5.30	445				
		4	Lungsen	6,671	63	35,569		5.33	565				
4	Serchhip	1	E. Lungdar	3,942	16	21,550	1,421			*58,069*	*5.47*	*1,347*	*40.86*
		2	Serchhip	6,779	24	36,519		5.39	1522				
5	Champhai	1	Khawzawl	13,004	50	70,507	3,185			*111,094*	*5.42*	*1,410*	*34.88*
		2	Ngopa	3,230	15	19,212		5.95	1281				
		3	Khawbung	3,984	25	21,375		5.37	855				
6	Aizawl	1	Thingsulthliah	6,981	24	32,845	3,576			*163,654*	*4.70*	*1,369*	*45.76*
		2	Aibawk	3,220	20	17,825		5.54	891				
		3	Darlawn	4,598	28	24,167		5.26	863				
		4	Tlangnuam	12,826	39	62,983		4.91	1615				
		5	Phullen	2,615	12	25,834		9.88	2153				
7	Mamit	1	W. Phailleng	3,828	25	20,743	3,025			*64,665*	*5.42*	*830*	*21.38*

		2	Zawlnuam	5,203	37	27,591		5.30	746				
		3	Reiek	3,123	23	16,331		5.23	710				
8	Kolasib	1	Thingdawl	7,834	14	39,651	1,382			*58,614*	*5.06*	*2,832*	*42.41*
		2	Bilkhawthlir	3,611	13	18,963		5.25	1459				
Mizoram			**TOTAL**	**136,681**	**759**	**738,048**	**21,081**	**5.40**	**972**	***738,048***	***5.40***	***972***	***35.01***

Source: Government of Mizoram, Department of Rural Department. There is an unexplained variation in total number.

Table 8.7: Frequency Distribution of Villages by Size of Population in Mizoram

Range of Population		**Number of Villages**	**Moving Total**	**Percent**	**Persons**	**Average Size (Persons)**	**Number of Households**	**Moving Total**	**Percent**	**Average Household Size (Persons)**
1	< 500	278	278	39.89	77,718	280	15,047	15,047	11.63	5.17
2	501 – 1,000	205	483	29.41	141,970	693	26,689	41,736	20.63	5.32
3	1,001 - 1,500	77	560	11.05	96,014	1,247	17,291	59,027	13.36	5.55
4	1,501 - 2,000	39	599	5.60	68,657	1,760	12,144	71,171	9.39	5.65
5	2,001 - 2,500	32	631	4.59	71,563	2,236	13,779	84,950	10.65	5.19
6	2,501 - 3,000	24	655	3.44	65,183	2,716	11,752	96,702	9.08	5.55
7	3,001 - 3,500	10	665	1.43	32,395	3,240	6,030	102,732	4.66	5.37
8	3,501 - 4,000	7	672	1.00	26,014	3,716	4,746	107,478	3.67	5.48
9	4,001 - 4,500	7	679	1.00	29,634	4,233	4,908	112,386	3.79	6.04
10	> 4001	11	690	1.58	68,690	6,245	13,169	125,555	10.18	5.22
11	Rest group of 7	7	697	1.00	18,663	2,666	3,825	129,380	2.96	4.88
	Total	**697**		**100.00**	**696,501**	**999**	**129,380**		**100.00**	**5.38**

Source: Based on the data provided by the Government of Mizoram, Department of Rural Department.

A Transitory Status

All political parties in the State want to have the Constitutional (73rd & 74th Amendment) Act, 1992 implemented in Mizoram and they made indication to this effect in the Election Manifesto in 2003 General Election to the State Assembly. The Government has proposed the following restructuring:

1. *Gram Panchayats* or whatever names it is called in the rural villages (532).
2. *Zilla Parishad* at the District level under the Constitutional 73rd Amendment Act, 1992 (6).
3. *Nagar Panchayat (4)*, and
4. Municipal Council under the Constitutional 74th Amendment Act, 1992 (2).

With regard to the rural and urban development in the absence of the Constitutional (73rd & 74th Amendment) Act, 1992, both the Eleventh and Twelfth Finance Commission have shown their concern as they could not separately recommend grants for the ADCs. Their observation is that the development of the rural and urban local bodies in these areas should keep pace with the developments taking place in the rest of the Country. It can be done by extending 73rd and 74th Amendments to these areas and so far no action has yet been taken by the Parliament to make these amendments applicable to these areas; however, the power to extend the provision of these amendments is already available to the Governor in respect of

Assam and to the President of India in respect of Meghalya, Mizoram and Tripura. Further, they hope that suitable action will be taken for extending this amendment in these States so that they can get the benefit of the measures that we are going to recommend for the augmentation of Consolidated Funds of these States. In addition, these States have a system of VC operating at the local level and performing regulatory and developmental functions on most of the subjects included in the Eleventh Schedule suggest that either these village level institutions be recognized as Panchayats for the purpose of the 73rd Amendment by suitable legislative changes or the State may take action as indicated above.

On the issue of exclusion of certain areas from the provision of the 73rd and 74th Amendments, the Twelfth Finance Commission has also noted that the Ministry of Home Affairs has been considering proposals for amendment in the Sixth Schedule to make the ADCs more effective. The proposals envisage enhancement of the powers of these councils and inclusion of certain provisions of the 73rd and 74th Amendments in the Sixth Schedule. In view of this, the Commission did not propose to indicate the grants in aid for the normal and the excluded areas separately. It was left for the State concerned to distribute the grants recommended by the Finance Commission for the State among the local bodies including those in the excluded areas in a fair and just manner.

On the issue of Finance Commissions inability of recommending grants to this area, State Government officials maintain that Article 275 in the Constitution is faulty in relation to the Sixth Schedule: it continues to mention only the tribal areas of Assam, without taking into cognizance the changed political circumstances in the NER. Chakraborty (2006) has traced its history that in 1972-73, the ADCs in Mizoram were deprived of the special grant under Article 275 of the Constitution, compared to their counter-parts in Assam. Article 275 provides for two types of grants for the States having tribal areas under the Sixth Schedule. First, the State of Assam which had initially all the tribal areas or autonomous district in the State, is made entitled exclusively to receive grants-in-aid from the Central Government equivalent to (a) the average excess of expenditure over the revenue during the two years immediately preceding the commencement of the Constitution in respect of the autonomous districts of Assam; and (b) the costs of development scheme taken up by the State Government with the approval of the Centre for the purpose of raising the level of administration of these areas to that of the administration of the rest of the

area of the State. Secondly, in addition to these funds, the State Government is also to get shares of funds available under Article 275 (1) to all the States for development schemes for promotion of welfare of the Scheduled Tribes. What the State of Assam used to get since 1950-91 under sub-clause (a) to the Second Proviso of clause (1) of Article 275 as well as under sub-clause (b) to the same Proviso, or the State of Meghalaya under clause (1A) of Article 275, now the State of Mizoram should be held entitled to get from 1972-73 in addition to the share of grants under the first Proviso to Article 275(1) of the Constitution. It is not in well defined terms that Mizoram has been getting these special grants for its three ADCs at least under clause (b) to the Second Proviso to Article 275 (1), in the manner the State of Assam has been getting from the Central Government owes an obligation to see that these are adequate to raise the level of development in the DC areas to that of other areas in the State. Here there may be created a scope of direct funding of the development schemes in the DC areas by the Central Government on the recommendation of the State Government with minor surgery in the provisions of Article 275 by way of an amendment. This needs to be amended.

It may be argued theoretically that decentralization is a felt need of the polity in fulfilling the aspirations of the citizens. Therefore maximizing social welfare at every level in a federal system is of importance. In Mizoram, there exist DCs and VCs, but their powers and assignments do not conform to the decentralized system in rest of the country. Bureaucrats heavily dominate the committees constituted for various purposes directed towards looking after rural and urban affairs. The implementation of 73rd and 74th Amendments may help the local bodies assert their 'identity', control their natural resources and gives them autonomy through participation. Currently, the Local Administration Department does all the work. Further, the State may constitute the State Finance Commission who can suggest the fiscal arrangement between State and local Governments. It may strengthen the local Governments' finances. The State would also be in a better position to utilize funds received from the Union Finance Commission.

It is worth noting that in the Memorandum submitted by the Government of Mizoram to the Twelfth Finance Commission, it expects to take actions as suggested by the Eleventh Finance Commission. It has draft Bills for 73rd & 74th Amendment

Acts, 1992. It is expected that the Amendments can be implemented from 2005-06. In Mizoram, there are 8 Districts, but in only 6 Districts, these Constitutional Amendment Acts can be implemented. As required in Article 342-I and Article-Y of the Constitution of India, the State Government shall, at the expiration of every fifth year constitute a Finance Commission to review financial position of the Panchayats and the Municipalities with specific terms of reference laid down in Article 243-I and Y (a)(b)(c) of the Constitution of India.

As per the Memorandum, proposed structure of local governance may include Gram Panchayats GP), Zilla Panchayats (ZP), Municipal Council (MC) and Nagar Palika (NP) in Mizoram as given in Table 8.8. At present there are 743 VCs in Mizoram (Table 8.4) which might get reorganized into various local bodies as shown in Table 8.9.

Table 8.8: Proposed Decentralized Governance

(Except Autonomous DC) in Mizoram

	District	**GP**	**ZP**	**MC**	**NP**
1	Aizawl	164	1	1	-
2	Lunglei	128	1	1	-
3	Kolasib	39	1	-	1
4	Chapmphai	94	1	-	1
5	Serchhip	40	1	-	1
6	Mamt	67	1	-	1
	Total	**532**	**6**	**2**	**4**

Source: Government of Mizoram (2004), Memorandum on Panchayats & Municipalities Submitted to the Twelfth Finance Commission.

8.3 FINANCES AND POWERS OF THE VCS AND ADCS

The Sixth Schedule provides a list of sources of financing by the VCs and ADCs. But there no provision of periodic reviewing them in the Schedule. They are as follows:

(a) taxes on professions, trades, callings and employments;
(b) taxes on animals, vehicles and boats;
(c) taxes on the entry of goods into a market for sale therein, and tolls on passengers and goods carried in ferries; and
(d) taxes for the maintenance of schools, dispensaries or roads.

The statutes provide for levying of certain local taxes and fees by the VCs and Town Committees. They are: animal tax, licence fee from hotels etc. The rates are as follows:

1. **Licence Fee:** Levied on hotels, restaurants for maintenance of cleanliness. It is recoverable by the VCs and Town Committees. The rates of annual fee are

(a) Hotel-cum-Restaurant Rs 30
(b) Hotel Rs 25
(c) Restaurant Rs 25
(d) Tea Stall Rs 20

2. **Animal Fee:** For controlling of animals. No animal shall be let alone any time anywhere except under the watch of keeper. The charges of feeding and watering of animal would be charged from the owner of the animal at Government prescribed rates.

3. **Animal Tax and Penalties**: A tax from the owners of the animal charged by the VCs and the Town Committees.

Rates of Animal Tax per annum per animal in Town and other areas

	Animal	**Adult (Rs)**	**Young (Rs)**
1	Pig kept in confinement	5.00	2.50
2	Goat and animal kept separately under the management of farm with a keeper without inconvenience to public	5.00	2.50
3	Animals reared under stall feeding or under the management of farm with a keeper without inconvenience to public	5.00	2.50
4	Bullocks engaged for carrying purposes, wet rice cultivation, sugarcane crushing with a keeper	5.00	2.5
5	Animal kept in any manner other than those specified above	10.00	5.00

Table 8.9: Revenue and Expenditure of PRIs (All Tiers) ofMizoram, 1998-99 to 2002-03

(Rs. crore)

Item	**1998-99**	**1999-00**	**2000-01**	**2001-02**	**2002-03**
Revenue					
Own tax	0	0	0	0	0
Own non-tax	0	0	0	0	0
Own revenue	0	0	0	0	0
Assignment+ Devolution	0	0	0	0	0
Grants-in-aid	0.73	0.73	1.57	1.66	1.56
Others	0	0	0	0	0
Total other revenue	0.73	0.73	1.57	1.66	1.56
Total revenue	**0.73**	**0.73**	**1.57**	**1.66**	**1.56**
Expenditure					
Revenue expenditure	0.73	0.73	1.57	1.66	1.56
Capital expenditure	0	0	0	0	0
Total expenditure	**0.73**	**0.73**	**1.57**	**1.66**	**1.56**

Source: Government of India (2004), Report of Twelfth Finance Commission.

Note: Zeros may be either no figure or negligible amount.

Table 8.10: Revenue and Expenditure of Urban Local Bodies of Mizoram

(All Levels) 1998-99 to 2002-03

(Rs. crore)

Item	1998-99	1999-00	2000-01	2001-02	2002-03
Revenue					
Own tax	0	0	0	0	0
Own non-tax	0	0	0	0	0
Own revenue	0	0	0	0	0
Assignment+ Devolution	0	0	0	0	0
Grants-in-aid	0	0	0	0	0
Others	0	0	0	0	0
Total other revenue	0	0	0	0	0
Total revenue	**0**	**0**	**0**	**0**	**0**
Expenditure					
Revenue expenditure	0.73	0.73	1.58	1.66	1.56
Capital expenditure	0	0	0	0	0
Total expenditure	**0.73**	**0.73**	**1.58**	**1.66**	**1.56**

Source: Government of India (2004), Report of Twelfth Finance Commission.

Note: Zeros may be either no figure or negligible amount.

For budgetary purposes, the three ADCs submit their separate budgets to the State Government, which in turn is integrated, with the Overall State budget. Their own resources are meagre and they get grants etc. from the State; whereas the State itself depends heavily on the Central subventions. Problems of Mizoram as compared to rest of India are visible in a comparison of ADCs with rest of Mizoram.

To make decentralisation and devolution of power meaningful, it is necessary to insert enabling clauses in the rules governing the function of the DCs and ADCs to strengthen the position of the VCs, so that they become more self-sustaining. Given the small size of villages in the DCs and ADCs, it should be considered whether a VC should consist of not less than 100 houses and a population of not less than 1,000 persons, by combining the voting strength of two or three villages. This is also one of the recommendations of the constitional review committee, in examining the process of decentralization in this state. They should be empowered to raise their own resources by way of taxes and reducing their dependence on DCs. In addition, more local judicial powers may be considered for the VCs as well as an increase in the remuneration of the VC members.

As with other States, following the Article 243 I & Y, Mizoram also need to set up a State Finance Commission whose term will be renewed at the end of every five years and which can decide on division of funds to the Autonomous Councils and

the State Government from the Consolidated Fund of the State. The envisaged role of State Finance Commission is as follows:

. The Finance Commission constituted under article 243-I & Y shall also review the financial position of the Panchayats and Municipalities and make recommendations to the Governor as to -
   (a) the principles which should govern –
      i. the distribution between the State and the Panchayats and Municipalities of the net proceeds of the taxes, duties, tolls and fees leviable by the State, which may be divided between them under this Part and the allocation between the Municipalities at all levels of their respective shares of such proceeds;
      ii. the determination of the taxes, duties, tolls and fees which may be assigned to, or appropriated by the Panchayats and Municipalities;
      iii. the grants-in-aid to the Panchayats and Municipalities from the Consolidated Fund of the State;
   (b) the measures needed to improve the financial position of the Panchayats and Municipalities;
   (c) any other matter referred to the Finance Commission by the Governor in the interests of sound finance of the Panchayats and Municipalities.

2. The Governor shall cause every recommendation made by the Commission under this article together with an explanatory memorandum as to the action taken thereon to be laid before the Legislature of the State.

It may be noted here that there is a growing opinion in the non-Sixth Schedule areas of the State, which regards the gap between the VCs and the State Government/Legislature as very wide. A spectrum of views indicates considerable support for an intermediary tier of governance. Given the small populations in the districts of the State, it may be appropriate for Mizoram to consider developing an intermediary level of governance at the District Level, called the DC (specific name of the district to be appended) or any appropriate Mizo title. The VC may be reconstituted with representations from two or more VCs forming one VC.

The State Government seeks to form District Development Boards with the local MLA as the Chairperson of the Board and nominated officials as members. It is unlikely that such a body can lead to decentralisation; it is therefore suggested that the DC should comprise of elected members, the number of which should depend on the size of the district population. The officials can function as advisors to the DC and the MLA may be a non-voting member of the same. The local Member of Parliament should also be a non-voting member, in the constituency/district where he/she is a voter.

8.4 NEED FOR REFORMS

Decentralisation of power as per the provisions of the 73rd and 74th Constitution Amendment Act, 1992 has received a favourable response from the people of Mizoram. The keen interest of the State Government for implementing these provisions was seen as early are 1995, when the Department of Personnel, Administrative Reforms wing constituted the Administrative Reforms Commission to study the implication of the 73rd and 74th Constitution Amendment Acts, and explore the possibilities of harmonious implementation in context of the State. All other political parties and VC activists also agreed to the applicability of the Act.

A voice of dissent however was raised by the Mizo students union, a strong lobby, which was reluctant to accept the implementation of Panchayati Raj institutions in the State. The students also wanted a revival of the DC system. Their argument revolves around three crucial issues: (i) the DCs would provide greater access to developmental functions, (ii) greater devolution of financial powers, and (iii) protection of tribal interests. The example of Karbi Anglong DC which has 30 departments (developmental functions) is cited. Similarly, in the absence of a State Finance Commission, it is argued that DCs could use funds without interference from local politicians. PRIs, do not have judicial functions, whereas DCs have various courts to try cases under customary laws and lastly, introduction of PRIs would grant reservation of seats for non-tribals.

The progressive thinking among the Mizo people is evident from two developments which may be cited here, i.e. (a) chieftainship was abolished as early as 1954, which came through a consistent and united effect of the Mizo elites themselves and (b) Mizoram provide a model example of a State which has successfully adapted and modified tribal customs and usages to suit changes in the modern set up.

The State Government may consider reservations for eligible persons from the Sixth Schedule area of the State in Government services such as police and civil departments, in proportion to the percentage of population of the scheduled tribes in the State.

8.5 REFORM OPTIONS

Government of India (2002) recommends for careful steps to be taken to devolve political powers through the intermediate and local-level traditional political organisations, provided their traditional practices carried out in a modern world do not

deny legitimate democratic rights to any section in their contemporary society. To begin with, the subjects given under the Sixth Schedule and those mentioned in the Eleventh and Twelfth Schedules could be entrusted to the DCs and ADCs. The system of in-built safeguards in the Sixth Schedule should be maintained and strengthened for the minority and micro-minority groups while empowering them with greater responsibilities and opportunities, for example, through the process of Central funding for Plan expenditure instead of routing all funds through the State Governments. The North Eastern Council (NEC) can play a central role here by developing a process of public education on the proposed changes, which would assure communities about protection of their traditions and also bring in gender representation and give voice to other ethnic groups. Further, in the State

- An intermediary elected 30-member tier be developed at the district level in areas not covered by the Sixth Schedule, i.e., excluding the Chakma, Lai and Mara District Autonomous Councils. There would thus be two tiers below the State Legislature: the District and the Village.
- VCs in non-Scheduled areas be given more administrative and judicial powers; two or more villages be combined to form one VC, given the small population in the State.
- Consideration be given to groups seeking Sixth Schedule status, depending on viability of the demand, including size of population, territorial and ethnic contiguity.
- Nominated seats for women, non-tribals and Sixth Schedule tribes in non-scheduled area (not to exceed six over and above the size of the Councils, making a total of 36 members); current size of ADCs be increased to 30 with a similar provision for women and non-scheduled tribes.

Specifically to improve the functioning of ADCs, Chakraborty (2006) has suggested to reduce administrative expenses of the ADCs by restricting the numbers of members and employees; wind up the State Government offices in the ADCs relating to the subjects entrusted to them; entrust only those functions which they can undertake or carry out without much additional administrative costs; prioritise schemes of agricultural and horticultural development and agro-based industries; empower VCs and involve them in preparation of village-based development-plans and in implementation of the same. Plans for the ADCs should be prepared village-wise in consultation with the respective VCs and the plan-grants should go to the concerned VCs for implementation of such Village-based or Village-wise micro-development schemes; introduce Panchayati Raj and Nagarpalika institutions in the

autonomous districts by withdrawing the exemption given in Articles 243M(1) and 243ZC(1) of the Constitution; and introduce direct funding of developmental schemes as well as to share the administrative costs on the part of the Central Government by making suitable amendment in Article 275(1) of the Constitution as the State is fully inhabited by the Scheduled Tribes only.

The status of decentralization in Mizoram is a mix of traditional system and a hope to gel with the mainland of the federation of States. While Sixth Schedule provides for greater autonomy in defining forms of governance, a number of States formerly under this regime have opted for a change through the adoption of the 73rd and 74th Amendments to the Constitution of India. In case of Mizoram, however, this issue is not yet fully resolved.

There is agreement that there is a need for reform. This is reflected variously in the official version is that the Government wishes to adopt the 73rd and 74th Amendments, in the demands for more autonomous councils, in the need to create urban local bodies. Aizawl for instance, is an agglomeration of 164 VCs; it has accorded the status of a developmental body to be dominantly controlled by the governmental nominees and not by the elected representatives. The elected representatives of its constituent 164 VCs would continue the same traditional functions. This would be a peculiar hybrid system: an experiment the results of which need to be observed. More such experiments in form and content may provide Mizoram with its own version of acceptable decentralization. Some suggestions are reported above. With expanding economic activities, the demands on local level infrastructure too would rise, and decentralization may allow for better reflection of the local needs in the expenditure patterns. The only catch is that Centre provides fiscal incentives for adopting the prescribed form of decentralization. While the State would be an athema to lose this money, it is hoped that this would not deter the State from exploring locally suitable hybrid alternatives.

Around us there are ways to achieve the goals of decentralization through alternative means to learn and emulate carefully. A success story of community-based management for strengthening social capital in the State of Nagaland is one such case worth noting in this regard. It has recently enacted the Nagaland Communitisation of Public Institutions and Service (NCPIS) Act, 2002 to widen the scope of services (Box 8.2).

Box 8.2

Communitisation and Resurgence of Naga Social Capital

"Once the whole State is brought under the communitisation programme, it would be model for the whole country to follow".

- The President of India, Dr. A.P.J. Abdul Kalam
during his visit to the communitised Khuzama
Village in Nagaland on October 26, 2002.

Government of Nagaland has enacted Nagaland Communitisation of Public Institutions and Service (NCPIS) Act, 2002 enlarging the scope of community participation in development and welfare programmes in areas such as education, health, power, rural water supply, rural tourism, roads, forest, sanitation, rural childcare, etc. Earlier, since 1963, only elementary education, health service and electricity management was under Communitisation scheme. This is a partnership between Government and the people through delegation of management responsibilities to the community so that the performance of the public utilities improves. The communities responsibilities include checking attendance of staff, repair and maintenance works, purchase of books/medicines, receiving funds from the Government for salaries of the staff and disbursing the same after operating the principles of 'No Work, No Pay'. The watchwords are: Trust, Training and Transfer of Power and Resources. For an impact assessment of this experiment in the context of elementary education, grass-root health services and electricity management, see Government of Nagaland (2004b).

Government of Nagaland, 2004 a & b.

Chapter 9

Fiscal Health of the State

THE ANALYSIS of various sectors of the economy which are critical to the development of the State reveals that there is a need to pump more resources in some of them to improve the levels and quality, and also there is dire necessity to provide for upkeep of the existing assets. This may take the form of investment in some sectors and revenue expenditure in some others. Encouraging private participation may require some subsidies and enabling environment to attract it. Finding resources within the State budget or from outside also requires the State budget to be in good shape.

The structural weaknesses in the finances of most State Governments became clearly manifest during the 1990s. It is a well-documented fact in various studies on State finances. These were reflected in the persistent expansion of the revenue deficit (RD) and gross fiscal deficit (GFD), large accumulation of debt, mounting debt service burden, rising share of committed but non-developmental expenditures, low and declining non-tax revenues and increasing contingent liabilities according to the recent analysis of the State budgets by the Reserve Bank of India in its annual studies of state finances. Mizoram too faces these problems. The consequence of such fiscal health is very limited flexibility in accommodating any new initiatives. Given the overall context of development, this either means lower rate of transformation of the economy or exploring alternative mechanisms of service improvement/ capacity development.

Recognising the urgent need for fiscal correction, a number of State Governments initiated an array of reforms in the late 1990s covering taxation, user charges on public services, public sector enterprises, expenditure management, contingent liabilities and more recently, the enactment of fiscal responsibility legislation. The Central Government also introduced measures to encourage and facilitate fiscal reforms at the State level; such measures included, *inter alia*, the Fiscal Responsibility and Budget Management (FRBM) Act and the Debt Swap Scheme. Mizoram too was part of these initiatives.

This chapter sets out to assess the fiscal health of the State and the extent of consolidation and improvement over time, quantify the extent of resources that can be made available for additional initiatives where required, as a part of the overall development strategy. In section 9.1, an overview of the fiscal balances is presented for the period 1995-96 to 2008-09 (BE). In section 9.2, State's indebtedness is assessed. It is followed by an analysis of observed trends of some key components of expenditure and receipts in section 9.3. Section 9.4 provides a brief overview of the interaction of public sector units of the State with the State budget. In section 9.5, recent policy decision for fiscal correction has been covered. Finally, in section 9.6, options to resolve fiscal issues are put forth to meet the challenges for development of the State.

9.1 AN OVERVIEW OF FISCAL BALANCES

If the fiscal health of a Government is sought to be summarized in terms of a single indicator, that would be the gross fiscal deficit (GFD), i.e., the requirement of debts to implement its spending decisions both related to capital and current expenditures. High ratios portend high debt in the future along with increasing debt service liability, which in turn puts a squeeze on the resources available for developmental spending. In the budget speech of 2008-09, the Chief Minister has cautioned that the year 2008-09 is critical in that selected fiscal indicators are to be brought to the targeted levels mandated by the Mizoram Fiscal Responsibility and Budget Management Act, 2006. The level of Gross Fiscal Deficit is to be brought down to 3 percent of GSDP and not only is Revenue Deficit to be eliminated, but a revenue surplus is to be generated in the following years. Achieving all these targets would call for very concerted and determined efforts.

In Mizoram, this GFD fluctuated from 9.32 percent in 1995-96 to 4.22 percent in 2007-08, with a high of 21.70 percent of GSDP in 2001-02 and a low of 7.93 percent in 1998-99 during the period (Table 9.1). By any standard, the numbers are very high, but the Government is budgeting to contain it at 3.60 percent in 2008-09 (BE). A redeeming feature is that revenue balances which indicate the State's ability to finance its current expenditure out of their current resources, which started with a surplus of 5.83 percent in 1995-96, turned to a deficit of 2.01 percent by 1999-00, have been reversed to a surplus of 3.58 percent in 2003-04 and continued remain in

surplus ever since, with a surplus of 5.07 percent being budgeted for 2008-09. In terms of primary balance, which is an indicator of sustainability of current fiscal policies by the State, there was deficit throughout the period. It ranged between 1.97 percent in 1998-99 (low) and 15.64 percent (high) in 2000-01. But it turned around in 2006-07 with a surplus of 1.50 percent and continued to be so at 2.37 percent in 2008-09.

The financing of GFD is through

1. net loans from the Centre (LC) for State plan schemes including advance release of plan assistance for natural calamities, Central plan schemes, Centrally Sponsored Schemes, relief for natural calamities and others, Ways and Means Advances (WMA) from Centre and loans for special schemes,
2. net market borrowings (MB) from market loans, loans from LIC, loans from SBI and other banks (net), loans from NABARD, loans from NCDC, special securities issued to NSSF and
3. utilization of other sources (OS) drawn from the public account funds, namely, funds available in Small Savings, Provident Funds etc., Reserve Funds, and Deposits and Advances.

Loans from the Centre were of top priority but from 2005-06 it is not so due to recommendations of the Twelfth Finance Commission. However, the market borrowings and other sources remain important sources to finance GFD.

It is welcome assessment by the Government that the time has come to put a check on the increasing tendency of deficit financing in the State's finances. The accumulation of debts in the State Government over the years is the result of borrowings to finance the deficit in resources. The State is predominantly dependent on resource transfers from the Centre. As a result, the transfer of resources on the recommendations of the successive Finance Commissions has been the main determinant of the fiscal position of the State Government. Significant improvements in the central tax collections and the resulting increases in transfers to the states as well as augmented resources through the recommendations of the last Finance Commission, have made it possible for the State Government to put a check on the level of deficit financing.

Table 9.1: State Finances at a Glance: 1995-96 and from 1999-2000 to 2008-09 (BE)

(Rs lakh)

			1995-96	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08 (RE)	2008-09 (BE)
1		GSDP	93,654	155,006	173,742	194,653	216,579	232,498	245,457	269,727	298,499	328,789	365,417
2		**Current Revenues**	**61,906**	**86,038**	**82,758**	**86,721**	**102,102**	**137,032**	**150,124**	**165,300**	**196,828**	**236,161**	**221,714**
3		Tax Revenues (a+b)	12,946	33,577	10,188	6,285	12,256	16,418	19,534	28,089	35,567	40,977	50,237
	A	State's Own Tax Revenue	578	1,073	1,443	1,912	2,796	3,385	3,956	5,506	6,762	6,888	7,456
	B	Share in Central taxes	12,367	32,504	8,745	4,373	9,460	13,033	15,578	22,583	28,805	34,089	42,781
4		Non-Tax Revenues (c+d)	48,961	52,461	72,570	80,436	89,845	120,614	130,590	137,212	161,261	195,184	171,477
	C	State's Own Non-Tax Revenue	4,110	4,089	3,973	4,429	5,204	5,738	7,497	11,944	13,272	12,815	11,654
	D	Grants from the Centre	44,851	48,372	68,597	76,008	84,642	114,876	123,093	125,268	147,990	182,369	159,823
5		**Revenue Expenditure**	**56,450**	**89,147**	**102,097**	**112,764**	**113,036**	**128,714**	**139,488**	**158,737**	**171,663**	**197,303**	**203,191**
		of which, Interest Payments	3,474	9,372	10,345	14,818	13,606	17,062	18,650	19,065	23,575	19,458	21,813
6		**Capital Outlays**	**13,295**	**14,973**	**16,369**	**13,851**	**18,797**	**37,168**	**32,954**	**45,137**	**46,644**	**54,142**	**33,295**
7		Net Loans and Advances by State Government (e-f)	886	3,303	1,819	2,340	1,803	1,718	1,211	1,112	-2,376	-1,425	-1,623
	E	Loans and Advances by State Government	1,275	4,234	3,060	3,850	3,472	3,723	3,441	3,409	25	1,041	907
Fiscal Indicators													
Actual													
	A	Revenue Balance	-5,456	3,108	19,339	26,043	10,935	-8,318	-10,635	-6,564	-25,165	-38,859	-18,523
	B	Fiscal Balance	8,724	21,384	37,527	42,234	31,534	30,568	23,529	39,685	19,103	13,859	13,149
	C	Primary Balance	5,250	12,012	27,182	27,416	17,928	13,506	4,879	20,620	-4,472	-5,599	-8,664
As Percent to GSDP													
	A	Revenue Balance	-5.83	2.01	11.13	13.38	5.05	-3.58	-4.33	-2.43	-8.43	-11.82	-5.07
	B	Fiscal Balance	9.32	13.80	21.60	21.70	14.56	13.15	9.59	14.71	6.40	4.22	3.60
	C	Primary Balance	5.61	7.75	15.64	14.08	8.28	5.81	1.99	7.64	-1.50	-1.70	-2.37
Financing of GFD													
	A	Net Loans from the Centre	2,606	19,327	-2,344	7,073	1,819	-2,192	4,043	-894	-2,629	36	650
	B	Net Market Borrowings	3,418	2,744	18,220	10,129	14,624	10,830	7,764	16,364	15,190	9,355	6,226
	C	Other Sources	2,701	-687	21,650	25,032	15,091	21,930	11,722	24,215	6,542	4,468	6,273

Source: Computed using data from Finance Accounts updated by the Budget Papers 2008-09. Figures presented incorporate net revenue from state lotteries and exclude ways and means advances.

Note: 1. (+) fiscal balance indicates deficit and (-) indicates surplus.

2. There may be difference in figures shown by the state government due to adjustments.

Fiscal Health: Comparison with Other NER States

It may be observed from the Table 9.2 that Mizoram's fiscal health is not very different when compared to many of the NER States.[99] Revenue balances are largely surpluses, with the exception of Assam. High and varying GFD is characteristic of all States although lately, their performance seems to be better except in Sikkim. In terms of primary balances, also in Mizoram, during later years, there was surplus. On the whole, Mizoram's performance is comparatively better than that of the other States in the region and under control.

Table 9.2: Fiscal Indicators: A Comparison of NER States

(Percent of GSDP)

State	*1995-96*	*1996-97*	*1997-98*	*1998-99*	*1999-00*	*2000-01*	*2001-02*	*2002-03*	*2003-04*	*2004-05*	*2005-06*	*2006-07*	*2007-08 (RE)*	*2008-09 (BE)*
Revenue Balance														
Mizoram	-5.83	-3.43	-1.71	-6.26	2.01	11.13	13.38	5.05	-3.58	-4.33	-2.43	-8.43	-11.82	-5.07
Arunachal Pradesh	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70	-14.70
Assam	-14.70	-13.66	-8.01	-62.04	-22.87	-21.34	-29.59	-19.88	-22.27	-16.91	-12.78	-11.67	-10.53	1.02
Manipur	-11.91	-6.79	-4.21	-6.62	-7.49	-9.28	-9.93	-5.96	-4.48	-5.93	-3.27	-4.36	9.95	2.70
Meghalaya	-10.93	-11.51	-5.52	-4.15	-3.01	-1.38	-1.19	-4.41	-5.19	-5.16	-0.47	-0.59	-0.48	-1.41
Nagaland	-7.79	-5.20	7.07	1.24	1.67	-9.80	-2.93	-2.17	5.55	-0.39	5.47	0.97	0.37	0.98
Sikkim	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05	-16.05
Tripura	-16.05	-18.81	-8.96	-12.86	-10.13	-10.64	-8.95	-4.51	-11.53	-6.54	-6.07	6.98	-0.22	-10.22
NER States	-2.38	-1.98	0.17	-2.34	-2.88	-2.20	-2.64	-0.08	-1.39	-2.90	-1.43	-1.55	1.53	1.26
Fiscal Balance														
Mizoram	9.32	12.64	14.47	7.93	13.80	21.60	21.70	14.56	13.15	9.59	14.71	6.40	4.22	3.60
Arunachal Pradesh	12.07	11.45	18.41	-36.86	-0.57	-0.25	-11.26	4.88	1.94	5.93	9.16	3.68	5.45	15.90
Assam	13.95	12.21	12.72	11.80	12.49	10.54	10.30	10.78	10.69	7.92	7.58	8.06	11.37	11.30
Manipur	2.81	8.22	10.64	9.25	7.00	-0.09	-0.72	4.42	6.44	8.27	8.79	4.46	23.03	7.76
Meghalaya	0.06	1.42	3.82	4.05	6.10	7.07	5.80	2.12	2.60	1.05	5.06	5.01	6.35	6.69
Nagaland	8.98	10.62	20.71	12.71	12.30	-2.35	4.13	0.85	11.18	6.77	11.39	7.74	7.18	7.38
Sikkim	5.47	5.86	13.71	8.28	15.21	12.28	7.63	10.38	7.70	9.44	9.86	18.66	10.96	5.20
Tripura	7.47	7.87	7.49	6.59	6.40	1.48	6.25	5.85	1.48	4.42	5.94	3.10	6.39	8.45
NER States	6.48	6.07	8.34	5.09	4.76	3.59	2.38	4.84	4.54	2.56	3.98	3.04	6.75	5.98
Primary Balance														
Mizoram	5.61	8.18	8.62	1.97	7.75	15.77	14.19	8.42	5.98	2.19	7.87	-1.26	-1.28	-1.96
Arunachal Pradesh	1.70	9.40	14.29	-40.11	-4.02	-3.25	-14.35	1.32	-1.64	1.54	4.66	-1.02	0.55	9.13
Assam	11.12	9.07	9.52	9.11	11.64	7.09	7.06	7.42	8.18	5.26	4.78	6.03	8.11	8.56
Manipur	-0.19	5.65	7.46	5.34	3.85	-4.17	-4.46	0.73	2.90	4.81	5.14	0.70	18.31	1.69
Meghalaya	-1.51	-0.24	2.25	2.29	4.28	5.16	3.59	0.59	0.08	-1.48	2.62	2.65	3.45	3.64
Nagaland	3.83	5.45	16.18	8.69	7.53	-6.45	0.12	3.37	6.49	2.32	6.54	2.09	1.20	2.56
Sikkim	3.18	2.99	10.20	4.00	9.70	5.48	2.24	4.44	2.13	3.87	3.84	11.99	2.92	-2.90
Tripura	4.74	5.94	5.14	3.65	2.98	-2.31	2.42	1.82	-2.39	0.42	2.30	-0.58	2.32	4.16
NER States	3.31	2.99	5.01	2.01	2.70	-0.10	-1.27	1.15	1.31	-0.80	0.55	-0.04	2.91	2.31

Source: Computed using data from Finance Accounts updated by the Budget Papers 2008-09.
Note: 1. (+) fiscal balance indicates deficit and (-) indicates surplus.
2. There may be difference in figures shown by the state government due to adjustments.

[99] North-Eastern Region (NER) States are: Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura.

9.2 INDEBTEDNESS OF THE STATE

Debt Position and Debt Swap Scheme

Mizoram has been under heavy burden of debt. Lack of natural resources and perceived high cost of living in the State – since most goods need to be imported – limit the capacity and willingness of the State to generate revenue from tax and non-tax sources. The State Government depends mainly on the resource transfers from the Central Government, which often have a component of loan. After 2005-06, the loans from the Centre have reduced considerably in subsequent annual estimates. Nevertheless, given the developmental needs, the State has been accessing all other available sources of finances as well. The stock of debt by the end of 2005-06 was Rs. 2,542 crore, i.e., 94.28 percent of GSDP (Table 9.3.) As a result of high and rising debt stock, a very high percentage of total borrowings are used up to service the existing stock of debt. Debt servicing amounts to 74 percent of gross borrowing in 2005-06 leaving very little to meet the developmental needs of the State. In the next two budgets, this situation is going to be worse in this respect. As per the budget estimates for 2008-09, debt servicing as a ratio to gross borrowing is likely to be 114 percent! In other words, debt has been a self-sustaining series, but what about the future!

Of the total debt stock, in 2006-07, 48.40 percent was internal debt and 23.29 percent as loans and advances from the Centre and the rest 28.31 percent from small savings etc. Interestingly, while the share of loans and advances from the Central Government is declining, there is a sharp increase in internal debt as well as drawl from small savings etc. Over the period 1994-2006, the share of internal debt has increased from 24 to 48 percent and the Central loans have come down from 59 to 23 percent (Table 9.3). This trend is expected to continue.

Table 9.3: Composition of Outstanding Liabilities

Balance on 31st March (Rs crore)

Year	*Public debt*	*Internal debt*			*Loans & Advances from Centre*	*Small savings, PF, etc.*	*Total Liabilities*	*As percent to GSDP*
		Total	*Market loans*	*Others*				
1993-94	28,035	8,090	500	7,590	19,945	5,930	33,965	40.70
1994-95	31,199	9,977	1,500	8,477	21,223	7,701	38,900	41.96
1995-96	37,223	13,394	3,000	10,394	23,829	10,543	47,766	46.37
1996-97	53,641	27,441	4,607	22,834	26,200	14,150	67,791	57.48
1997-98	47,978	18,651	6,422	12,229	29,327	17,684	65,662	53.16
1998-99	63,958	31,606	9,419	22,187	32,352	22,066	86,025	62.78
1999-00	86,029	34,350	12,916	21,434	51,679	25,291	111,320	71.82
2000-01	101,906	52,570	16,413	36,157	49,336	31,113	133,019	76.56
2001-02	119,108	62,699	18,089	44,610	56,409	38,367	157,475	80.90
2002-03	135,551	77,323	32,641	44,682	58,228	47,693	183,244	84.61
2003-04	144,189	88,153	42,208	45,944	56,036	60,163	204,351	87.89
2004-05	155,995	95,916	50,117	45,799	60,079	72,840	228,835	93.23
2005-06	182,201	123,015	60,084	62,932	59,185	71,955	254,155	94.28
2006-07 (RE)	198,317	139,945	70,908	69,038	58,371	82,505	280,821	95.18
2007-08 (BE)	207,062	149,200	82,411	66,789	57,862	93,505	300,567	93.21
Composition (Percent)								
1993-94	82.54	23.82	1.47	22.35	58.72	17.46	100.00	
1994-95	80.20	25.65	3.86	21.79	54.56	19.80	100.00	
1995-96	77.93	28.04	6.28	21.76	49.89	22.07	100.00	
1996-97	79.13	40.48	6.80	33.68	38.65	20.87	100.00	
1997-98	73.07	28.40	9.78	18.62	44.66	26.93	100.00	
1998-99	74.35	36.74	10.95	25.79	37.61	25.65	100.00	
1999-00	77.28	30.86	11.60	19.25	46.42	22.72	100.00	
2000-01	76.61	39.52	12.34	27.18	37.09	23.39	100.00	
2001-02	75.64	39.82	11.49	28.33	35.82	24.36	100.00	
2002-03	73.97	42.20	17.81	24.38	31.78	26.03	100.00	
2003-04	70.56	43.14	20.65	22.48	27.42	29.44	100.00	
2004-05	68.17	41.92	21.90	20.01	26.25	31.83	100.00	
2005-06	71.69	48.40	23.64	24.76	23.29	28.31	100.00	
2006-07 (RE)	70.62	49.83	25.25	24.58	20.79	29.38	100.00	
2007-08 (BE)	68.89	49.64	27.42	22.22	19.25	31.11	100.00	

Source: NIPFP Data Bank.

Table 9.4: Annual Debt Servicing as a Ratio to Gross Debt

(Percent)

	Particulars	*1995-96*	*2000-01*	*2005-06*	*2006-07 (RE)*	*2007-08 (BE)*
1	Total Debt (a+b)	6,382	13,309	25,320	24,708	20,073
a	Internal Debt[100]	3,257	9,117	24,340	23,608	18,753
b	Central Debt[101]	3,125	4,192	980	1,100	1,320
2	Debts Servicing	3,474	10,345	19,065	23,380	22,809
	Debts Servicing/Total Debt (percent)	54.43	77.73	75.29	94.62	113.63

[100] These are raised through: Market loans; LIC; GIC; NABARD; Compesation and other bonds; SBI; NCDC; Other institution; Special securities; and Other loans.

[101] Loans and advances from the Centre are for Non-plan purposes, for state plan schemes, for central plan schemes and centrally sponsored schemes, for Special Plan Schemes; and as ways means and advance.

Guarantees extended by the State Government also impose a potential burden on the State finances. Given the possibility of some of the liabilities coming to rest on the Government, any assessment of the liabilities of the Government should capture information on guarantees as well. Guarantees in Mizoram amounted to Rs. 269.73 crore by the end of 2005-06 (Table 9.5). This figure amounts to 9 percent of GSDP in 2006. No fresh guarantees were extended in 2004-05. Given that the guarantees are mainly for public sector units and autonomous district councils, it is useful to assess the performance of at least the former to obtain an assessment of the extent to which these guarantees would become liabilities for the State Government. Section 9.4 provides an overview of the performance of the public sector units in the State, with this objective in view.

Table 9.5: Guarantees by the State Government

(Rs lakh)

Corporation	***Item***	***1999-00***	***2000-01***	***2001-02***	***2003-04***	***2005-06***
State aggregate	(a) Max Amount	5,508	10,522	73,161	19,723	26,973
	(b) Principal	4,88392	5,539	8,917	11,328	14,502
	(c) Interest	1.75	448	880	1,350	1,823
Actual (Rs. Lakh)						
(1) Statutory Corporations	*(a) Max Amount*	*3,809.10*	*5,713*	*65,113*	*591,300*	*5,913*
	(b) Principal	*3,536.30*	*2,888*	*4,213*	*3,845*	*2,918*
	(c) Interest	*0*	*336*	*585*	*717*	*758*
1. Mizoram Khadi & Village Industries Board (MKVIB).	(a) Max Amount	3,809.10	5,713	65,113	5,913.00	5913
(2) Government Companies	(a) Max Amount	309.83	1,042	2,205	2,467.00	5,967
	(b) Principal	294.26	847	1,966	2,082.00	2,669
	(c) Interest	1.75	0	10	9	249
1. Mizoram Industrial Development Corporation (ZIDCO)	(a) Max Amount	289.83	1,022	2,185	2,467.00	
2. Mizoram Food & Allied Corporation (MIFCO)	(a) Max Amount	20	20	20	0	
(3)Co-operative Banks & Societies	(a) Max Amount	1,389.32	3,557	4,843	9,092.00	12,342
	(b) Principal	1,052.33	1,519	2,438	3,652.00	7,026
	(c) Interest	0	112	285	496	731
1. Mizoram Co-operative Apex Bank Ltd (MCAB)	(a) Max Amount	54311	1,530	2,780	4,175	6,175
2. Mizoram Urban Cooperative Bank Ltd. (MUCO Bank)	(a) Max Amount	800	2,017	2,017	4,871	2,017

Corporation	*Item*	*1999-00*	*2000-01*	*2001-02*	*2003-04*	*2005-06*
3. Zotlang Multipurpose Cooperative Society.	(a) Max Amount	36.41	0	36	36	40
4. Mizoram Agro Horticulture Development & Service Cooperative Society Ltd.	(a) Max Amount	9.8	10	10	10	10
(4) Other Institutions	(a) Max Amount		210	1,000	2,251	2,751
	(b) Principal		285	300	1,749	1,889
	(c) Interest		0	0	128	85
1. Lai Autonomous District Council (LADC)	(a) Max Amount		100	450	1,200	1,200
2. Mara Autonomous District Council (MADC)	(a) Max Amount		10	450	450	950
3. Chakma Autonomous District Council (CADC)	(a) Max Amount		100	100	601	601

Source: Government of Mizoram, Finance Accounts (various issues).

The Debt Swap Scheme now implemented by Government of India offers some succor by facilitating rescheduling of high cost Central loans through additional market borrowing. However, this programme only covers loans from Government of India, which account for 22 percent of total debt of Government of Mizoram (Table 9.6). The possibility of extending this scheme or devising alternatives for relief on other components of high cost debt of State Governments too is necessary.

Table 9.6: Debt Swap Availment

Year	*Source of Funding*	*Amount (Rs. lakh)*	*Rate of Interest (Percent)*
2002-03	National Small Saving Fund (NSSF)	173	10.5
	Market borrowings	1300	(6.95-7.0)
	Total of 2002-03	*1,473*	
2003-04	National Small Saving Fund (NSSF)	803	9.5
	Market Borrowing (SDL)	6570	(5.85-6.35)
	Total of 2003-04	*7,373*	
2004-05	National Small Saving Fund (NSSF)	781	9.5
	Market Borrowing (SDL)	4,682	7.2
	Total of 2004-05	*5,463*	
	Grand Total for 3 Fiscals	**14,309**	

Note: Figures in parenthesis represent the range of interest rates on the different components of loan taken.

Source: Government of Mizoram, Finance Department, vide letter No. G.16035/44/2002-FEA dated 2.11.2005 and No.G.16035/44/2002-FEA, Government of Mizoram, Finance Department, dated 2.12.2005.

Under the debt swap scheme, Mizoram has taken additional borrowing to the tune of Rs. 143.09 crore during 2002-03 to 2004-05: 12.28 percent from NSSF and the rest from Market Borrowings. Interest rates are 10.5 and 9.5 percent for NSSF loans and vary from 5.9 percent to 7.2 percent for Market Borrowings (SDL). It may be noted that Mizoram may not find takers for open market borrowings, especially if large-scale borrowing is proposed. This limits the scope for the State to unilaterally undertake restructuring of its debt portfolio and thereby optimize on its interest liability, unless, it can step up on resource generation within the State.

One-time Settlement Package agreement with Housing and Urban Development Corporation (HUDCO) to settle a loan of Rs 43.95 crore, and scheduled for repayment during two years from October 2006. An amount of Rs 11.87 crore has been estimated to accrue to the State Government as a result of this package.

Due to enactment of FRBM Act, 2006, the Government of India has accepted the consolidation of loans. The maximum amount of debt relief admissible to the Government of Mizoram is Rs 57.85 crore out of which Rs 7.31 crore is on account of lower repayments and Rs 50.54 crore is for lower interest payments. A further facility in the form of write-off of repayments to a maximum of Rs 75.16 crore is also admissible for the period.

Cash Balance and Ways & Means Advances

It may be noticed that the State has always been cash strapped. Inadequacy of available resources is covered up by resorting to changes in cash balances and through recourse to Ways and Means Advances from Government of India. It is only a instrument for correcting the temporary mismatches in the Government account. This is reflected in the deficit cash balances of Rs. 103.18 crore in 2005-06 or even much more in the deficit in opening cash balance over the entire period from 1993-94 onwards (Table 9.7).

Under the agreement with the Reserve Bank of India, the Government has to maintain with the Bank on all days a minimum balance of Rs. 20 lakh. If the balance falls below the agreed minimum, the Government can take ordinary WMA (from the Bank). In addition, special WMAs are made available against Government of India securities held by the State Government. If, even after the maximum advances are given, the cash balance is below the prescribed minimum, the deficit is left uncovered.

The Bank gives overdrafts, if the State has a minimum balance after availing the maximum advances.

Table 9.7: Trends of Cash Balances and WMA from Government of India

(Rs. Lakh)

Year	*Cash balance as on April 1*	*W MAs from Central Government*		
		Receipts	*Disbursement*	*Net*
1993-94	-13,395	26,638	27,323	-686
1994-95	-11,711	16,908	17,069	-161
1995-96	-14,032	12,575	11,412	1,164
1996-97	-15,568	46,118	35,000	11,118
1997-98	-11,513	47,210	59,169	-11,959
1998-99	-18,587	52,502	46,101	6,401
1999-00	-19,040	52,196	57,880	-5,684
2000-01	-13,775	25,351	15,578	9,773
2001-02	-9,113	46,689	42,807	3,883
2002-03	-16,271	52,052	57,029	-4,977
2003-04	-12,519	24,149	32,720	-8,571
2004-05	-5,773	29,514	29,514	0
2005-06	-10,318	6,324	6,324	0
2006-07 (RE)	-10,621	3,000	3,000	0
2007-08 (BE)	-10,417	6,670	6,000	670

Source: Government of Mizoram, Finance Accounts (various issues) and Budget Paper 2007-08.

The advances carry interest at one percent below the Bank Rate for the first 90 days, one percent above the Bank Rate beyond 90 days and up to 180 days. The bank charges interest on the shortfalls in the minimum balance at one percent below the Bank Rate and overdrafts at the Bank Rate up to and including the seventh day and at 3 percent above the Bank Rate thereafter. Table 9.8 documents the dependence of Mizoram on WMA in recent times. Trends of cash balances, which have been substantial through out and loans raised internally and from the Centre along with WMA availed by Mizoram and other NER States are shown in Table 9.7 from 1993-94 to 2007-08 (BE).

A revised Scheme of Ways and Means Advances (WMA) was introduced on March 3, 2003 based on the recommendations of the Ramachandran Committee and after consultations with the State Governments. The total normal WMA limit for the State Governments, under the revised Scheme, was enhanced by 18.8 percent from Rs. 6,035 crore to Rs. 7,170 crore with effect from March 3, 2003. The total normal WMA limit was increased further by 13.5 percent to Rs. 8,140 crore with effect from

April 1, 2004, on account of higher average revenue receipts of the State Governments in the preceding three years. In subsequent years most of the State Governments reduced their recourse to normal WMA and overdrafts (OD). This partly reflected a substantially higher (by around 53 percent) utilisation of special WMA by the State Governments, mainly on account of the change in the provision under the revised Scheme that special WMA should be availed before taking recourse to normal WMA. The rate of interest charged on special WMA is one percentage point less than that on normal WMA. Higher mobilisation of Small Savings and enhanced market borrowings (other than those under the Debt Swap Scheme) also facilitated the reduction in recourse to normal WMA. Furthermore, the frequency of overdrafts declined in the case of most States during 2003-04, including Mizoram.

Table 9.8: NER State-wise Availment of WMA and Overdraft from the Reserve Bank

	States	WMA			Overdraft		
		2004-05*	2003-04		2004-05*	2003-04	
		Number of Days	Number of Days	Number of Occasions	Number of Occasions	Number of Occasions	Number of Days
1	Arunachal Pradesh	32	0	2	5	0	0
2	Assam	225	337	10	102	20	235
3	Himachal Pradesh	144	327	4	27	14	109
4	Manipur	140	268	1	117	14	201
5	Meghalaya	6	31	0	0	0	0
6	Mizoram	142	131	1	1	3	5
7	Nagaland	81	12	3	18	0	0
8	Tripura	24	25	0	0	0	0
9	Uttaranchal	90	78	2	16	3	13

Note: *As on December 31, 2004.

Source: As per Reserve Bank records.

Within this overall picture of State finances, the Government seeks to find the resources for undertaking developmental activities. The following discussion captures some of the salient points of the observed trends of expenditure and receipts and approach adopted.

9.3 RELATIVE PRIORITIES AND TRENDS OF COMPONENTS OF EXPENDITURES AND RECEIPTS

A. Public Expenditures

Aggregate expenditure (current and capital) except aggregate developmental expenditure have been income-elastic (1.49)[102] (Table 9.9). Income-elasticity of productive expenditure is a healthy sign, but if the elasticity is high or greater than one for non-productive components of expenditure, it needs attention for correction. It is a worrisome sign in case of Mizoram that developmental expenditure is barely income-elastic (coefficient of 0.97 for the period 1995-96 to 2007-08 (RE)) while non-developmental expenditure has a higher elasticity(coefficient of 1.12). Break up of these aggregates into key functional sectors may reveal some important trend behaviour.

Table 9.9: Trends in Aggregate Budgetary Transactions: Composition for select years and Income-elasticity

Expenditure Head	1995-96	2001-02	2006-07	2007-08 (RE)	2008-09 (BE)	Income-elasticity Coefficient
As Percent to Aggregate Expenditure (Revenue & Capital)						
Aggregate Expenditure	100.00	100.00	100.00	100.00	100.00	1.49
Aggregate Developmental Expenditure	36.11	32.65	23.54	10.19	61.16	0.97
Aggregate Non-Developmental Expenditure	11.57	15.12	9.78	3.54	27.53	1.12
Aggregate Miscellaneous Expenditure	52.32	52.23	66.68	86.28	11.30	1.71

a. Revenue expenditure

The share of revenue expenditure in aggregate expenditure was 38.59 percent in 1995-96 and declined to 10.77 percent in 2007-08 but is likely to go up considerably in the next year (Table 9.10). Decomposition of revenue expenditure into developmental and non-developmental activities shows that developmental expenditure was 70.85 percent in 1995-96, which slightly declined to 67.89 percent in 2007-08 and is expected to further dip in next year at 64.57 percent. In aggregate expenditure, developmental revenue expenditure was 27.34 percent in 1995-96 and showed a continuous decline and budgeted to take a sudden upturn in 2008-09 with a

[102] The estimated elasticity coefficients for both expenditure and receipts are with respect to GSDP. If the associated estimated income-elasticity coefficient is more than one, the fiscal variable is elastic. On the contrary, if the coefficient is less than one, it is non-elastic. The term buoyancy is used for receipt variables whereas for expenditure variable its variant elasticity is used.

share of 49.21 percent. The non-developmental expenditure in 1995-96 was 29.15 percent in total revenue expenditure which increased subsequently. Among these sub-groups, share of development revenue expenditure in aggregate expenditure as well as in total revenue expenditure has declined suggesting a relatively faster growth of non-developmental expenditure.

The increasing expenditure of the State Government towards servicing of debt has also become a matter of serious concern. The increasing debt stock of the Government over the years brought about corresponding increase in the expenditure for servicing of loans. However, the State Government has been making all out efforts to reduce the debt stock and corresponding repayments. The measures include arriving at One-Time Settlement (OTS) package with the financial institutions, rescheduling of loans and pre-payment of high cost loans by availing Structural Adjustment Loan from the Asian Development Bank.

Table 9.10: Trends in Revenue Expenditure: Composition and Income-elasticity for Select Years

	Expenditure Head	1995-96	2001-02	2006-07	2007-08 (RE)	2008-09 (BE)	Income-elasticity Coefficient
	As percent of total revenue expenditure						
	Total Revenue Expenditure	38.59	42.54	26.20	10.77	76.21	0.99
I	Developmental Expenditure (A + B)	70.85	65.26	64.10	67.89	64.57	1.84
A	Social Services, of which	34.41	37.06	34.54	37.58	33.65	0.96
	Education, Sports, Art & Culture	14.90	18.72	17.53	17.13	15.68	1.05
	Medical and Public Health	4.92	5.47	4.77	5.24	7.73	0.87
B	Economic Services, of which	36.44	28.19	29.56	30.31	30.91	0.88
	Agriculture	12.00	9.28	10.17	10.64	7.92	0.94
	Rural Development	7.57	2.14	2.80	2.72	3.60	0.09
	Irrigation	0.46	0.28	0.15	0.33	0.19	0.75
	Energy	5.81	7.11	7.98	7.35	7.11	1.27
	Transport, of which	5.03	3.98	3.41	3.58	3.33	0.65
	Road Sector	4.50	3.84	3.22	3.39	3.17	1.26
II	Non-Developmental Expenditure, of which	29.15	34.74	35.90	32.11	35.43	1.11
	Servicing of Debt	6.15	13.14	13.73	9.86	10.74	1.40
	Organs of State and Administrative Services	19.72	16.15	16.08	15.63	18.25	1.51
	Pensions	1.84	4.24	4.50	5.37	5.22	1.89

Note: Revenue Expenditure is shown as a proportion to total expenditure.

Source: Computed from Finance Accounts and Budget of Mizoram 2008-09.

Among developmental revenue expenditure the share of social service accounted for 34 percent of revenue expenditure and 13.28 percent in aggregate expenditure in 1995-96. Of social services, education accounts for bulk of the expenditure with comparatively much smaller amounts being spent for preventive as

well as curative health care. Economic services too accounted for similar proportions of revenue exoenditure. Here agriculture sector dominates in composition. The other noticeable heads of expenditure are energy and transport. However, of all these categories of expenditure, only energy exhibits an increasing share and its estimated elasticity coefficient is also 1.27. Among general services, the share of current expenditure on administrative services has been more than that of any other component. Only share of current expenditure on administrative service exhibited a decline over time, but it is budgeted very high in 2008-09, may to provide for an anticipated hike in salaries following implementation of the recommendations of the Sixth Central Pay Commission. Another component of concern is pension payments. With increase in the lifespan of the population and increases in pension payments per capita, the size of pension payments has been increasing over time from 1.84 percent in 1995-96 to 5.37 percent in 2007-08. In the absence of funded pension schemes, this expenditure being a committed liability of the state, is not amenable to any corrective measures. The concern is that all the components of general services, namely, servicing of debts, administrative services and pensions have been registering high growth. Since debt servicing and pensions are committed liabilities of the government with some inbuilt growth dynamics, in the event of fiscal restructuring, the pressure to correct other heads of expenditure is correspondingly enhanced.

b. Capital disbursements

Capital disbursement include capital outlays (actual expenditure), repayment of public debts, loans and advances by the Government, miscellaneous capital disbursement and public accounts. Capital outlay is one of the most important components in the State's budget as it is used for creation of capital assets. Basic infrastructural needs of the State under general services, economic and social services have been met with expenditure under this account. (See Table 9.11).

Of the total capital outlay, developmental activities claim over 95 percent more or less through out the period. The share of outlays on social services was close to 20 percent in most years. In 2008-09 it is budgeted to increase to 52 percent on account of significantly augmented allocations being made for urban development. In economic services, energy and transport claim the largest shares. It should be mentioned that the role of electricity in the budget of Mizoram tends to be different

from that in other states since electricity continues to be a state government department. Receipts from sale of electricity are shown as income to the state and all expenditures to generate or procure electricity are recorded as expenditures of the state government. This inflates the presence of electricity in the budget, especially when these numbers are viewed in comparison with many of the other states.

Table 9.11: Trends in Capital Outlay: Composition and Income-elasticity for Select Years

	Expenditure Head	1995-96	2001-02	2006-07	2007-08 (RE)	2008-09 (BE)	Income-elasticity Coefficient
	As Percent to Capital Outlay						
I	Developmental Expenditure (A + B)	96.44	93.56	94.76	97.30	95.75	2.40
A	Social Services, of which	20.80	40.72	26.16	21.85	52.96	1.41
	Education, Sports, Art & Culture	0.61	2.03	3.53	1.92	4.96	3.01
	Medical and Public Health	1.06	7.62	0.14	0.05	0.08	-0.35
B	Economic Services, of which	75.64	52.83	68.60	75.46	42.79	0.99
	Agriculture	6.41	2.43	5.07	5.64	0.94	0.00
	Rural Development	1.62	0.04	0.48	0.49	2.09	-0.35
	Irrigation	0.00	2.89	7.20	5.88	7.51	0.00
	Energy	23.23	14.15	14.62	15.87	13.25	0.76
	Transport, of which	31.02	23.54	25.33	29.86	11.64	0.94
	Road Sector	23.50	23.54	25.33	29.86	11.64	2.02
II	Non-Developmental Expenditure, of which	3.56	6.44	5.24	2.70	4.25	1.25
	Repayment of Loans	14.40	29.83	2.29	1.09	28.40	-0.51
	Discharge of Internal Loans	13.82	28.92	1.64	0.98	25.43	-0.58
	Repayment of Loans to the Centre	0.58	0.91	0.65	0.11	2.96	-0.02
	Loans and Advances by the State Government	1.42	2.53	0.01	0.06	1.43	-0.95
	Developmental Purposes	0.82	2.34	0.00	0.03	0.60	0.00
	Social Services	0.71	2.22	0.00	0.03	0.60	0.00
	Economic Services	0.11	0.12	0.00	0.00	0.00	0.00
	Non-development Purposes	0.60	0.19	0.01	0.03	0.83	-2.42

Mautam Famine

Bamboo flowering has taken place for the last few years and the flowering came to an end in 2007 thereby destroying the bamboo forests of the State. Due to attack of rodents, the crop production in the State has gone down drastically bringing about the apprehended *mautam* famine in the State.

For successful tackling of famine, the Government would be integrating the various activities of the State Government with various schemes including the Central Scheme of 'National Rural Employment Guarantee Scheme' which is mandated with creation of a hundred-day employment in a year. Besides the existing coverage of four districts of Mizoram, the Central Government is extending the Scheme to the remaining four districts thus bringing all the eight districts of Mizoram under its

coverage. With the employment so generated under the Scheme coupled with the availability of foodgrains, it is to be ensured that the adverse impact of *mautam* famine is minimized.

B. Resources of the Government

The resources of the State to finance its expenditure needs comprises own taxes, own non-taxes and fiscal transfers in the form of receipts from sharing of Central taxes as per recommendations of respective finance commissions and grants-in-aid of various nature and purposes and borrowings from internal sources and from the Centre. These receipts may be classified as own source receipts and fiscal transfers. Their performance may be judged by their estimated buoyancy[103] coefficient. Total budgetary receipts of the State and several of its components were buoyant during the period from 1995-96 to 2007-08 (Table 9.12). They were: total revenue receipts, own source receipts, own taxes except state excises, receipts from economic services including power sector, transfers from the Centre including grants-in-aid. Those receipt items which have been registering low buoyancy include: state excises, non-tax receipts as a group including receipts from social services, forestry and wildlife, and road sector. State excises were not income-buoyant due to prohibition policy.

Own source receipts mainly comprises taxes and non-taxes. Own taxes had contributed barely 0.93 percent in 1995-96 but subsequently improved and by 2007-08 their share was 2.92 percent and was expected to further improve in the budget to be 3.36 percent in 2008-09. This reflects how narrow the tax base is, albeit it has registered a quite impressive buoyancy of 2.13, but the quantum of contribution is too low, has literally no scope to contribute appreciably to the exchequer despite whatsoever tax reforms in terms of base-broadening or otherwise may be effected.

103 A distinction may be made between buoyancy and elasticity of taxes. If the actual series of tax collection is used for estimation, the coefficient is buoyancy coefficient. But if from this series the impact of additional resource mobilization is netted out and thus resulting cleaned (hypothetical) series is used for estimation, the estimated coefficient is termed as elasticity.

Table 9.12: Trends in Key Revenue Receipts: Composition and Income-elasticity for Select Years

Receipt Head	1995-96	2001-02	2006-07	2007-08 (RE)	2008-09 (BE)	Buoyancy
As Percent to Revenue Receipts						
Own source revenues	7.57	7.31	10.18	8.34	8.62	3.06
Tax receipts	0.93	2.20	3.44	2.92	3.36	2.13
Sales taxes (VAT)	0.26	1.14	2.73	2.33	2.71	3.12
State excises	0.13	0.16	0.08	0.07	0.08	0.59
Tax on vehicles	0.13	0.24	0.25	0.20	0.23	1.44
Other taxes	0.07	0.10	0.07	0.05	0.06	1.74
Non-tax receipts	6.64	5.11	6.74	5.43	5.26	0.93
Social services	0.43	0.55	0.40	0.34	0.40	0.11
Economic services, of which	3.37	3.39	3.27	3.94	4.21	1.31
Forestry & wildlife	0.26	0.19	0.21	0.14	0.14	0.82
Power	1.65	2.66	2.63	3.39	3.61	1.70
Reoad transport	0.26	0.20	0.09	0.07	0.08	-0.13
Transfers from the Centre	92.43	92.69	89.82	91.66	91.38	1.38
Share in Central taxes	19.98	5.04	14.63	14.43	19.30	0.13
Grants from the Centre	72.45	87.65	75.19	77.22	72.09	1.25

Among major own taxes, sales taxes (VAT) and taxes on vehicles have been performing well. Sales tax has been the subject matter of a number of reform initiatives at the State level. These reforms included minimum floor rates of tax on a number of commodities, some of which were not taxed in the State before. This regime shift raised tax collections significantly. A change-over to value added tax (VAT) too contributed to faster growth of collections. Excise collections have been dismal in the State, as a result of the introduction of prohibition.

The other component of own source receipts are non-tax receipts. These contributed 6.6 percent of revenue receipts in 1995-96 and are budgeted to generate 5.3 percent in 2008-09. The higher share of non-tax receipts is primarily due to collections in the power sector – relative in other states. In Mizoram, electricity is a government department. Electricity charges collected from the users are reflected as revenue to the Government – a practice different among States. So, if one wants to make it comparable with other States – the own revenue receipts of the State would look more dismal. As is evident from the table, the bulk of revenue receipts are from shared taxes and grants from the central government.

Given the constraints in raising tax resources, it is imperative to improve the cost recoveries from services provided by the State Government. These recoveries come through social services as well as economic services. In Mizoram, economic services and general services account for the bulk of accruals from non-tax revenue.

Receipts from fiscal transfers have been quite fluctuating. These include shares in Central tax collections and grants under various heads from Government of India. While transfers from Government of India to States and especially to special category States tend to be stable, the observed trends in Mizoram shows high levels of transfers during the award period of the Tenth Finance Commission. The Finance Accounts for the subsequent years records these as disbursement beyond entitlement and therefore, there is a recovery of these excess payments during the award period of the Eleventh Finance Commission. As would be expected this disturbs the picture substantially and does not provide analyzable data. Now a significant noticeable point is that with continued growth momentum in the country's economy, the collection of taxes by the Central Government increased considerably and much beyond the expectation of the TFC. The Central Government has already stepped up 'State's Share of Central Taxes' for the coming year. However, what does need to be mentioned is the commendable performance of the State in utilizing funds made available under various schemes by Government of India. The Annual Report of the Ministry of Rural Development, Government of India for instance documents 97 percent utilization in National Food for Work Programme, 84 percent in Swarnjayanti Gram Swarozgar Yojana and 90.2 percent Indira Awaas Yojana.

Fiscal Sustainability

One of the indicators of fiscal sustainability is the ratio of own revenue receipts to non-debt total expenditure (ORR/NDX). Table 9.13 shows the trend during the reference period. It may be noticed that recently since 2000-01 (except in 2002-03), there has been an improvement, though not systematic. This ratio was around 20 percent during 1995-96 to 1999-00. But in 2000-01, it came down to 6.01 percent and is likely to be 8.19 percent in 2008-09 (BE).

Table 9.13: Trends of Fiscal Sustainability: 1995-96 to 2008-09 (BE)

Year	ORR	Total expenditure	Total net debts	Non-debt expenditure (NDX)	ORR/NDX (percent)
1995-96	4,688.42	69,745.22	15,483.32	54,261.90	8.64
1996-97	5,276.28	78,108.53	50,478.99	27,629.54	19.10
1997-98	5,324.92	82,538.94	55,253.26	27,285.68	19.52
1998-99	4,501.45	84,043.78	63,758.70	20,285.08	22.19
1999-00	5,161.94	104,119.62	77,020.64	27,098.98	19.05
2000-01	5,415.99	118,465.52	28,314.72	90,150.80	6.01
2001-02	6,340.29	126,614.51	47,816.20	78,798.31	8.05

Year	ORR	Total expenditure	Total net debts	Non-debt expenditure (NDX)	ORR/NDX (percent)
2002-03	8,000.10	131,833.16	64,983.79	66,849.37	11.97
2003-04	9,122.93	165,881.98	37,182.08	128,699.90	7.09
2004-05	11,453.10	172,441.73	28,520.05	143,921.68	7.96
2005-06	17,449.43	203,873.70	12,579.43	191,294.27	9.12
2006-07	20,033.71	218,306.81	80.79*	218,226.02	9.18
2007-08 (RE)	19,703.08	251,445.40	7,824.86	243,620.54	8.09
2008-09 (BE)	19,110.30	236,486.52	3,075.20	233,411.32	8.19

Note: This may be due certain adjustments.

9.4 FISCAL IMPACT OF PUBLIC ENTERPRISES

Several Public Sector Enterprises (PSE) have been established by the Government of India to attain the objectives of socialist economy of the country and for taking up economic activities within the umbrella of the Government. Similar course was adopted by the State also. But the performance of State level PSEs (SLPSEs) too is an important governmental activity, which affects the State budget. There are five small SLPSEs in Mizoram, namely, (1) Zoram Industrial Development Corporation Limited (Zidco); (2) Zoram Electronics Development Corporation Limited (Zenics), (3) Mizoram Food & Allied Industries Corporation Limited (Mifco), (4) Mizoram Agriculture Marketing Corporation Limited (Mamco), and (5) Mizoram Handloom and Handicraft Development Corporation Limited (Zohanco) (Annexure 9.1). Besides, there are two departmental undertakings, namely, Mizoram State Transport and Power and Electricity Department. The activities of PSEs are: industrial development and financial, handloom and handicrafts, food processing, electronic development, agriculture and marketing. As on 31 March 2006, the total investment in SLPSEs was Rs 76.77 crore (Equity: Rs 43.60 crore and long term loans: Rs 22.86 crore and share application money: Rs 10.31 crore). Of which State Government investment was Rs 47.65 crore.[104] They are largely in a financial mess requiring huge doses of budgetary support to sustain them.

Budgetary outgo to Government companies is summarized in Table 9.14. In spite of periodic infusion of equity capital and grants, the companies continue to report losses. The liability of the Government on account of these enterprises is also on account of the guarantees provided on borrowings by these enterprises. The

[104] As per Mizoram CAG Report of 2005-06. It may be noted that Finance Account 2005-06 records only Rs 1.45 crore. The difference is under reconciliation.

accumulated losses as on 31 March 2006 were Rs 28.38 crore.[105] So, the losses annually incurred by them are the budgetary liabilities (Table 9.15).

Table 9.14: Budgetary Outgo on Public Sector Undertakings

(Rs. crore)

Year	Equity Capital		Grants/Subsidies		Total	
	No of Companies	Amount	No of Companies	Amount	No of Companies*	Amount
1999-00	4	1.99	1	0.04	4	2.03
2000-01	4	3.03	1	0.00	4	3.03
2001-02	5	3.92	2	0.48	5	4.40
2002-03	4	3.08	3	0.80	5	4.18
2003-04	4	1.67	4	2.86	5	4.53
2004-05	4	1.67	3	1.12	5	2.79
2005-06	4	6.16	4	1.12	5	7.28

Source: Government of India, CAG Report (various issues).

Note: These are the actual number of companies which have received budgetary support in the form of equity, loans, grants and subsidy from the State Government during respective years.

Table 9.15: Summarised Financial Results of Working Government Companies for the Latest Year for which Accounts Were Finalised

(Rs Lakh)

Sector / Company	Net Profit (+)/ Loss (-)	Paid up Capital	Accummulated Profit (+)/ Loss (-)	Capital Employed	Total Return on Capital Employed	Turnover	Manpower
Sector: Industrial Development and Financing							
1. Zidco	(-) 201.29	2,034.10	(-) 1263.20	3752.74	(-) 67.72	62.78	61
Sector: Handloom and HandicraftsIndustrial Development and Financing							
2. Zohanco	(-) 43.18	461.70	(-) 301.27	161.99	(-) 43.18	22.03	43
Sector: Food Processing							
3. Mifco	(-) 49.03	1170.31	(-) 934.62	695.93	(-) 49.03	6.71	96
Sector: Electronics Development							
4. Zenics	(-) 44.67	337.36	(-) 213.09	124.27	(-) 44.67	5.15	34
Sector: Agriculture and Marketing							
5. Mamco	(-) 64.41	354.00	(-) 125.68	336.92	(-) 64.41		27
Total	**(-) 502.58**	**4,357.47**	**(-) 2,837.86**	**5071.85**	**(-) 369.01**	**96.67**	**261**

Source: Mizoram CAG Report, 2005-06

Notes:

1. Mamco is in the Department of Trade and Commerce and others are in Department of Industries.
2. Capital employed represents net fixed assets (including Capital Work-in-progress) plus working capital except in case of Zidco where capital employed is worked out as a mean of aggregate of opening and closd balances of pai-up capital, free reseves and borrowings (including refinances).
3. For calculating total returns on capital employed, interest on borrowed fund is added to net profit/subtracted from the loss as disclosed in profit and loss account.

[105] CAG Report 2005-06.

With regard to departmental companies also the losses are mounting (Table 9.16). In 2000-01 total losses in these two undertakings were Rs 31.10 crore which swelled to more than doubled to Rs 67.49 crore in 2003-04 (in only 3 year). They are also the financial drain on the budgets.

Table 9.16: Losses of Departmental Companies

(Rs Lakh)

Company	***2000-01***	***2001-02***	***2002-03***	***2003-04***	***2004-05***
1. Mizoram State Transport	1,101	869	857	805	NA
2. Power and Electricity Department	2,009	5,349	5,451	5,944	4,750
Total	**3,110**	**6,218**	**6,308**	**6,749**	

For the purpose of reorienting the policies in the SLPSEs, a High Powered Committee has been set up in the Finance Department to look into the future policy initiatives of the Government to take measures to restructure and revitalize PSEs by taking up reforms measures.

9.5 RECENT POLICY DECISIONS FOR FISCAL CORRECTION

Historically, the State has been a chronically budget deficit State. The deficits have been handed down from year-to-year from the UT Administration period and the deficits are ballooning. Since the State has no natural resources, there can be limited tax and non-tax resource mobilization unless assets are created to generate incomes in the State. While outstanding liabilities of the State have been increasing, investments for capital formation are decreasing. Plan and non-plan distinction is quite blurred and playing havoc, especially, since plans are financed 90 percent by grants. The State Government introduced several measures to improve the financial position of the State following the MoU signed with the Central Government in April 1999.

The fiscal concerns in Mizoram are echoed in the Budget Speech for 2005-06. It was stated that the State has never been in a position to present the full budget since 1996-97. Due to the inability of the Planning Commission of India to finalize the Annual Plan size in time, the Government used to be compelled to obtain Vote on Account for these years. In 2005-06, the state had been able to break this trend and table a full budget due to the timely finalization of the Annual Plan size by the new Planning Commission of India. This shows how deeply the State is dependent on

external sources of revenue for budget preparations, and which contributes to uncertainty in budgetary and planning activities.

To regulate the imbalance between receipt and expenditure, the Eleventh Finance Commission had recommended the drawing up of a monitorable Fiscal Reforms Programme by the State Governments to increase their revenue income and reduce non-plan expenditure. Accordingly, the Government of Mizoram also drew up a Fiscal Reforms Programme and took up various steps to achieve the financial objectives laid down by the Central Government. It introduced various measures for additional resource mobilization like upward revision of user charges on electricity and water, enhancement of the rates of various taxes and widening of the tax base. A vigorous exercise was undertaken for the introduction and continuation of various austerity measures for reduction of expenditure with special emphasis on non-plan revenue expenditure. The efforts of the State Government have been fruitful and resulted in the fulfillment of the objective of bringing down budgeted gross fiscal deficit to 2.5 percent of GSDP during 2004-05. As a result of this, the Government of India has recently released the withheld Revenue Gap Grant recommended for 2003-04 along with the Central Government's share of the Incentive Fund aggregating Rs. 53.43 crore.

However, while the TFC has recommended a much higher devolution of fund than the Eleventh Finance Commission, they have insisted on a corresponding increase in the State's own resources. In the case of Mizoram, the Twelfth Finance Commission has recommended mobilization of State resources during 2005-10 to the tune of Rs. 760.85 crore which is 60 percent higher than the target set by the Eleventh Finance Commission for the five-year period from 2000-01 to 2004-05.

In this context, the Government undertook various reform measures. They were either fiscal or institutional or sectoral. Among them the fiscal measures have direct bearing on the fiscal performance of the State. The fiscal measures include assessment of water charges based on meter reading; imposition of tolls on roads and bridges; collection of water cess in selected areas on minor irrigation; implementation of VAT on April 1, 2005; measures to augment revenue collection by both enhancing existing rates of taxes, fees and tariff as well as by introduction of new measures; economy measures such as non-filling up of vacant posts; moratorium on fresh

recruitment, etc; and preparation of Medium Term Fiscal Reforms Plan. The transition to a value added tax has been very revenue productive for the State – in the first year of introduction of the tax, the State recorded 47 percent increase in receipts. During April to October 2006, the growth in revenue continued at 29 percent over the corresponding period last year.

The Mizoram Fiscal Responsibility and Budget Management Rules, 2007 was finalised and notified on 01.07.2007 paving the way to the swift implementation of the Mizoram Fiscal Responsibility and Budget Management Act, 2006. Subsequently, the State Government has taken up following fiscal reforms. In order to monitor the progress and performance on the indicators enshrined in the FRBM Act, a Public Expenditure Review Committee has been constituted under the chairmanship of the Finance Secretary. A regular half yearly review by the Finance Minister too has been institutionalized. A consolidated sinking fund has been activated where the government proposes to invest 0.5 percent of outstanding liabilities on an annual basis. It is also in the process of working out the modalities of a guarantees redemption fund, where guarantee fees charged by the government would be deposited. It is proposed that the guarantee fees should determined after taking into account the underlying risk.

As a part of the requirements of the FRBM Act, the government publishes the following three documents as well:

1. ***Medium Term Fiscal Policy Statement:*** A Medium Term Fiscal Policy Statement presents the fiscal policies of the State Government in relation to certain selected indicators over the medium term with three-year rolling targets. The Statement lays emphasis on the sustainability aspect in the State's finances and for generation of revenue surplus for utilisation towards creation of capital assets.

2. ***Fiscal Policy Strategy Statement:*** A Fiscal Policy Strategy Statement presents an overview of the fiscal policy of current year and the policy of the ensuing year in regard to taxation, expenditure, borrowings and investments of the State Government in instruments like Sinking Fund etc. A Fiscal Correction Path laying down targets for reduction of fiscal deficit and for elimination of revenue deficit over the medium term has been charted out in the Statement.

3. ***Macro Economic Framework Statement:*** A Macro Economic Framework Statement is drawn up and laid along with the budget documents. This Statement presents an overview of the economy for the current year and of the State's economy for the ensuing year. It also touches upon the estimates of GSDP of the State and prospects of the economic growth over the medium term.

While these documents do provide a glimpse into trends observed in state finances, for these to be useful for the policy maker, it is desirable for instance, that the underlying assumptions on growth of GSDP are discussed in more detail. Similarly, while the medium term discal policy statement provides a section on the assumptions underlying projections of fiscal variables, in most case, only the estimate or projections are presented. Since economic variables influence the performance of both receipts and expenditures, explicitly spelling out the linkages can help during the mid-year review by the Finance Minister, where the targets can be revised in light of the information available on the economy. Gradual improvements in the content of these documents would therefore make these very useful tools for both policy formulation and monitoring and evaluation.

Consequent to the enactment of Fiscal Responsibility Legislation in 2006, the state has become eligible for assessing the incentives provided by the Twelfth Finance Commission. All block loans of the Government of Mizoram released up to 31.03.2004 and outstanding as on 31.03.2006 amounting to Rs. 258.55 crore was consolidated by the Ministry of Finance, Government of India and rescheduled for a fresh term of 20 years and the interest rate reset at 7.5 percent. Consolidation was approved by the Central Monitoring Committee in January, 2007. As a result of the consolidation, the interest expenditure of the State reduced to the tune of Rs 10.67 crore in 2006-07 itself. Similar interest relief would accrue in the following years, taking the total benefit for the TFC award period to Rs. 38.08 crore.

Apart from relief on account of consolidation, the State has got the benefit on account of debt write-off. This write-off is available only when the State achieves the target of reducing the revenue deficit and containing it within the base year level and reducing fiscal deficit and containing it within the level of 2004-05. As a result of the performance of the State in 2006-07, it had earned the benefit of write-off of repayment dues for the year amounting to Rs. 12.93 crore. During the current year

also, the Government of India already approved a write-off of repayment for 2007-08 of Rs. 12.93 crore. It is expected to earn a debt write-off of Rs. 12.93 crore each for 2008-09 and 2009-10.

The State Government is committed in bringing about a continued reforms process in fiscal operations is bringing about negotiation of loan for reforms with the Asian Development Bank. The Government had entered into negotiations with the Bank for availing a Structural Adjustment Loan (SAL) of $150 million as Externally Aided Project starting from 2008-09. The loan would be availed through the Government of India in the form of 90:10 grants and loan pattern. The nature of utilisation of the loan is mainly non-plan in nature and will cover the costs of adjustment in carrying out reforms in the State's finances and governance sectors. The main areas of concern include prepayment of high-cost debts, fiscal and tax reforms, reforms in health and education sectors, power sector reforms and social sector reforms. It is very much expected that the proposed loan will bring about visible impacts in the fiscal and governance scenarios and lay a robust fiscal foundation for the State for the years to come.

9.6 OPTIONS FOR REFORM

Fiscal reforms are a continuous process and unstinted efforts need to be made to sustain the attained comfortable position to lay a strong fiscal foundation conducive to socio-economic development. Reforms in State finances have a standard menu of options spanning augmentation of revenues and check on expenditures, laying fiscal responsibility legislation, and public enterprises reform. The particular situation of States like Mizoram underline the fact that while each of these parameters is important, the fiscal impact of the measures can vary widely. While the need to generate more revenues from within the State cannot be undermined, the extent of additionality is rather limited. The tax-GSDP ratio of the State increased from 0.62 percent in 1995-96 to 2.09 percent of GSDP in 2007-08. With significant effort, the State can set a target for itself of, say, 3 percent of GSDP. The net impact on the State exchequer would however be limited. Therefore, it is important to stress on the need for extracting more out of a rupee in cases such as these. Expenditure management becomes a more important strategy tool as compared to revenue augmentation.

Of the many components of expenditure management, debt management and cash management might rank among the most important tools since scarce resources are used up for smoothing mismatches between revenue and expenditure. Similarly, integration of the needs of the State with available programmes can go a long way in enhancing the effectiveness of the State expenditures. While Mizoram does have a very efficient mechanism of making use of available resources, it is not always clear if the programmes are of use locally or not. Mizoram Intodelna Project (MIP) is one instance where the existing programmes were engineered usefully to deliver a locally suitable product. This initiative can be extended to other areas as well.

Given this performance status of the SLPSEs in the State which is employing 261 persons, even the CAG report (2005-06) recommends significant restructuring or closure. It has observed that even after completion of 13 to 15 years of their existence, the turnover of all has led to negative net worth due to continuous losses. Therefore, in view of poor turnover and continuous losses, the Government may either improve the performance of these Government companies or consider their closure.

Here it may be mentioned that private-public partnerships are often proposed as a means for improving service delivery. Given the discussion in the other chapters of this report, it would appear that self-help groups (SHGs) or cooperatives can serve as more effective instruments for service delivery, more since they can own the process and thereby ensure better collection of user charges and better maintenance of the assets. This could be synchronous with decentralization if the local level agencies span all the people in the locality.

Table A.9.1: Trends of Key Current Expenditure - 1995-96 to 2008-09 (BE)

(Rs Lakh)

	Expenditure Head	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08 (RE)	2008-09 (BE)	CGR (percentpa)	Income elasticity
	Aggregate Expenditure (Revenue + Capital)	144,746	170,543	191,891	199,325	238,956	345,454	257,906	337,457	388,056	398,193	599,841	663,628	1,826,037	272,053	17.65	1.49
A	Aggregate Developmental Expenditure	52,818	59,410	60,298	61,160	73,957	84,447	86,543	90,476	118,018	119,945	148,427	154,238	186,635	163,076	10.99	0.97
B	Aggregate Non-Developmental Expenditure	16,926	18,697	22,239	22,883	30,162	34,018	40,071	41,356	47,863	52,496	55,445	64,068	64,809	73,409	12.53	1.12
C	Aggregate Miscellaneous Expenditure	76,537	88,379	116,425	115,734	129,571	222,326	138,449	201,872	215,428	230,295	392,100	436,971	1,580,785	30,137	20.54	1.71
	Revenue Expenditure (I + II)	56,450	62,158	66,030	69,470	89,147	102,097	112,764	113,036	128,714	139,488	158,737	171,663	197,303	203,191	33.08	2.96
I	Developmental Expenditure (A + B)	39,997	43,796	44,414	47,022	59,785	68,677	73,585	72,533	82,523	88,086	104,637	110,038	133,954	131,197	20.61	1.84
A	Social Services, of which	19,426	22,930	23,772	25,907	33,629	37,102	41,793	40,653	43,549	47,650	54,759	59,290	74,154	68,383	10.74	0.96
	Education, Sports, Art & Culture	8,411	10,874	10,796	11,525	16,019	18,813	21,108	19,877	21,085	23,752	27,825	30,098	33,788	31,857	11.61	1.05
	Medical & Public Health	2,778	3,915	4,023	4,233	5,369	5,385	6,170	6,634	8,223	7,173	7,447	8,195	10,333	15,699	9.60	0.87
B	Economic Services, of which	20,571	20,867	20,642	21,116	26,156	31,574	31,792	31,880	38,974	40,436	49,878	50,749	59,800	62,814	9.87	0.88
	Agriculture	6,777	6,968	6,551	7,345	9,342	9,359	10,469	11,191	12,880	15,032	17,677	17,461	21,002	16,101	10.59	0.94
	Rural Development	4,273	3,730	2,872	2,914	3,607	2,705	2,410	2,913	2,975	2,806	2,890	4,807	5,360	7,313	1.23	0.09
	Irrigation	262	233	149	192	388	290	313	345	391	316	776	257	644	392	8.10	0.75
	Energy	3,278	4,116	4,720	4,218	4,453	10,125	8,021	8,082	13,031	11,157	15,453	13,706	14,502	14,452	14.42	1.27
	Transport, of which	2,842	3,011	3,357	2,996	3,502	4,191	4,483	4,254	4,758	5,012	5,082	5,859	7,072	6,773	7.19	0.65
	Roads & Bridges	2,538	2,900	3,104	2,878	3,392	4,013	4,334	4,121	4,609	4,816	4,657	5,534	6,695	6,445	13.83	1.26
II	Non-Developmental Expenditure, of which	16,453	18,362	21,616	22,447	29,361	33,420	39,178	40,504	46,191	51,402	54,100	61,625	63,349	71,995	12.48	1.11
	Servicing of Debt	3,474	4,773	6,579	7,422	9,372	10,345	14,818	13,606	17,062	18,650	19,065	23,575	19,458	21,813	15.87	1.40
	Organs of State and Administrative Services	11,134	11,271	12,432	12,255	16,188	17,730	18,211	20,686	21,005	22,151	23,943	27,603	30,836	37,080	16.67	1.51
	Pensions	1,041	1,456	1,627	1,695	2,477	3,956	4,780	4,712	6,588	8,882	8,916	7,731	10,601	10,601	21.99	1.89

Notes: *Education* includes art, culture and sports, *Medical* includes public health and family welfare, *Agriculture* includes allied services, Transport includes communication. *Roads* include bridges and road transport, *Servicing of debt* includes repayment of principal and interest payments also and *Irrigation* includes major and minor irrigation and flood control.

Table A.9.2: Trends of Key Capital Expenditure - 1995-96 to 2008-09 (BE)

(Rs Lakh)

	Expenditure Head	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08 (RE)	2008-09 (BE)	CGR (percentpa)	Income elasticity
	Total Disbursements (A+B+C)	27,504	56,522	86,242	73,603	83,529	42,211	63,134	84,416	86,497	71,758	64,720	57,764	73,076	52,214	15.08	0.73
A	Capital Outlay (1 + 2)	13,295	15,950	16,509	14,574	14,973	16,369	13,851	18,797	37,168	32,954	45,137	46,644	54,142	33,295	42.31	3.65
1	Developmental (a + b)	12,821	15,614	15,885	14,138	14,172	15,771	12,958	17,944	35,496	31,859	43,791	44,200	52,682	31,880	28.00	2.40
a	Social Services, of which	2,765	3,383	1,976	2,847	3,692	6,360	5,640	7,415	12,428	7,797	8,995	12,203	11,829	17,634	15.86	1.41
	Education, Sports, Art & Culture	81	190	18	63	94	173	281	548	750	1,289	1,321	1,645	1,037	1,650	37.30	3.01
	Medical & Public Health	140	218	158	232	522	1,009	1,056	410	942	638	254	66	24	27	-6.00	-0.35
b	Economic Services, of which	10,056	12,231	13,909	11,291	10,481	9,410	7,318	10,529	23,068	24,062	34,796	31,997	40,854	14,247	12.14	0.99
	Agriculture	852	1,490	336	2,452	-486	927	336	1,387	2,082	1,653	696	2,365	3,054	314	0.00	0.00
	Rural Development	216	256	166	243	198	214	5	82	27	196	275	224	265	695	-1.63	-0.35
	Irrigation	0	326	100	346	662	254	400	370	1,152	1,211	1,261	3,357	3,182	2,500	0.00	0.00
	Energy	3,088	4,444	2,870	3,746	4,005	3,996	1,960	3,149	6,462	5,283	12,261	6,820	8,593	4,411	9.09	0.76
	Transport, of which	4,124	4,521	9,211	3,050	4,708	3,051	3,261	3,239	10,613	10,355	13,986	11,813	16,165	3,877	11.63	0.94
	Roads and Bridges	3,124	2,782	2,865	3,050	4,708	3,051	3,261	3,239	10,613	10,355	13,986	11,813	16,165	3,877	22.83	2.02
2	Non-Developmental	474	336	624	436	801	598	893	853	1,672	1,095	1,346	2,444	1,460	1,415	14.31	1.25
B	Repayment of loans	12,934	38,834	67,496	55,201	64,322	22,783	45,433	62,147	45,606	35,363	16,174	11,095	17,892	18,012	-5.89	-0.51
	Discharge of Internal Debt	12,415	35,575	59,953	47,056	58,636	16,248	44,040	58,731	35,412	32,628	14,300	7,934	16,068	16,132	-6.64	-0.58
	Repayment of Loans to the Centre	519	3,259	7,543	8,145	5,686	6,535	1,392	3,416	10,194	2,735	1,874	3,161	1,824	1,880	-0.51	-0.02
C	Loans and Advances by State Governments (1+2)	1,275	1,738	2,237	3,828	4,234	3,060	3,850	3,472	3,723	3,441	3,409	25	1,041	907	-21.34	-2.42
1	Developmental Purposes (a + b)	732	1,146	1,661	2,892	4,197	2,871	3,563	3,462	3,672	3,396	3,399	0	516	382	0.00	0.00
a	Social Services	636	1,122	1,296	2,856	4,098	2,800	3,378	3,443	3,471	3,396	3,148	0	498	382	0.00	0.00
b	Economic Services	97	24	365	37	99	71	185	19	201	0	251	0	18	0	0.00	0.00
2	Non-Developmental Purposes	543	592	576	936	38	189	288	10	50	45	10	25	525	525	-21.34	-2.42

Table A.9.3: Trends of Key Current Receipts - 1995-96 to 2008-09 (BE)

(Rs Lakh)

	Receipt Head	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08 (RE)	2008-09 (BE)	CGR (percentpa)	Income elasticity
	Aggregate receipts of current and capital account	144,746	170,543	191,891	199,325	238,956	345,454	257,906	337,457	388,056	398,193	599,841	663,628	1,826,037	272,053	17.65	1.49
	Total revenue receipts (1 + 2)	106,757	108,215	109,699	118,346	134,410	151,354	162,728	186,743	251,908	273,216	290,568	344,818	418,531	381,537	56.66	4.73
1	Own source revenue (a + b)	49,539	47,657	47,071	45,575	53,534	74,013	82,348	92,642	123,999	134,546	142,717	168,023	202,072	178,933	39.69	3.35
a	Tax receipts	578	667	787	920	1,073	1,443	1,912	2,796	3,385	3,956	5,506	6,762	6,888	7,456	25.66	2.13
	Sales taxes	160	199	251	287	361	606	985	1,820	2,332	2,808	4,159	5,372	5,500	6,000	39.54	3.12
	State excises	83	89	91	90	93	96	136	129	136	140	146	165	165	170	6.52	0.59
	Tax on vehicles	79	93	133	153	183	202	210	256	338	380	435	501	475	500	16.72	1.44
	Others	257	287	312	390	436	539	581	592	579	628	765	724	748	786	-37.13	-3.03
b	Non-tax receipts from	48,961	46,990	46,284	44,655	52,461	72,570	80,436	89,845	120,614	130,590	137,212	161,261	195,184	171,477	14.04	1.22
	General services	1,453	2,450	2,507	1,661	1,080	762	860	1,705	1,376	1,500	1,146	5,183	2,063	804	2.06	0.11
	Social services	263	277	235	263	327	419	481	475	567	551	669	778	813	882	11.35	1.02
	Economic services, of which	2,089	1,837	1,754	1,598	2,598	2,476	2,942	2,780	3,467	5,080	9,434	6,435	9,314	9,344	15.44	1.31
	Forestry & wildlife	161	206	129	109	399	186	163	380	316	274	416	406	320	320	8.71	0.82
	Power	1,022	1,207	1,137	864	1,328	1,779	2,304	1,821	2,614	4,081	8,181	5,179	8,000	8,000	20.25	1.70
	Road transport	223	218	271	201	270	236	198	219	165	154	161	199	181	186	-13.54	-1.31
	Others	45,155	42,427	41,788	41,134	48,456	68,912	76,153	84,886	115,203	123,458	125,962	148,865	182,994	160,448	-14.81	-1.21
2	External revenue (a + b)	57,218	60,559	62,627	72,771	80,876	77,342	80,381	94,101	127,909	138,671	147,851	176,795	216,458	202,604	16.96	1.38
a	Share in Central Taxes	12,367	18,178	20,881	31,698	32,504	8,745	4,373	9,460	13,033	15,578	22,583	28,805	34,089	42,781	2.68	0.13
B	Grants from the Centre	44,851	42,381	41,746	41,073	48,372	68,597	76,008	84,642	114,876	123,093	125,268	147,990	182,369	159,823	14.28	1.25

Data source: NIPFP Databank. Data culled out from the Finance Account of Mizoram (Various issues).

Note: It may be noted that there is noticeable dip in the receipts from Central revenue sharing to Mizoram in 2001-02 compared to 2000-01. And also in the year 2002-03, there is low level of shares. However in 2003-04, it looks normal. The reason is that the year of 2000-01 I the beginning of Award period of Eleventh Finance Commission. In the starting year of this period, there was an adjustment for over payment of tax shares during the period of Tenth Finance Commission.

Table A.9.4: Trends of Key Capital Receipts - 1995-96 to 2008-09 (BE)

(Rs lakh)

	Receipt Head	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08 (RE)	2008-09 (BE)	CGR (percentpa)	Income elasticity
	Total capital receipts (1+2+3+4)	22,852	60,572	69,020	78,090	93,254	48,848	74,703	93,401	72,940	68,365	52,810	47,508	52,399	46,419	18.59	1.56
1	Debts (a+b)	18,957	55,252	61,833	71,181	86,393	38,660	62,634	78,590	54,244	47,170	31,644	23,656	27,283	24,888	-16.45	-1.49
a	Internal Debt	15,833	49,622	51,163	60,011	61,380	34,468	54,169	73,355	46,242	40,392	30,664	23,123	25,423	22,358	-2.19	-0.15
b	Loans and Advances from the Centre for	3,125	5,630	10,670	11,170	25,013	4,192	8,465	5,235	8,003	6,778	980	532	1,860	2,530	-14.26	-1.34
2	Recovery of loans & advances	390	462	566	718	931	1,241	1,510	1,670	2,005	2,230	2,298	2,401	2,466	2,531	18.01	1.58
3	Small savings etc.	3,505	4,858	6,621	6,191	5,930	8,948	10,559	13,142	16,691	18,965	18,868	21,452	22,650	19,000	17.03	1.47
4	Other non-debt receipts*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00
	Debts Servicing/Total Debts (percent)	18.32	8.64	10.64	10.43	10.85	26.76	23.66	17.31	31.45	39.54	60.25	99.66	71.32	87.64	-96.49	-94.09

Note: * includes income/recovery under (i) Inter-State Settlement (net); (ii) Contingency Fund (net) (iii) Reserve Funds (net) (iv) Deposits and Advances (net); (v) Appropriation to Contingency Fund (net); (vi) Miscellaneous Capital Receipts; and (vii) Remittances (net).

Annexure 9.1: Public Sector Uundertakings in Mizoram

1. ***Zoram Industrial Development Corporation Limited (ZIDCO):*** ZIDCO was set up in 1978 under the Companies Act 1956. It is a government company owned by Government of Mizoram with IDBI holding 30.18 percent of equity shares amounting to Rs. 428 lakh. Government of Mizoram holds rest of the shares. ZIDCO has been catering industrial financing and efforts are being made to diversify its activities towards mobilization of funds and industrial development. ZIDCO is now a channelising agency for various loans under NMDFC. Continuation of ZIDCO is considered necessary for its vital role towards industrial development of economically backward state of Mizoram. Fiscal Reforms Programme and Restructuring efforts required for ZIDCO are spelled out in the Medium Term Fiscal Plan of Mizoram for 2000-01 to 2004-05. They are in a nut-shell:

    (a) No more recruitment,
    (b) Reduction of over all administrative expenditure,
    (c) One-time settlement packages (OTS),
    (d) Setting up of Industrial development Project,
    (e) Settlement of outstanding dues with IDBI/ SIDBI,
    (f) Drive on Recovery Loan, and
    (g) Empowerment of Zidco by SFC Act 1951.

2. ***Zoram Electronics Development Corporation Limited (ZENICS):*** ZENICS was incorporated on 20.3.1991 under the Companies Act 1956 with Rs. 5 lakh of Authorised Share Capital of which Rs. 3.62 lakh is paid up. The main objectives and purposes of this corporation are to develop, educate and uplift the general masses of the people of Mizoram in Electronics, Computer/Information Technology. ZENICS is now undertaking.

    (a) Cable TV operation,
    (b) Assembling of electronics goods
    (c) Computer education conducting different courses of computer education
    (d) Functioning as sales out-let or Sales Emporium for assembled electronic goods.

3. ***Mizoram Food & Allied Industries Corporation Limited (MIFCO):*** MIFCO was registered under the Companies Act 1956 on 19.12.1989. The main objective is to promote development of food processing industries of local agriculture and horticulture crops such as ginger, turmeric, chillies, pineapple, orange, passion fruits and other citrus fruits. Authorised share capital of MIFCO is Rs. 20 lakh. The Corporation has new schemes, namely:

    (a) Food Processing Plant at Sairang,
    (b) Fruit Juice Concentration Plant at Chhingchhip,
    (c) Pork & Poultry Processing Plant at Zemabawk, and
    (d) Food Park at Chhingchhip.

    Ban on fresh recruitment and introduction of Voluntary Retirement Schemes are prescribed for them in the Medium Term Fiscal Plan of Mizoram.

4. ***Mizoram Agriculture Marketing Corporation Limited (MAMCO):*** MAMCO Limited was established on 21.2.1993 under the Companies Act 1956 for development of agriculture/horticulture crops in the State and the other objectives of the company are (a) to safeguard the local people from exploitation by unscrupulous traders, (b) to ensure remunerative prices of agriculture/horticulture products (c) to regulate markets to ensure fair prices (d) to provide price supports for such products and to provide necessary guidance and services. The Company is advised to minimize/reduce the administrative cost.

5. ***Mizoram Handloom and Handicraft Development Corporation Limited (ZOHANCO):*** This is another Corporation set up on 20.12.1988 under the Companies Act 1956. The main objective is to develop, aid, advise, assist, finance, protect and promote the interest of handloom and handicraft units in the State. The company is advised to take efforts to curtail administrative expenditure.

Chapter ***10***

A Strategy for Development

MIZORAM is an interesting State embodying a number of sharp diversities and contradictions. While one half of the population is dependent on agriculture where shifting cultivation is the dominant mode of organizing production, a large part of the other half is associated with construction activities and services sector, of which Government is a predominant component. The scope for expanded opportunities within shifting cultivation is limited at best – it is believed that the *Jhum* cycle, i.e., the number of years a piece of land is left fallow is decreasing, adversely affecting yields from human endeavor. On the other hand, while the nineties saw rapid expansion in employment within Government as well as of other categories of Government spending, this was more in response to the formation of a new State and the necessity to establish all the minimum level of services and administrative machinery for governance – it cannot be a trend for the future. Fiscal correction initiatives in recent times have limited the scope for expansion of employment in the Government as well.

Corresponding to the above profile of economic activities, close to a half the population lives in urban areas and the proportion seems to be growing rapidly. Increase in literacy and more importantly, increase in overall levels of education have meant significant numbers registered with the employment exchanges. In the absence of significant non-Government activities, this reflects an expectation of absorption into the public sector. Even those employed often are considered over-qualified for the job, i.e., the system fails to use its staff efficiently.

While the State informally has access to two significant markets in its neighbourhood – Myanmar and Bangladesh – informal access can only absorb transient surpluses. In the absence of formal access through institutionalized trade arrangements, investments to expand production and utilize these available opportunities will not be forthcoming. Poor infrastructure, distance from the mainland

States of India and insurgency in some of the immediate neighbouring States, increases the cost of access to the other potential markets. Entrepreneurship therefore tends to take the form of tapping informal access and focuses on short term returns rather than long term. The agreement between India and Myanmar on October 16, 2008 has brought some progress by proposing to convert the border trade post at Zowkhathar into a regular trade post, with the list of traded goods from the present 22 to 40. With the infrastructure to support this change taking shape, there is some optimism about the direction of change. Completion of the Sittwe port should further enhance the prospects in this region.

Apart from road/rail/air connectivity problems, the State also suffers from inadequacy of electricity – a critical input for value addition in the economy. While the tenth plan document posits a 5 percent expansion in the demand for energy corresponding to an 8 percent growth target, in earlier periods, the elasticity of energy demand exceeded one percent indicating a rate of growth higher than the rate of growth of GDP. Since Mizoram too is in the initial phase of industrial development, energy demand is expected to gallop. The dimensions of the problem are reflected in the fact that close to a half the power supplied by the electricity department is produced through diesel gensets! While a number of hydel projects are on the agenda of the State Government, resources are a constraint.

Any strategy for the development of Mizoram has to find its way among these dimensions. This report proposes a two-prong strategy through agriculture services sectors of the economy. The strategy seeks to find integrated solutions, which address more than one of constraints at a time. The discussion is split into strategies for the primary sector (section 10.1) and strategies for the tertiary sector (section 10.2). The infrastructural needs of such a strategy are examined in section 10.3.

10.1 STRATEGIES THROUGH THE PRIMARY SECTOR

There are two distinct issues to contend with in devising a strategy for the agricultural sector in the State –forms of organization and choice of crops. Given the

historical path dependence resulting from *Jhum*[106], production activity is organized through community decisions rather than through individual decisions. This is further reinforced by the fact that production is largely for self consumption. This form of organization has two important consequences for the economy –

1. Tends to preclude the incentive for investment in agriculture, since the returns to the investment cannot potentially be appropriated by the investor. Thus, most of the investment in agriculture in the State has been by the State Government, through its own resources or through schemes of the central Government, in a bid to increase the returns from land and thereby induce a transition to settled agriculture.
2. Since the only inputs people perceive are labour inputs, all the returns are attributed to labour. While this is useful to the extent it provides better incomes to the cultivators, it tends to increase the opportunity cost of moving out of agriculture. Cost of labour for all other activities in the economy therefore is high, rendering those activities non-remunerative/ non-viable.

A one step transition to settled agriculture requires a transformation of the decision making process as well as the technological change at one go. An alternative approach, which imposes less rigorous demands for transformation, would be to stagger the process. Given the comfort associated with community based decision making – the risks from the decision are jointly borne – this report proposes an organizational shift to cooperatives. It may be mentioned here that the cooperatives do not have to span the entire village: sub-groups of households can form a cooperative for this purpose.107 The land continues to be jointly owned. The collective effort too continues, and an agreed upon scheme for allocation of the output is devised. Cooperatives have had some history of success in the State, in some of the allied activities. It would be useful to explore this route in agriculture as well. The cooperative route has a number of advantages.

1. It allows for larger scale of operation of a single chosen set of crops; the surpluses if any, are not small amounts of a diversified set of crops but

[106] Jhum appears to have been a rational response to the local conditions – thin top soil, undulating landscape being prone to soil erosion, low density of population and heavy rainfall, ensuring rapid regeneration of foliage. However, as argued in chapter 2, there are constraints to further expansion of this activity and the environmental impact may be undesirable.

[107] While the formation of cooperatives is often traditionally argued to be fraught with problems of adverse selection, since information on the potential members may not be available, this may not hold good in the case of Mizo villages, since these comprise of people familiar with each other over long periods. Further, the social capital discussed in the first chapter provides with mechanisms to monitor and check non-conforming behaviour.

larger amounts of a few crops, thereby makes marketing feasible/ economical.

2. Since the incomes are earned by the cooperatives, investments can be institutionalized, thereby reducing the decision making problems for individual families. Micro-credit options for self-help groups too can be utilized to generate such resources.

The shift to cooperatives can be incentivised through some initial investment contributions by the Government. At present, the Government has a number of schemes for providing assistance to cultivators for introducing new crops or for new technology. These schemes can be routed through cooperatives, providing them with some initial capital to enhance the cohesion of the group.

Now to turn to the second component of the strategy: choice of crops for cultivation. Given the constraints facing the Mizoram economy, in terms of difficulty in accessing external markets, and the inadequacy of domestic production for most of the crops, the strategy proposes that domestic consumption should remain the driving force determining choice of crops and activities. Consumption pattern of Mizos is said to be composed of rice, vegetables and meat. However, the NSS survey on consumption patterns of rural households documents primarily consumption of rice, with very little consumption of proteins – whether vegetable or animal. The consumption of milk too is very limited. Impact of such consumption patterns is reflected in the status of health – 22 percent of children are underweight while 30 percent are stunted; 15 percent of women and 6 percent of men are under nourished, as reflected in a below normal body mass index, 51 percent of children under age 35 months, 49 percent of pregnant women, 38 percent of married women and 19 percent of men in the age group 15-49 are reported to be anaemic (NHFS-3). These figures are alarming, to say the least. Choice of activities of the cooperative should therefore be designed to take as many of these features into account as possible. The Mizoram Intodelna Project (MIP) identifies a number of crops with an orientation towards self-sufficiency. This proposed strategy too seeks a similar approach, incorporating both crops for current consumption and allied activities. Here it should be mentioned that activities such as dairy and raising of pigs has become an integral part of the activities of some individual households. By incorporating these into the activities of the cooperative itself, there can be gains from bulk purchases and from obtaining superior feedstock and thereby increasing the returns from the activity.

The third concern that the cooperatives are well placed to address relates to the energy requirements of the village. While most villages are "electrified", all the grid based power tends to be directed towards the urban areas. Paucity of electricity in the State necessitates some form of rationing. Instead of such centralized supply of electricity, it is useful to explore the options of decentralized arrangements. There are a number of documented cases of effective decentralized systems; some of them are based on utilization of non-edible oil seeds. Given that some species of Jatropha are native to Mizoram and are used as live fence, it is useful to capitalize on this crop as an integral part of the choice of cropping strategies. A number of inter-cropping arrangements with Jatropha are now identified, thereby allowing for smooth integration of this crop with the rest of the chosen profile. The advantages of Jatropha include its soil stabilizing properties – it is useful to reduce soil erosion – and the fact that purified Jatropha oil can be used to run diesel gensets with no further processing required. There are instances of factories being run on such fuels even in India, suggesting that with expanded production of crops as well as this oil seed, value added activities too become feasible.

This process of transformation towards settled agriculture, will free up segments of land now maintained by the village community as supply reserves and village forests, part of which are fallows from Jhum cultivation, can be used to augment the forest cover, in a form that can be used for satisfying the various needs of the village. While this is often considered an end in itself, given the larger global gains, it can also be a mechanism for augmenting the livelihood options in the village. To give a few examples:

1. Social forestry can expand the scope of products available at the village level. These could be medicinal plants or even timber, which can be harvested, in a structured framework, thus adhering to the guidelines of the Supreme Court.
2. Mizoram produces close to half the power supplied by the electricity department using gensets. Further, while the consumption of diesel in the State is not yet high at 59 kg. per capita as against a national average of 98 kg, it is expected to increase with the expansion in economic activity and incomes. Given the availability of land, and potential institutional support for making a transition to biodiesel, the State Government can procure Jatropha oil from the villages for transforming into biodiesel and for running its heavy duty generators for power supply. This is being demonstrated to be a cost efficient solution, the advantages being

augmented by the excise duty exemption announced in the Union Budget of 2007-08.

3. Apart from formal carbon trading mechanisms for companies working with clean technology, people to people initiatives too are taking shape. The infrastructure chapter provides some instances. These options reward the increase in coverage of forests, as well as any shift to non-polluting energy sources. The initiatives to tap such options can be taken by the State Government or by individual villages, as seen fit.

Given the technological change underlying a shift to settled agriculture, there is need for a lot of agricultural extension work, so as to provide technical inputs to this transition. It should be mentioned that this transition may, in fact, not be a one shot transition, but an ongoing process for bringing in new technologies suitable to the State, as well as to introduce new crops, as the system stabilizes and begins producing surpluses for the market on reasonable scales. As a part of this strategy, therefore, there is a major role for the State to invest in agricultural research and its dissemination in the State. Interestingly, this initiative spans both the educated segments of the population by providing some expanded opportunities, within the fabric of development in the State, and at the same time addresses the concerns of development in agriculture as well. Once again there is some support available from the Union Budget of 2007-08 – attempts are being made to re-energise and kick-start agricultural extension work in the country. The State can make use of this opportune intervention as well.

10.2 STRATEGIES THROUGH HUMAN CAPITAL FORMATION

The potential for significant expansion of manufacturing activities is limited at least in the medium term for reasons of infrastructure, topography and market access opportunities. It is also constrained by the labour market conditions: high cost of labour, sustained partly by entry restrictions into the State and partly by the level of per cultivator incomes generated in agriculture and paucity of skilled labour on the other. While Mizoram has among the highest literacy rates in India, even with good gross enrolment ratios, the translation into educated youth is poor. Improvements in the level of education have multiple benefits for the economy. Apart from improved health status, as documented in the chapter on human development, there is an expansion in the pool of talent available for employment in industry or for expansion in the non-Government component of services sector. While the cost of unskilled

labour may appear prohibitive in the State, if skilled labour can be made competitive with the rest of the North-East, the relative disadvantage to the State can be corrected. Efforts to expand the entrepreneurship and increase in incomes, which bring with it, increase in demand for non-agricultural produce, will gradually open up the scope for viable industrial operations as well. The transportation costs to Mizoram from the rest of India will actually serve to the benefit of the local entrepreneur once demand expands with growing agricultural incomes. Expanded opportunities for trade with the neighbours, Myanmar and Bangladesh would enhance the opportunities at this juncture.

In the interim, there is need to explore opportunities within the non-Government component of services sector. Emphasis on effectiveness of the education system at the school level increases the demand for school services. In terms of access to schools at all levels of school education, Mizoram is doing reasonably well, especially given the prescribed norms. However, poor retention seems to be a persistent problem. One of the important reasons for dropping out is alternative demands on the time of child, especially as the child grows up. Union budget 2007-08 provides one corrective in the form of scholarships of Rs. 6000 per year for education in classes 9-12, for up to one lakh students per year. With the average per cultivator income in agriculture of Rs. 15,000 per annum, this would be an attractive sum of money for inducing participation in the education system. Expanded demand for education beyond primary schools would step up by the demand for teachers and for teacher training. Given the importance accorded to the education of girl children and its long term impact on the health of the population, there is merit in providing incentives for completing education at least upto the upper primary level through a grant made available on completion. This is not so much to ensure gender parity as to improve the health performance of the State. With larger numbers of students completing school education, the demand for higher education too would increase. While this report does not hypothesise any role for the State Government in generating such services across the board in all manner of activities, as mentioned in the case of agriculture, there could be a few areas, which represent the core strength of Mizoram's developmental strategy, where expansion of higher education might be merited. In some of these, the Government could choose to

encourage expansions within the State, while in others, it could choose the route of financing studies in other locations. While all such schemes require the beneficiary to serve the financing Government for prescribed minimum period, such conditions may not require extensive monitoring since Mizos, with strong social inter-linkages and commitments, tend to return to their native land at later points in life, if not immediately, thereby, bringing the talent pool back to the State. In fact, the latter approach might be more desirable since they gain experience in this period and also develop a variety links with the other regions, which could contribute positively to Mizoram's interactions with the rest of the world.

Apart from interventions in education, the strategy proposes a strategic intervention in the health sector. The North-Eastern region has paucity of health services – people often travel to the rest of the country to get access to reliable tertiary health care. Mizoram has good climate all year through and is widely considered a peaceful State, both of which factors make it a viable choice for a health care destination. It has the potential to be created as hub for this activity. Improved air and rail connectivity would be desirable for accessing this option, with the entire North-East as the target – this could either be achieved through a suitable choice of location or through augmentation of the connectivity in existing locations. The latter option would suggest Aizawl is the likely location. However, in terms of regional dispersal of economic activity and lower initial cost of land and infrastructure, places closer to the border of Assam may be more suitable and desirable.

Better air connectivity would make more specializations feasible, by allowing easy movement for experts from hospitals from the rest of the country, if required. In specific, if the hospital hub is established through an existing chain of hospitals, there are other synergies to be harnessed as well – corporate management of hospitals can lend better service. State wide health insurance schemes for people from Mizoram can protect the people of the State from high costs of medical treatment, when required. If the services do take off well, instead of a flow from the North-East to the rest of the country, one can potentially visualize a reverse flow from the States such as Bengal to the North-East, if the location helps in moderating the costs of treatment.

The presence of the Regional Institute of Paramedical and Nursing (RIPAN) in Mizoram, lays the first brick for this vision. Nurses from this institution are now an

integral part of the health care services all over the country, testifying to the quality of service rendered. On the other hand, tertiary health care facilities can also encourage the establishment of medical colleges/para medical college, attached to these facilities, thus expanding the scope from health care services to expansion in technical education services as well. For instance, there is a huge shortage of nurses, the world over. RIPAN has sought to tag into this market by entering into agreements for placing their students, suitably trained, into jobs in hospitals in the US, for instance. Expanding nursing education, therefore, is a viable business opportunity as well. Narayana Hrerdayalaya in Bangalore, for instance has a Hospital of Nursing Catering to 700 nurses each year. It is mentioned that once a hospital is set up, the cost of training a nurse is as low as Rs. 2-3 lakh, even on a commercial basis. While all this appears to be VISION in the full sense of the term, it is a VISION that can be realized as well.

10.3 Approach for Infrastructure Augmentation

The strategy for development proposed in this chapter seeks augmentation of Government investment in infrastructure in some sectors, while in others there is need for phased implementation. Interestingly, the key sectors in the strategy also coincide with some of the thrust areas for Central Government assistance, thereby reducing the demands placed on the State budget. Bamboo Flowering and Famine Combat Schemes (BAFFACOS), was one such initiative with significant financial support from Planning Commission, Government of India. The intention was to augment infrastructure and expand livelihood options so as to combat potential economic displacement resulting from "Mautam", the greganious flowering of "Melocanna Baccifera", the most commonly available species of bamboo in Mizoram. Initiatives such as these can and should be used as doubled edged weapons to enhance long term viability of the economy as well. The only issue is to be able to leverage the finances appropriately so as to derive the maximum gains. Within infrastructure development, the key sectors requiring immediate attention are roads and power. The strategy for electricity for rural areas requires the Government to finance investment in generators – while Governments are expected to provide electricity in rural areas, their ability to recover any charges is limited at best. By decentralizing generation and making the local Government responsible for running the equipment, the recurring losses

associated with rural electrification can be done away with. Given that there are 750 habitations in the State, assuming that habitations are covered by generators of 75 kva. capacity, the cost would be in the range of Rs. 5 lakh per generator, including installation costs, i.e., Rs. 37 crore. For roads, however, there is no such middle path available. The Government has to invest in roads especially in areas where the connectivity is very poor. Statistical Abstract, Department of Revenue, Government of Mizoram presents information on the connectivity requirements for each district, by the required km length. As of 2002-03, the required augmentation to the network was over 390 km., for areas with assessed improvements to potential.108 The Statistical Abstract reports the cost of construction at Rs. 3 lakh per km. with involvement of the beneficiaries. Even assuming the costs to have increased to Rs. 5 lakh per km., the total cost of this exercise would be about Rs. 20 crore.

Box 10.1

Demand Driven Improvements in Services: A Case Study

In a case study spanning two villages in Andhra Pradesh, differences in perceptions of people and the impact on economy as well as services was captured. Both the villages are resettled colonies of scheduled caste families, who were provided land for a house as well as a small plot for cultivation, through redistribution of surplus land in the State. In one of the colonies, a cooperative arrangement emerged – a lift irrigation scheme jointly operated allowed for wet rice cultivation, formation of self help group and expansion into dairying. The need to monitor accounts gave rise to demand for education. Expanded activity continues to be on the cards, and prosperity is there to be seen. In the other colony, the land remained drought prone, economic activity did not take off. Demand for education is strictly related to the mid-day meal scheme, and all services have to be supply driven, and the ration provisions are the only means for sustenance. While gas connections were provided by the State Government to BPL families, they can be retained in the former but not in the latter.

Source: M. Bharathi (2006), "Poverty Eradication Methodology and Case Study", in K. Sarap, et. al. (ed.).

These constitute the immediate requirements for infrastructure in the State. Other aspects, for instance, telecommunications and information technology, can be phased in gradually. The paucity of electricity and the costs of satellite connectivity limit the potential from these infrastructure elements for the bulk of the society.

[108] While the statistical abstract for 2003-04 is also available, the figures reported for total road length for potential area connectivity has declined. It is not clear what causes this decline.

Further, as discussed in the chapter on infrastructure, it is more useful to first create a demand for these services, before they are made available, so that there are users who develop a stake in the continuance of the service. This in principle is true for a lot of services provided, as illustrated from the case study summarized in the Box below. In the interim, if the Government can demonstrate the use of such services through improvements in its service delivery approach, the process of demand generation would have been initiated.

Underlying this overall strategy for development is a concern to raise and protect the self-sufficient character of the economy and encourage the expansion in demand within this framework. Integral to such an approach is a thrust for decentralized decision making. The demand for autonomous councils, over and above those already in place highlights the conflicts that are brewing in the State. The level of service delivery too varies widely across districts giving scope for resentment, in an environment where service delivery is the responsibility of the State Government. However, by changing the allocation of responsibilities to lower levels of Government, some of these tensions can be resolved and service delivery can be improved through competitive performances. Here it should be mentioned that while 73rd and 74th Amendments to the Constitution of India do provide a framework for such a process of decentralisation, it is by no means the only model that can be followed. However, if there are fiscal and other gains from such a model, lot of measures can be dressed by to fit the bill. The emphasis therefore is not on specific provisions, but on the actual process of decentralization for better governance and better service delivery.

Epilogue

New Land Use Programme: An Assessment

E.1. INTRODUCTION:

In the last few years there have been two major changes in Mizoram. The first change is the impact of Mautam on the agrarian economy of the state – the gregarious flowering of the bamboo and the subsequent adverse impact on the crops is said to have resulted in a significant deterioration in the quality of life of people in the rural areas of the state. The other change has been a change in the government in the state which proposed to improve the livelihood opportunities in the state and reduce the dependence on Jhum based cultivation techniques through the redesigned New Land Use Programe (NLUP). The stated objectives of this programme are:

1. To keep 60% of Mizoram total land area under rain forests.
2. To stop the jhuming practice. All workforce engaged in Jhum to be provided opportunities for engaging in sustainable high productivity economic activities. For activities which require the use of land, each family to be provided about 2 hectares of land.
    a. These activities to include agricultural and allied activities as well as micro-enterprises.
3. To improve the lives of rural and urban poor through sustainable farm and non-farm activities.

Statistics for the year 2006-07 indicate that Jhum continues to be operation in about 41000 hectares. The NLUP proposal suggests that the productivity of land under Jhum has considerably declined over the years as a result of a decline in the periodicity of Jhum. The main objective of the NLUP programme is to bring about a

change in this description of the state by encouraging the adoption of more sustainable economic activities in place of Jhum.

Earlier attempts by governments in Mizoram to induce a movement away from Jhum have not been very successful. The NLUP I programme introduced during 1985-99 on a pilot basis was confined to 4 rural development blocks with emphasis on agriculture and allied activities and social forestry. While there were some success stories, the overall impact was somewhat limited. In an assessment undertaken by the MSSRF, the following shortcomings of first NLUP programme were noted:

i) Schemes have been chosen arbitrarily
ii) High value schemes have been given precedence over marketability of products.
iii) Purchases of raw materials, tools, animals etc. by a Central Committee has been the root cause for failure of the scheme as the inputs never reached in time for the season bound agricultural operations.
iv) Monitoring of the schemes has been very poor.
v) At many places, the farmers gave up jhuming for permanent activities which did not give adequate returns.

A subsequent scheme of the Mizo Intodelhna Project too faced limited success. The new programme therefore attempts to address the concerns raised in the context of these initiatives and design a programme that integrates high productivity activities with adequate infrastructure to ensure that the produce can be effectively and remuneratively marketed as well.

E.2. NLUP: MAIN FEATURES:

The activities proposed in this programme are to be in the following areas: agriculture, horticulture, animal husbandry, fisheries, forestry and minor industries and services. In each of these sectors, the programme identifies activities which can potentially generate high and sustainable incomes. The sectors and the projected numbers of beneficiaries are summarized in Table E.1 below. The table highlights the fact that the proposed emphasis was to be on agriculture, horticulture, animal husbandry and forestry. While the total number of beneficiaries is to be 120000 over

the five years, in the first year of the project, the expected number of beneficiaries was 19640.

Table E.1: Number of Beneficiaries and the Associated Expenditure

SN	Name of Activity	For 5 years 2009-2014		1st year 2009-10	
		Phy/No.of Households	Financial (Rs Lakh)	Phy/No.of Households	Financial (Rs Lakh)
1.	Agriculture	31600	37600	5620	7040
2.	Horticulture	28800	26850	5760	5370
3.	Sericulture	8500	8500	500	500
4.	Fisheries	3000	6352	600	1270
5.	Soil Conservation	9000	8405	1700	655
6.	Animal Husbandry	18860	15282	2060	1673
7.	Forestry	10740	16393	2000	3053
8.	Micro-Enterprises	6500	5200	500	400
9.	Handloom	3000	2400	600	480
	Total	120000	126982	19640	20441

Source: NLUP Policy Document, Government of Mizoram (2008)

In order to ensure that the projected returns are realized, there are two crucial components that are built into the programme:

i) The initiative and the responsibility for proper design of the programme is placed in a decentralized framework with the village development committee. In order to ensure that the committees are able to meet these demands placed on them, the programme incorporates a significant component of capacity building. This component aims at creating capacities for identifying the appropriate activities for the village and for managing the programme so as to ensure that the projected benefits are realized. The emphasis of the programme is on
   a. generating a greater sense of ownership of development interventions;
   b. building on the traditional values of community participation.

ii) For ensuring that the projected returns from the various selected activities are realized, it is important to recognize the need for developing various

infrastructure components. A significant component of the expenditure under the programme is targeted towards these activities.

a. Development of Irrigation Facilities: augmentation of existing capacities with focus on areas identified for permanent agriculture or terrace cultivation
b. Road Network and AgriLink Road: proposal to construct 5720 km over 5 years: assuming contribution of labour, the cost per km is put at Rs 15 lakh.
c. Telecommunication facilities: largely completed under the Bharat Nirman Programme
d. Water harvesting system: proposal to construct 5 in each village at the cost of Rs 5 lakh each. It is assumed that the villagers would contribute labour thereby reducing the cost by 20 percent.
e. Rural Electrification: Proposals include the setting up of "hydroger", i.e., low cost hydel power generators
f. Setting up of processing unit:
    i. 6 biomass dehydration units proposed to ensure that products such as ginger and turmeric can be processed and marketed thereby increasing their shelf life
    ii. Processing units for fruits, tung, bamboo: it is proposed that in addition to two units for processing tung, one for making bamboo chips, in every village there should be a unit for semi-processing of fruit so as to ensure value addition at the village and to easy transportation to the industrial unit for final processing and packing.
g. Setting up tissue culture lab: to develop quality and Mizoram specific seeds.
h. Rural godowns proposed to be constructed in 750 villages
i. Augmentation of the larger power producing units proposed as well
j. Banking facilities and micro-credit: proposal to open bank accounts for all the beneficiaries with banks providing mobile banking wherever necessary; banks also to provide access to micro credit for cases where

the proposed activity involves a gestation over one year and/or where the beneficiary seeks to take up additional activities to augment the incomes from the proposed activity. The state has coordinated with the banks to ensure that the costs to the borrower are minimized by eliminating commissions and transaction fees.

k. Satellite remote sensing and GIS for NLUP: these will be used as a tool for assessing the impact and progress under the NLUP programme.

The institutional mechanism for implementation of NLUP places considerable emphasis on village development committees to be constituted in every village with participation of all beneficiaries as well as women and the marginalized segments of the village. These committees would constitute the lowest tier in a four tier implementation framework. It is proposed that there will be considerable effort made for capacity development at this level so that the committees can develop a vision for the village, produce project documents as well as to monitor and report on the progress in the projects undertaken. In addition to the implementation arm, the MLUP programme proposes some clearly defined evaluation and audit measures to assess the effectiveness of the programme and to enable fine tuning in subsequent years based on the experience of the initial years.

In terms of the selection of beneficiaries, the programme clearly stipulates that the all people who earn livelihood from agriculture and allied activities as well as from animal husbandry along with all those families whose members do not have regular employment are eligible. Further, the scheme also details out that any family with a permanent source of income would not be eligible.

This includes government servants, permanent employees under government sponsor, Corporations, Boards, Semi-Govt. establishments including deficit schools, businessmen, petty traders, registered Contractors, suppliers etc. who have permanent source of income.

The selected beneficiary is expected to give written consent to abide by the terms and conditions of the project which include a commitment not to migrate from the village

before the completion of the project. The scheme proposes penalties for misuse of the assistance.

In order to ensure that the produce generated through the NLUP efforts gets remunerative prices, the proposal seeks to provide cold storage facilities to increase the shelf life of the produce, processing plants to reduce the transportation efforts, transport assistance and if required, the introduction of market intervention schemes or minimum support price schemes. It is hoped that with improvement in the relations with the neighbouring countries – Myanmar and Bangladesh, the scope for border trade as well as international trade would improve and thereby improve the viability of these projects. The completion of the Kaladan Multi-Mode Transport system, it is expected, would open up the potential for exports from this region and even make markets in the rest of the country more accessible.

E.3. ASSESSMENT OF THE INITIATIVE:

Given the structure of Mizoram economy, with dispersed population, limited infrastructure in terms of connectivity both within the state and to other potential markets and in power supply, the success of the above programme in transforming the Mizoram economy is crucially dependent on the success of the proposed infrastructure initiatives and in identifying and cultivating suitable markets for the produce. While some of the produce is targeting the local market, in an attempt to reduce the import content of local consumption, most of the initiatives in the horticulture sector for instance are aimed at markets outside the state. While the project has provided considerable details on the infrastructure front, there is need for some additional effort on identifying and developing markets. While there is considerable discussion on the need for specific efforts the marketing front, no clear initiatives have been proposed as a part of this programme. It is hoped that if the activities and the beneficiaries are suitably clustered, there would arise economies of scale whereby individual or collective effort of the beneficiaries would be adequate to market the produce. For the significant increases in incomes that the programme envisages, a more structured approach might be required. For instance, the

government might be able to mediate an agreement with private parties for long term contracts on procurement of processed or semi-processed produce.

In order to get some first impressions on the implementation of the NLUP programme, an attempt was made to compile the activity profile of the beneficiaries of the programme. Available information for three districts of the state is presented in Table E.2. below.

While the overall set of activities are determined by the programme, the cjoice of activities seems to be demand driven at the level of the household or at least the community. This seems to be generating a lopsided move in favour of industry, animal husbandry and horticulture. When compared to the figures for number of beneficiaries proposed for the first year, even the numbers for these three districts indicate an over-whelming preference for industry and animal husbandry. In industry, the number of beneficiaries in these three districts is about 6 times the total proposed number. Even if the entire five year period is taken, the numbers indicate that over 75 percent of the proposed beneficiaries are in these three districts while the entire time period has not yet elapsed. It should further be noted that the bulk of these beneficiaries are located in Aizawl district. If one looks at the breakup of the activities chosen, it would appear that petty trade, agarbati making, carpentry and handloom are the preferred activities. From the information compiled for three out of the – districts, it appears that the intended emphasis on agro-based activities with a goal to achieve self-sufficiency in certain produce – agricultural/horticultural or animal husbandry may not be realized. Further, the concentration of a large number of households on activities such as agarbati making will increase the need for well-defined and effective marketing networks for successful augmentation of income streams.

Table E.2.: Activity Profile of Beneficiaries: Select districts(Number of Beneficiaries)

	Aizawl	Palak	Saiha	Champhai	Sub-total	Share in total %	Proposed beneficiaries in First year	Sub-total as % of proposed first year beneficiaries	Total Number of proposed Beneficiaries	Sub-total as % of proposed total beneficiaries
Agriculture	89	226	113	917	1345	8.47	5920	23	31600	4.3
Horticulture	232	402	139	1366	2139	13.47	5760	37	28800	7.4
Sericulture	9	0	0	186	195	1.23	500	39	8500	2.3
Fisheries	61	42	17	147	267	1.68	600	45	3000	8.9
Soil Conservation	35	96	16	367	514	3.24	1700	30	9000	5.7
Animal Husbandry	1765	438	491	1962	4656	29.31	2060	226	18860	24.7
Forestry	1	0	0	283	284	1.79	2000	14	10740	2.6
Industry	5467	97	188	733	6485	40.82	1100	590	9500	68.3
Total	7659	1301	964	5961	15885		19640		120000	13.2

Source: Computed from NLUP Policy Document and Beneficiary tables for the three districts[109]

Within animal husbandry, there is a preference for piggery and Mithun rearing. This is somewhat in dissonance with the proposed scheme where there was a clear emphasis on piggery over all other alternatives.

The concentration of a large number of beneficiaries in Aizawl too needs to be viewed with skepticism. This picture is further vitiated by the evidence presented in the survey on NLUP conducted on behalf of the government by the University of Mizoram. The study highlights the fact that contrary to the specifications of the project, a number of beneficiaries of the project had permanent employees including government servants in their families. While this might not be a major aberration, it needs to be treated as a note of caution, since the programme is yet to be concluded and hence this aspect can be guarded against with more vigilance in subsequent rounds of identification of beneficiaries.

[109]For Aizawl, the tables were taken from Appendix I of "Report of the Survey on NLUP Beneficiaries and Trade Selection in Aizawl City, 2011", by James L.T. Thanga, Department of Economics, University of Mizoram. http://en.nlup.mizoram.gov.in/index.php?phek=bawm&bid=47

http://www.saiha.nic.in/documents/nlup/40%20-%20Palak%20Cluster@%20Beira.xls,
http://www.saiha.nic.in/documents/nlup/39%20-%20Saiha%20Cluster@%20Mena.xls,
http://champhai.nic.in/nlup%20benef.html

Newspaper reports on the quality of life stock procured for the programme suggest that while government could help procure the life stock or even breed piglets, it might be useful for the households to have choice and be responsible for the results. Encouraging alternative sources of supply either in the form of private suppliers or in the form of NGOs might allow for better quality of lifestock to be procured. Further, given that both with new agricultural crops and with livestock some nature based shocks can generate failures in the activity – like say, the entire set of cattle being affected by foot and mouth disease or poultry being affected by bird flu – an insurance scheme of some kind might be useful to ensure that the activity takes off even with initial hiccups. Given that insurance usually suffers from principal agent problem wherein perverse incentives are generated so as to capture the insurance amount, a part of the insurance cost should be borne by the beneficiary household.

Success of some components of the programme is crucially dependent on the effectiveness of the infrastructure backup – processing plants in case of fruits and drying facilities in case of seri-culture, for instance. Initiating these efforts within the public sector with no clear alternative, it appears, could undermine the delivery. Some assessments of the proposal for instance, raise doubts about whether the present existing processing plant of MIFCO will be functional when required or not. Placing these initiatives in the public sector, by not utilizing the individual initiative, could mean that they don't keep pace with the community driven initiatives in the rest of the programme.

Some of the infrastructure programmes as well as some of the beneficiary programmes depend on some contribution from the beneficiary household or from the village community. This contribution is often in the form of free labour. If the description of low incomes and lack of livelihood opportunities is correct, then expecting these households to work without any remuneration, in return for some potential benefits in the future, could result in delay in completion of such projects. Utilising schemes such as NREGA could help in finding the resources for covering wage costs.

In summarizing, three key issues for success of the programme are:

1. Limiting the choice of activities available to the beneficiary household/village – given that certain activities appear more attractive than others, if the proposed scheme has an underlying rationale derived from an assessment of the likely demand for various activities/produce within and around the state, significant variation from this profile would place large demands on the government to ensure sustenance of the markets for the same.
2. Timely delivery of infrastructure components of the project – in cases where feasible, it might be useful, in the case of small works, to entrust the same to the concerned village community, and in the case of somewhat larger projects, through PPP like arrangements to some private agents. Delay in the implementation of the projects will undermine the attractiveness and in some cases even the viability of the activities concerned.
3. Some more work on the markets for the produce would be useful. Any initiatives to augment the scope of the market for the produce will help. Here, while wholesale market yards might be helpful, at least for a few initial products, it be useful for the Mizoram economy, if the government can mediate an agreement between the producers and the buyers for some long term contracts. There is evidence of such long term contracts with pre-fixed prices in the context of floriculture for Anthurium in Mizoram. Efforts to open up the border trade or opportunities for international trade would be useful but would involve multiple governments and therefore lie beyond the control/influence of any single government. The emphasis could more usefully be on initiatives where the Government of Mizoram can play a decisive role. This could even extend to the development of Mizoram as a brand for food products or even organic food products, for instance.

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