

FORESTS AND FORESTRY IN MIZORAM - A PROFILE

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Introduction

Mizoram, the land of highlanders, (as Mizos are popularly known) was recognised as Lushai Hills and formed part of British India in 1898. For discharging administrative functions a Superintendent was appointed as Head of the Lushai Hill District who was assisted by couple of native Chieftains. Soon after Independence "Chieftainship" was abolished and on 25th April, 1952, an Autonomous Mizo District Council was set up. In 1972, Mizoram was accorded the status of Union Territory and finally on 20th February, 1987 attained full-fledged Statehood.

Geographically the State lies between 21° 56' - 24° 31' N latitudes and 92° 16' - 93° 26' E longitudes covering 21,087 km² of land area the Territory stretches over 277 km along North-South, while East-West width extends over 121 km. With Bangladesh the common boundary stretches over 316 km. The State is bounded by Cachar District of Assam and Manipur in the North, while Chin Hills and Arakan Hills of Myanmar are in the East and South, and Western side is flanked by Tripura State and the Chittagong Hill-tract of Bangladesh.

There are three Districts in Mizoram viz. Aizawl in the North with an area of 12,588 km². While the Central District Lunglei occupies 4,536 km² and Southern

most Chhimituipui extends over 3,957 km² (recently Aizawl District has been divided into three Districts viz. Aizawl with District headquarter at Aizawl, Aizawl East with headquarter at Champhai and Aizawl West with headquarter at Mamit). There are three Autonomous District Councils viz. Lai, Mara and Chakma in Chhimituipui District. There are 681 villages in the State.

Topography, Climate, Geology and Soil

The entire territory is mostly mountainous and hilly with precipitous slopes forming deep gorges culminating into several streams and rivers. Almost all the hill ranges traverse in the North-South direction. Blue Mountain is the highest peak at 2360 m where as the lowest spot lines at Bairabi with 40 m above the Mean Sea Level. The average height of hill ranges in Mizoram is 920 m. In the lower altitude at foothills and valleys typical tropical forest is obtained while in mid-region with large expanse, the sub-tropical moist climate prevails and in the upper reaches temperate climate is experienced. Thunder storms with heavy down pour during April to May is very common. There are 13 perennial rivers contributing to the drainage system. Few rivers flow to North while others flow South-ward.

The geological formation is of recent origin resulted by nine repetitive successions

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of neocene arenaceous and argillaceous sediments gradually thrown into series of North-South trending longitudinal plunging anti-clines and synclines. In the higher elevations arenaceous formations occur while the low lying areas and depressions are represented by argillaceous rocks. The common rocks found are sand stone, shale, silt stone, clay stones and slates. The rock system is weak and unstable prone to frequent seismic influence. Soils vary from sandy loam, clayey loam to clay, generally mature but leached due to steep gradient and heavy rainfall. Soils are porous with poor water holding capacity deficit in potash, phosphorous, nitrogen and even humus. The pH show acidic to neutral reaction due to excessive leaching.

Population

The original stock in Lushai Hills was Mongoloid or Tibeto Burman origin. The 'Lushai' the principal tribe invaded this territory in early 19th century. 'Sailos' are the principal clan amongst the Lushais. The Mizo society has maintained its ethno-cultural values and is highly organized and disciplined. In 1991, the population recorded was 6,89,756 showing a rise of 39.70% over a period of decade (1981). Density of population is low at 33 per km². Literacy in Mizoram is very high at 87.49%. Female literacy is one of the highest in the Country.

Socio-economic conditions

Agriculture is the mainstay of the people. Traditional jhum is practiced by a large number of people. There are no major wood based industries in the State. Poultry and piggery are reared on homestead. About 40000 persons are on Government and Semi-Government employment. Per capita income in the State is Rs. 5910/- (1991-92 census).

Land Use Pattern

the present land use pattern in the State is as under :

	Area (km ²)
1. State-owned Forests	- 9410
2. District Council Forests	- 297
3. Agricultural Land	- 580
4. Water Bodies	- 16
5. Area under Sericulture Crop	- 17
6. Cash crop plantations	- 1
7. Jhum lands	- 6000
8. Towns /Villages/Miscellaneous and other areas.	- 4766
Total	21,087

With the abolition of Chieftainship, land and forests vested with the Govt. In District Council areas, land and forests vest with the district councils. A system of grant of land passes by Village Councils existed earlier, and now grant of such passes vests with the Revenue Department under the control of Deputy Commissioner. Regular cadastral survey and record of rights are yet to be done in a systematic manner. In absence of survey, settlement there are many unauthorised settlement and occupation both in Reserved Forests and unclassified forests which need to be regularised. A proper land tenure system based on appropriate land use is absolutely essential to promote land based production activities in private, Government and community sector.

Past System of Forest Management

During the regime of Village Chieftains the forests were well protected as removals of forest produce was restricted to meet the barest need for domestic consumption.

However, after the Chieftainship was abolished and the British regime took the reign, commercial exploitation of forests started in accessible areas depleting the rich tropical forests. The traders virtually made inroads into virgin forests. Further the Mizoram (Forest) Act of 1955 framed for Lushai hills allowed petty permits which also resulted in selective removal of valuable trees leaving behind only the trees of miscellaneous and inferior quality.

The Forests of Mizoram are broadly classified into three main categories as per Champion and Seth (1968).

1. Tropical Wet Evergreen Forests.
2. Tropical Semi-Evergreen Forests.
3. Montane Sub-Tropical Pine Forests.

Important tree species obtained are *Dipterocarpus turbinatus*, *Artocarpus chaplasi*, *Terminalia myriocarpa*, *T. chebula*, *T. belerica*, *Amoora wallichii*, *Michelia champaca*, *Chukrassia tabularis*, *Dillenia pentagyna*, *Gmelina arborea*, *Bombax ceiba*, *Duabunga sonneratioides*, *Anthocephalus kadamba*, *Castonopsis*, *Lagerstroemia speciosa*, *Mesua ferrea*, *Bischofia javanica*, *Prunus* species, *Quercus*, *Pinus kessya* etc. There are in all 21 species of Bamboos of which *Melocanna baccifera* (Mautak, Muli) constitutes about 85%. Canes are also common in these forests.

Prolonged isolation, land locked situation of the territory and insurgency in the sixties and seventies have virtually deprived Mizoram from the benefits of scientific forestry management. Since the inception of the Forest Department in 1972, the onerous task before the pioneer Foresters was to organize the Department from scratch and to inculcate a spirit of sound forestry management practices

amongst the local staff. While on one hand the attitude of jhum cultivators towards forests was not conducive to preserving forest wealth, the foresters had to gear up their might for raising wood lots of valuable and useful tree species like Teak, *Gmelina arborea*, *Michelia champaca* and Pine to meet the future need of the people. The age old traditional jhum practice which is a lifestyle of the majority of the people has caused immense damage to soil cover and precious vegetation.

Mizoram is primarily a tribal State where the people have the privilege to collect fuelwood and small timber either free of cost or on payment of nominal royalty as provided in the Mizo District (Forest) Act 1955, which has been enforced since District Council period.

The main challenge is to wean away the jhum cultivators from the unscientific practice and to settle them on permanent occupation such as horticulture, sericulture, pisciculture, permanent agriculture, floriculture, piggery, poultry and cottage industry. Of late the gravity of deterioration of site in jhum land is, conspicuous from the fact that the jhum cycle of 15-20 years adopted in past has been reduced to 4-5 years, resulting in loss of soil cover and fertility, which in turn, has reduced the productivity of jhum crop. Mizoram Government has launched a scheme on New Land Use Policy (NLUP), in 1982 for rehabilitation of traditional jhumias but the new programme has made little dent on the traditional shifting cultivation as, many have reverted back to 'jhumming'.

Afforestation : Progress and Achievements

In the beginning a modest attempt was

made to raise plantations of economic tree species on abandoned jhum land and degraded forest area and this was continued in VIIIth Five Year Plan and IXth Five Year Plan. The main schemes in operation are: (i) Area oriented Fuelwood and Fodder plantation scheme (FFP), (ii) Integrated Afforestation and Eco-development Project (IAEP), (iii) Non-Timber Forest Produce Scheme (NTFP) and (iv) Compensatory Afforestation (C.A). Till now an area of 1,75,000 ha has been covered under plantations of Teak, *Gmelina arborea*, *Michelia champaca* and *Pinus kesiya*. Canes and medicinal plants are raised under NTFP Scheme. Fuelwood, Fodder and fruit trees are planted under FFP Scheme which is funded by Govt. of India on 50 : 50 sharing basis, while other afforestation schemes are entirely funded by the Govt. of India. Afforestation is the main thrust area in forest development in Mizoram as demand for Fuelwood, Fodder and small timber is rapidly increasing.

Farm Forestry and Private Tree Planting

Absence of other economic opportunities and availability of land under private township, demonstration effect of Govt. Teak plantations in the early years have enthused private planters to go in for raising Teak, *Gmelina arborea* and *Eucalyptus* plantations in a big way. About 8000 ha of such plantations have been raised in private sector. Timber from such plantations, mostly Teak poles are sold outside the State and are sent to Gujarat, earning handsome revenue to the Tree planters. Commercial tree planting/agro-forestry has good potential in the State which is being promoted.

Wildlife Management and Bio-diversity Conservation

The entire North-East is a mega-diversity region and its fragile Tropical Ecosystem is under constant threat due to increasing biotic pressure and prevailing socio-economic backwardness of the people, who are totally dependent on the forest for their subsistence needs and for exploiting the rich resources for economic upliftment. Although a wide variety of flora and fauna are found in the region, many precious plant and animal species have either become extinct or on the verge of extinction. The efforts of the Department in creating a Wildlife Wing in 1976 and declaration of sizable area under Protected Area Network is a great mile stone in the field of Wildlife Conservation in the territory.

A Tiger Reserve covering an area of 500 km² known as Dampa Tiger Reserve was created in 1994. Further Murlen National Park with an area of 200 km² was constituted in 1991, which is the habitat of Leopard, Bears, Sambar, Serow, Barking Deer, Wild Boar, Civets, Porcupine, Jungle cat, Ghoral, Hoolock gibbon, Langurs, Himalayan giant squirrel, Slow loris, Hume's Bar-tailed pheasant, Khali pheasant, Red jungle fowl, Peacock pheasant, Quails, Blue-rock pheasant, Great Indian Hornbill, Pied Hornbill, Wreathed Hornbill etc. Blue Mountain was declared as a National Park with an area of 50 km² in 1991, where common Wildlife found are Serow, Ghoral, Leopard, Sambar, Deer, Barking deer and Tragopan. There are two Wildlife Sanctuaries viz. Negengpui Wildlife Sanctuary with 150 km² and Khawnglung Wildlife Sanctuary with 41 km² where Tiger, Leopard, Barking deer, Black bear, Sambar

and Hoolock gibbon are common. The present Protected Area Network is 4.4% of the geographical area of the State. It is proposed to add another six Wildlife Sanctuaries with an area of 2659 km².

Forest Research

A Forest Research Wing also has been set up in the Department under a Conservator of Forests (Research and Development). Main experiments carried out are (i) Nursery trials of various forestry species, (ii) Field trials of various species under different methods, (iii) Seed production area under the collaboration of Tropical Rain Forest Research Institute Jorhat, (iv) Seed testing laboratory, and (v) Experimental plots on growth study of *Dipterocarpus*, *Mesua ferrea* and other indigenous species. The Research programme in the State are conducted by Silviculture and Resources Division. It is proposed to set out research priorities under the guidance of ICFRE, Dehra Dun. A Bamboosetum and Orchid Propagation Centre for commercial purpose are in the offing.

Forest Training School

As training in forestry is necessary to train and equip the forestry staff in essential knowledge and skill in forestry management practices, the need for setting up of a Forest Training School was felt and it was established in 1974. Since then 430 Forest Guards and 251 Foresters have been trained. In service training to the field staff is also provided from time to time.

Buildings and Roads

In the initial years the building activity in the Department was taken up in full

swing. Almost all the forest ranges are provided with Forest Rest Houses for facilitating touring and inspection of forest officials. In addition 694 residential quarters for the staff and 110 office buildings, garages and check gates have been constructed. Recently a spacious Office complex for P.C.C.F. at Aizawl has been constructed. Till now 5.641 km of Truckable road, 94.273 km Jeepable road and 41.653 km of inspection paths have been constructed.

Joint Forest Management

Since 1997 onwards the Govt. of India has made Joint Forest Management component mandatory in all the afforestation schemes to be implemented in Mizoram. People's participation is receiving good response. Preliminary works of identifying areas for Joint Forest Management. Liaison with the villagers, formation of Village level committees are in progress. Accordingly, the State Government has also approved a draft resolution on JFM for the State and JFM is under process of implementation.

Bio-diversity, Ethno-medicine study and Orchid cultivation

Mizoram is rich in bio-diversity and taxonomic study of various plant species is a necessity. A full time Botanist is working in the Department. A status map of important and rare tree species, shrubs, herbs etc. is proposed to be undertaken. Ethno-medicinal study is an important aspect which need to be undertaken urgently. This will facilitate undertaking ethno-botanical survey for *in-situ* as well as *ex-situ* conservation programme. There is a small Orchid house in the Department under the care of an Orchidologist. In all 253 species

of Orchids have been recorded from Mizoram.

Voluntary Organisation

A leading NGO group in the State known as Y.M.A. (Young Mizo Association) is actively involved in protection of forests from fire and creation of awareness amongst people towards forests, ecology and environment. In the last few years spread of fire from adjoining jhum areas during summer has been totally brought under control with the assistance of Y.M.A. In addition the Y.M.A. has immensely contributed towards the cause of tree planting and Wildlife, and was instrumental in motivating the local tribals to lay down at least 440 guns during 1992-963 and 1993-94 Wildlife Preservation Weeks. In recognition of their unparalleled role for the cause of forest, environment and wildlife Y.M.A. was felicitated with Indira Gandhi Paryavaran Puraskar award in 1993.

The faculty of Pachhunga University College at Aizawl was instrumental in preserving the biodiversity around College premises with active involvement of NSS workers. In recognition of their services the College was awarded Indira Priyadarshini Vrikshamitra Award (IPVM) in 1995.

Organisational set up of Forest Department

The Forest Department in Mizoram is headed by one Principal Chief Conservator of Forests assisted by one CCF two Territorial Conservator of Forests and two functional Circle heads (C.F. Research and Development and Chief Wildlife Warden). There are 11 Territorial Divisions and six Functional Divisions. In all there are 19

cadre Officers and 32 State Forest Service Officers in the State to perform various forestry functions. There are 69 Forest Rangers, 13 Deputy Rangers, 239 Foresters and 382 Forest Guards in the State.

Resource Position

Although about 38% of the Geographical area of the State is under notified forests, the fund allocation to Forestry Sector is quite low. In 1990-91 it was a mere 4.8% which is now 2.1% (1996-97) of the total plan allocation of the State. Revenue Collection is about Rs. 2 crore per year.

State of Forest Report, 1997

The 1997 State of Forest Report prepared by the Forest Survey of India shown an increase in forest cover by 199 km² in Mizoram.

Conclusion

A good beginning was made with the establishment of a State Forest Department in 1972, in Mizoram to promote Scientific forest management in the State. The forest management/administration set up of the District Council period in the fifties to establish a legal framework and to constitute notified forests like Reverine and Roadside reserves. Village Safety and Supply Reserves etc. was laudable effort made then which need to be a modified/adjusted keeping in view the present day need of conserving and protecting the remaining dense forests, upgrading the open forests and other rich conservation areas. Survey, demarcation and consolidation and readjustment of old forest boundaries in view of encroachments and lack of definition of proper forest boundaries are essential

requirements. Dedicated forest areas for conservation forestry, production forestry, Wildlife reserve and to promote commercial forestry/plantation forestry in peoples sector need to be the new thrust areas. Capacity building of the State Forest Department in the field of technology upgradation and skill building with adequate support

funding is called for State Forestry Action Programme, a vision paper developed for the State need serious consideration and support funding by Govt. of India and other liberal Donor Agencies. Forging a linkage with peoples sector in promoting forestry with a participating approach holds the key to success.

SUMMARY

The Mizoram is primarily a Tribal State. Agriculture is the mainstay of the people. Traditional 'Jhum' is practiced. The forests of the State broadly classified into (1) Tropical Wet Evergreen, (2) Tropical Semi-Evergreen and (3) Montane Sub-Tropical Pine forests. Past and present Forest Management System, Afforestation Programme, Farm Forestry, Wildlife Management, Biodiversity Conservation, Forest Research and Training, Joint Forest Management have been discussed.

मिज़ोरम में वन और वानिकी - एक पार्श्वचित्र

पी०वी० सावन्त व एस०एस० पटनायक

सारांश

मिज़ोरम मुख्यतः आदिवासी राज्य है। कृषि जनता का मुख्य जीवनाधार है। यहाँ पारम्परिक झूम कृषि प्रचलित है। राज्य के वन मुख्यतः इन श्रेणियों में बंटते हैं : 1-उष्ण आर्द्र सदा-हरित, 2-उष्ण उप सदा-हरित और 3-पर्वतीय उपोष्ण चीड़ वन। इस अभिपत्र में विगत और वर्तमान वन प्रबन्ध प्रणाली, वनीकरण कार्यक्रम, क्षेत्र वानिकी, वन्य प्राणि प्रबन्ध, जैवविविधता संरक्षण, वन शिक्षा और प्रशिक्षण और संयुक्त वन प्रबंध का विवेचन किया गया है।

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