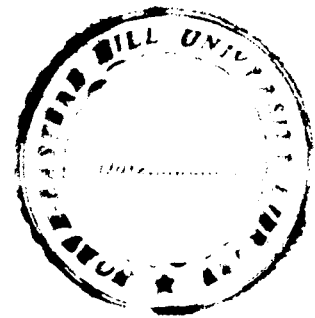


**SOCIO-ECONOMIC IMPLICATIONS OF BORDER
TRADE IN MIZORAM : A GEOGRAPHICAL ANALYSIS**

Abstract

BY

CHARLES ROMALSAWMA



**A Thesis Submitted For The Award of the Degree
of Doctor of Philosophy in Geography**

**DEPARTMENT OF GEOGRAPHY
SCHOOL OF HUMAN AND ENVIRONMENTAL SCIENCES
N. E. H. U
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ABSTRACT

Introduction

Today, foreign trade becomes one of the most important economic activities in the world. All nations, whether developed or underdeveloped, is covered by this phenomenon, because there is not a single nation who is self sufficient in its economy. So, nations have to depend on the foreign trade in one way or the other. Sometimes foreign trade is considered as an indicator of a nation's economic well being. However, the high volume of foreign trade does not always necessarily mean that the economy concerned is well advanced; rather the per capita foreign trade is a better indicator of economic development.

Methodology

In order to carve out the impact of border trade in Mizoram, the following methods have been employed:

1. In most of the cases data has been taken for traders and non-traders in order to portray the competitiveness between them and as a yardstick for the measurement of the impact that is being felt on any one of them.

2. The present study takes into account only the border trade between Mizoram and Myanmar.

3. The Mizo-Myanmar border trade doesn't reciprocate very well by Mizoram. Therefore, the study emphasizes mainly on the import from the Myanmar side.

Besides these, some cartographic and statistical methods have been applied to draw diagrams and maps to substantiate the study.

Statement of the problem

The present study attempts to highlight the Mizo-Myanmar border trade in the light of its causes and tracing its development till today.

Another crux in this research is to focus the ethnic-cultural affinities that have played in its role over the on-going border trade between Mizoram and Myanmar.

The research also attempts to bring out the impact of border trade on the economy of Mizoram like – distribution of market centres, hierarchical pattern of market centres, sphere of influence of market centres, per capita income of traders, contribution of the border trade in the economy of Mizoram.

The present study tries to highlight the social impact of border trade in Mizoram such as – growth and distribution of population, urbanisation, social change, social values, literacy percentages of traders and as well as non-traders.

Major Findings

Mizoram is one of the most backward states in the Indian Union in regards to socio-economic development. In spite of the rich natural resource endowments, she still lags behind in the economic development. This is because of the natural resources that have not been properly utilised, which is because of lack of technical know-how and financial assistance.

Mizoram is a hilly region where the topography is rugged with deep gorges and narrow valleys. The hills are aligned with north-south direction in a parallel ranges. The influence of the north-south trending mountain ranges can be observed in the drainage pattern, which is generally flowing towards north or south. The region is situated in the tropical belt; therefore the vegetations are tropical in nature.

Before the advent of the British, trade was carried on barter basis, whereas cash transaction was introduced only after the advent of the British. But the British did not show interests to develop the region.

After the Independence of India~~l~~ the Assam Government also have not taken steps for the development of the region to the contentment of the people. Due to non-implementation of developmental programmes, the people tilted towards Myanmar border in their vicinity for trade and other relations.

Mizos have close affinities with their neighbours in ~~in~~ regards to ethnic and culture. All the tribes like, Kuki, Chin, Mizo, Paite, Hmar, Khyang, etc. were different names to denote the same people. All these tribes speaks the same language, Mizo, rather it is only a different dialects under the Mizo language.

There are 36 market centres in Mizoram. They all correspond to the administrative headquarters like District, R.D. Block, Sub-division, etc. At present each market centre has at least 19.41 settlements.

Application of Nearest Neighbour Analysis reveals that Mizoram accounts for an Approaching Random pattern with an R_n value of 0.84. This shows that market centres do not serve some settlements.

It is observed that a block through which trade items entered to Mizoram from outside the state, it accommodates more market centres. Khawzawl Block, the trade route of border trade from Myanmar accommodates three market centres. Besides this,

Tuipang Block, is also a trade route for Mizo-Myanmar border, accommodates two market centres.

The hierarchical analysis of market centres in Mizoram reveals that the existing hierarchical classes of central places in Mizoram are tied up with 'marketing norms' as $K=3$.

Application of Rank Size Rule shows that in the lower order centres the functional facilities were very weak, which is seen from the concavity of the distribution. This is because the lower order centres lack potentialities like the trade inlet facilities, so they have to depend on the higher order centres for their development.

The per capita income of traders in Champhai is Rs. 13562 and for non-traders is Rs. 9875, whereas the per capita income for traders in Saiha accounts for Rs. 12388 and for non-traders, it is Rs. 9570 during 1997-98. The per capita income for the state is Rs. 9570 during the same period.

The total value of items coming from Myanmar accounts for 4.11 percent of the total state's income, whereas it gave livelihood to 6.51 percent of the total population of Mizoram. Out of the total families of 98536 in Mizoram, at least 9

percent of them engaged themselves or earn their livelihood through the Mizo-Myanmar border trade.

Application of potential model reveals that maximum numbers of people are within reach of the places around Aizawl situated in the north central part of the region. The population potential ranges between 77 per kilometres in Tuipang Block to 460 per kilometres in Tlangnuam.

The actual density and expected density nearly corresponds to each other with the exception of Zawlnuam, Khawzawl, Tuipang, N. Thingdawl and Tlangnuam Blocks, where the actual density is higher than the expected density. This is because except Zawlnuam trading items coming from outside Mizoram influences all the four blocks.

Urbanisation in Mizoram has its beginnings since 1951 with a total population of 6950, which were concentrated in Aizawl town. By 1971, the number of urban centres increased to two, Aizawl and Lunglei with a total population of 37759. During 1971-81, it registered a rapid progress with 222.61 percent growth rate, with a total population of 121814 persons, which is distributed among 6 towns. In 1991, the total urban population accounts for 317040, which is 46.20 percent of the total population.

In regards to standard of living, the figure against traders registered a higher quality than the non-traders. The total trading families in Champhai who own houses accounts for 92.8 percent whereas for non-traders, the figure is only 70.8 percent of the total families.

The literature survey reveals that educated youth sought employment in this border trade because the highest percentage of literate traders are at the age group of below 30 in Champhai and Saiha.

In Saiha, the total trading families who own houses accounts for 97 percent while for non-traders, it is 82 percent of the total families for traders and non-traders respectively.

Again in Champhai, the total vehicles owned by traders are 209 by 74 families, whereas for non-traders, the figure is 44 vehicles by 38 families. In Saiha, total vehicles owned by traders' accounts for 71 vehicles in 37 families, and for non-traders, it is 28 vehicles in 25 families.

In Champhai, the cumulative percentage of the number of trading families who own luxury kitchen items is 355 families, whereas for non-traders, it is 235 families. In case of Saiha, the cumulative percentage is 356 whereas for non-traders it is 281 percent.

In regards to luxury items, the cumulative figure of trading families accounts for 355 percent while for non-traders it is 264 percent. In case of Saiha, the cumulative percentage for traders is 472 and for non-traders is 368 percent.

In Champhai, the trading families record a 96.01 percent literacy percentage and for non-traders, it is 94.85 percent. In case of Saiha, the trading families record a literacy percentage of 83 and non-traders registered 81.20 percent.

To conclude, it can be said that the Mizo-Myanmar border trade has contributed to the socio-economic development of Mizoram to a great extent, since 4.11 percent of the total income of the state comes from this border trade, and it also gave livelihood to at least 6 percent of the total population of Mizoram.

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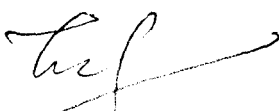
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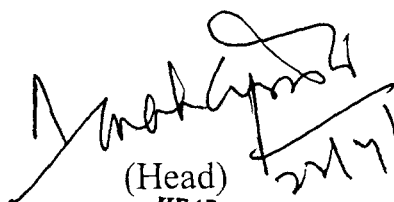
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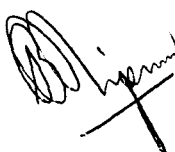
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I, Charles, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of my previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/ Institute.

This is being submitted to North-Eastern Hill University for the degree of Doctor of Philosophy in Geography.


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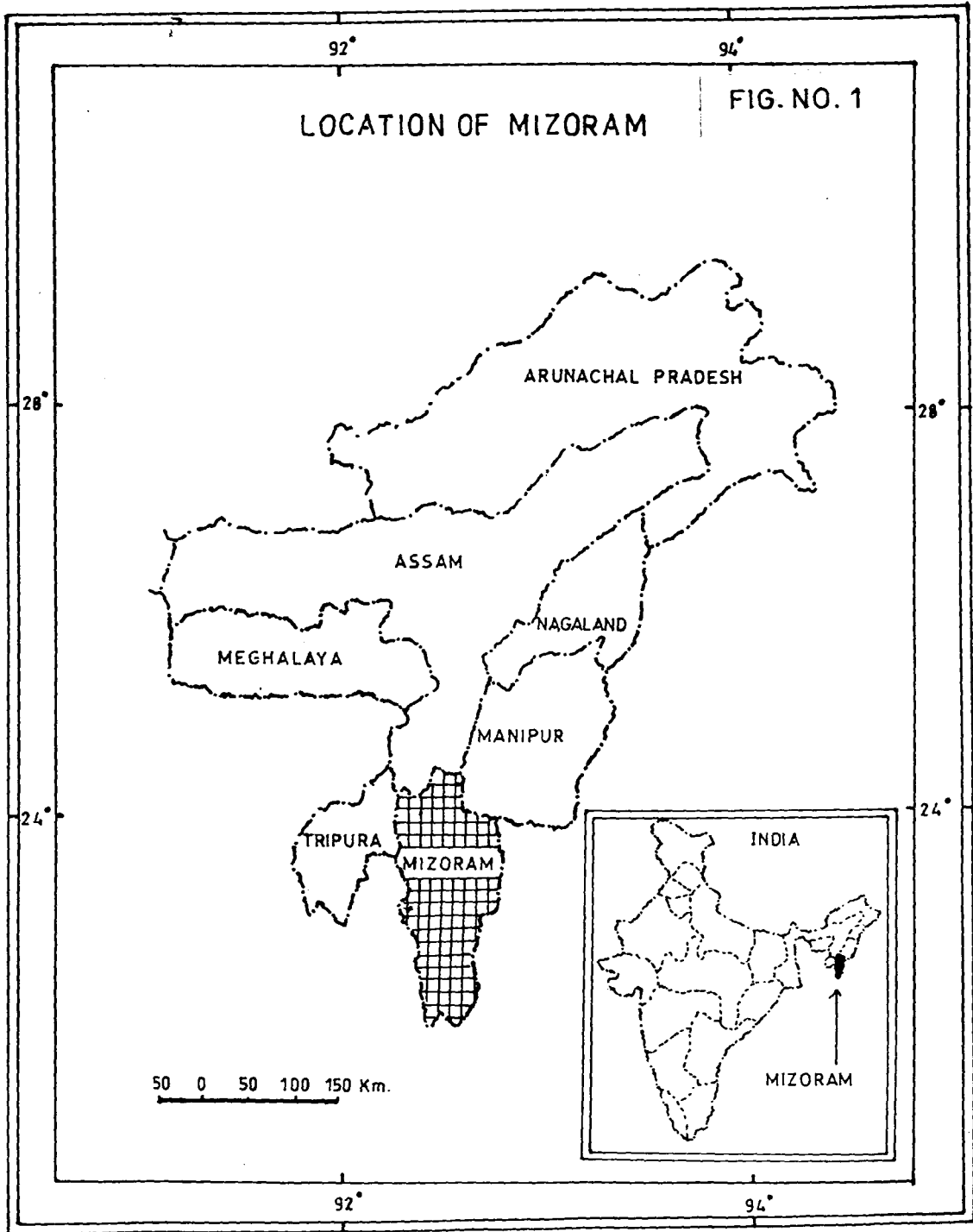
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Chapter – I

INTRODUCTION

The term 'trade' refers to the exchange of goods and services. It should be emphasized here the term applies equally to individual, communities, nations etc. in selling of things where there is an abundance and buying of something which is needed or preferred. International trade originates because nature's pattern of resource endowment is much non-egalitarian. So, a region, which is well off with one resource, may lack in other resource. For example, one region may be richly endowed with iron ore but lacks in wheat production, whereas other region may be well off with wheat production but may lack an iron ore deposit. According to comparative cost advantage, the former region will produce and export iron ore whereas the latter will produce and export wheat, in accordance to their resource endowment and efficiency.

The advantages of international trade follow from the fact that it benefits the national economy by enabling a country to specialise in the production of those goods and services which she is best suited to produce looking to its endowments of natural resources, labour and capital. According to Smith, international trade enables each nation to increase her wealth and national well being by making extended use of the

principle of division of labour that makes specialisation in production possible¹. Ricardo also shows the advantage of the division of labour and specialisation. He stresses that competence should specialise where competence counts most, and incompetence should specialise where it counts least. In short, international trade enables countries to exploit, to their mutual advantage, the substantial advantages of division of labour and specialisation. By ensuring that each country specialises in the production and exports those goods, which she is best, suited to produce and imports those good which she can obtain cheaper from abroad then what it cost to produce at home, international trade increases the real income and national well-being of all the participating countries². International trade provides maximum scope for the optimum utilisation and allocation of world's scarce resource. Under a system of free trade, a country sells her products in those market where she can get the best prices for her products and buys essential raw materials and other consumer goods from the cheapest sources of supply. Consequently, a country enjoys the maximum advantages both as a consumer and as a producer. The contribution of international trade to national well-being is so great that few countries could become self-sufficient even with the greatest effort. The vast importance of trade is evident from the phenomenal expansion in the volume of world trade. Between 1963 and 1986 world exports in value term expanded from 15.5 billion dollars to 2,450 billion respectively, showing a sixteen – fold expansion took place in world trade during little over two decades. In terms of

¹ David Ricardo, *Principles of Political Economy and Taxation*, 1817, Everyman's Edition, p.83

² Adam Smith, *An inquiry with the nature and causes of the wealth of nations*; Vol. I Everyman's Edition, Book IV, chapter- II

volume, the trade-index more than doubled during this period. Even allowing for the increase in the unit value, world trade expanded from 155 billion dollars in 1963 to 580 billion dollars in 1987 at constant prices.

Taking the Indian context, there is enough evidence to show that during the ancient period, India carried on extensive trade with countries like Babylon, Egypt, Greece, Rome, Persia and Arabia in the west and with China, Jawa and Sumatra in the east. The ancient trade of India was generally that of costly commodities, small in bulk but great in value. "The principle articles of export were textile manufactures, metal ware, ivory, perfumes, dye-stuffs, spices, etc and the imports consisted of minerals of which there was deficiency in India such as brass, tin, lead, wines, horses etc. There was a net import of gold which suggests an excess of exports over imports"³.

During the Mohammedan period (from 11th Century), India shows extremely disturbed conditions, which adversely affect the India's foreign trade. But with the advent of the Mughal period (Commencing 16th Century) foreign trade was being patronage by the Emperor during this period. "The import were principally gold for coinage and display; horses were imported in large numbers; and metals such as copper, tin, zinc lead and quicksilver; also luxury like amber and precious stones. In payment for these imports India sent out her various textile fabrics, jewels,

³ Jathar and Beni – Vol.III page 160, Nineth Edition,

embroideries, woolen and silk manufactures, dye-stuffs like indigo, opium and other drugs, pepper and a few minor spices etc⁴.

India also has trade relations with the British right before their advent into India. Till the beginning of the 18th century, export from India consisted of cotton and silk manufactures, indigo, spices, sugar, while imports consisted of gold and silver, woolen goods and miscellaneous types of novelties. During 1864-65, the annual average imports amounted to Rs.31.70 crores and annual average exports amounted to Rs.55.86 crores.⁵ Modern Indian foreign trade may be said to have made a firm start in 1870, after the opening of the Suez Canal. The rapid development of the ship building industry, the spread of industrial revolution in Europe, the opening of the Indian railways and the firm establishment of peace and order in India after the chaos that had followed in the wake of the breakdown of the Mughal system of administration. At present India have trade relations with countries like U.S.A. Germany, Japan, Russia, Iran, France, Belgium etc. Her chief import items consist of petroleum, oil and lubricants, edible oil, fertilizer, pearl, precious stones, iron steel etc., whereas her export items consists of coffee, oil cakes, rice, iron ore, gems and jewellery, chemical and allied products etc⁶. Thus it is seen that International trade is not a new activities, it is rather the oldest activity to nations of the world. Every nations some how engaged in this activity in one or the other way, for the benefit and well being of their nation.

⁴ Ibid. p.161

⁵ S.S.M.Desai and Bhalerao Nirmal – *Economic History of India*, Himalaya Publishing House, First Edition, 1996.

⁶ Manorama year book, 1998, p.531

According to Bertil Ohlin, there is no fundamental difference between domestic and foreign trade. Nations engaged in trading for the same basic reasons for which individuals or groups within a country trade with each other. In his words, “international trade should be regarded as a special case within the general concept of interregional, or perhaps rather inter-local trade”⁷. The present study i.e., the Mizo-Myanmar border trade depicts that of the Ohlin’s model. The Mizo-Myanmar border trade is no doubt an international trade, but it is also an interregional or inter-local trade from its historical perspective because the Mizo-Myanmar border trade has an unique features which is an outcome of different factors like cultural affinities, socio-economic and sharing of common historical bonds.

Objectives of the Study

The Mizo-Myanmar border trade is an unique type of trade, because, apart from an incentive of economic gains, the socio-economic and cultural affinities have also played an important role in it.

The present research work is an attempt to get an insight into the border trade flourishing in Mizoram and also to examine the trade activities with the following objectives:

1. To evaluate the nature of the on-going Mizo-Myanmar border trade,

⁷ Bertil Ohlin, *Interregional and International trade*, 1933, p.589 as quoted in M.C.Vaish and Sudama Singh, *International Economics*, Oxford Publications. P.10.

2. To examine the socio-economic compulsions that has led the people to take up border trade,
3. To highlight the physical conditions which have its imprints on the flourishing border trade,
4. To focus, how far the racial and linguistic affinities as well as historical bonds have its influence over the Mizo-Myanmar border trade,
5. To focus the economic impact of border trade like, distribution of market centers, hierarchical pattern, per capita income etc.
6. To highlight the social impact of border trade like distribution of population, literacy, social status and lifestyle of the people of Mizoram.

Data Base

Research on the International border trade in Mizoram has not been, so far, undertaken by anyone. Lack of adequate data is a major factor, which stood against this research, especially in this particular activity.

The researcher collects relevant data through interviews of the actual persons engaged in the trade, also with various eminent persons and scholars. This is

supplemented with interviews of different persons through questionnaires. Various data are being acquired from the customs department, military check gate in the Mizo-Myanmar border to identify the types of commodities coming across the border.

The secondary data is collected from various agencies and offices, like:-

- (1) District transport office, Aizawl, for data relating to vehicles.
- (2) Directorate of Agriculture Mizoram, for data pertaining to Agricultural situation in Mizoram.
- (3) Directorate of Economic and Statistic, Mizoram for socio-economic and related information.
- (4) Geological Survey of India, for regional structure and Geology.
- (5) Census of India reports, on the demographic and occupational structure for Mizoram.
- (6) District census handbook for different district of Mizoram for more information regarding the socio-economic conditions of Mizoram etc.

Besides the above-mentioned sources, an extensive fieldwork has been undertaken to supplement the secondary information.

Methodology

In the present study attempts have been made to highlight the locational constraints which results in greater dependency on trans-border trade, also the impact of border trade on the socio-economic conditions of Mizoram as well. As data is inadequate in the study area, particularly in this trade activities, as many as cartographic and statistical techniques have been incorporated to get a clear picture of the subjects undertaken.

To bring out the economic impact of the border trade the following methods have been used:

1. Distribution of market centres are studied with the help of Nearest Neighbour Analysis and diagrams are prepared.
2. The attraction of market centres have been studied with the help of Gravity model and Market Sphere of Influence and Flow diagram (Bus service) has been prepared.

3. The development of border transit centres (market centres) has been shown with help of Rank Size Rule.
4. The per Capita income of Traders and Non-traders is calculated and bar graph is prepared.
5. The contribution of border trade is calculated and pie graph is prepared.

In regards to the social impact of border trade the following methods has been utilised:

1. Distribution and growth of population is calculated and employing Potential Model has done the portrayal and diagram is given.
2. Urbanisation, with special reference to the border trade transit centres (market centres) is calculated and bar graph has been prepared.
3. Establishment of traders in both the centres has been prepared by taking two variables such as- (a) Number of house own and (b) Number of vehicles own. Here, data is also collected for Non-traders from both the market centres in order to have a comparison and as a yardstick for the measurement of establishment.

4. Data regarding the influence of border trade on social change and social values has been prepared by employing two variables, viz., (a) Kitchen gadgets own and (b) Luxury items own. Here also, data is being taken for both traders and non-traders from both the centres for comparison.
5. Literacy rate has been calculated and graph is prepared.

It should be noted here that the present research takes into accounts border trade with Myanmar only. Mention should be made here also that the present research takes into consideration only the import from the Myanmar side, because till date Mizoram have not been able to export much on a reciprocal basis.

Review of Literature

Many have not studied research studies on International border trade in Mizoram since it remained a neglected area for academic research.

As such, due to insufficient literature specifically to this area, the present research shall be directed towards a critical and analytical investigation through and on – the –spot survey in order to integrate the importance and contributions of trans-border trade in the economy of Mizoram. It will, therefore, be imperative to

extensively consult literature dealing mainly with the geological, geographical, economic, political and cultural dimensions.

The first available literature on the geology in parts of Mizoram appeared in 1891 (La Tauche),⁸ and later Munshi (1964)⁹ undertook the work of mapping the rocks of the central part of northern Mizoram. Regarding Geology of Mizoram, the works of Nandy, Mukherjee and Majumdar (1972),¹⁰ Nandy, Sarkar, Saxena and Mukherjee (1973)¹¹ and Saxena and R.N.Mukherjee (1973)¹² is worth mentioning.

In the socio-economic literature of Mizoram the works of Bertram S.Carey and H.N.Tuck (1896),¹³ is not worthy. Here authors give a description of the historical customs and manners, a gazetteer of the country and how they deal with them.

In recent past, K.Zawla (1962)¹⁴ have attempted to trace the history of Mizos, their socio-cultural conditions and also portrayed the ancestors of different clans and

⁸ La Tauche (1891), *Note on the Geology of Lushai Hills*- Records of the Geological Survey of India, Vol.XXIV part 2, 1891

⁹ Munshi (1964), *Geological Mapping in parts of Mizo District, Assam* (Progress Report for 1963-64) G.S.I.

¹⁰ Nandy, Mukherjee and Majumdar (1971) *Geological mapping and mineral survey in parts of Mizoram* (Progress for 1971-72 field season) G.S.I.

¹¹ Nandy, Sarkar, Saxena and Mukherjee (1972), *Geological mapping of western part of Mizoram*, G.S.I.

¹² Saxena and R.N.Mukherjee (1973), *Geological mapping in parts of Lunglei district* (Progress report for the field season 1972-73).

¹³ Bertram.S.Carey and H.N.Tuck, *The Chin Hills*, 1896

¹⁴ K.Zawla, *Mizo pipute leh an thlahte chanchin* (in Mizo), 1962

extensively consult literature dealing mainly with the geological, geographical, economic, political and cultural dimensions.

The first available literature on the geology in parts of Mizoram appeared in 1891 (La Tauche),⁸ and later Munshi (1964)⁹ undertook the work of mapping the rocks of the central part of northern Mizoram. Regarding Geology of Mizoram, the works of Nandy, Mukherjee and Majumdar (1972),¹⁰ Nandy, Sarkar, Saxena and Mukherjee (1973)¹¹ and Saxena and R.N.Mukherjee (1973)¹² are worth mentioning.

In the socio-economic literature of Mizoram the works of Bertram S.Carey and H.N.Tuck (1896),¹³ is not worthy. Here authors give a description of the historical customs and manners, a gazetteer of the country and how they deal with them.

In recent past, K.Zawla (1962)¹⁴ have attempted to trace the history of Mizos, their socio-cultural conditions and also portrayed the ancestors of different clans and

⁸ La Tauche (1891), *Note on the Geology of Lushai Hills*- Records of the Geological Survey of India, Vol.XXIV part 2, 1891

⁹ Munshi (1964), *Geological Mapping in parts of Mizo District, Assam* (Progress Report for 1963-64) G.S.I.

¹⁰ Nandy, Mukherjee and Majumdar (1971) *Geological mapping and mineral survey in parts of Mizoram* (Progress for 1971-72 field season) G.S.I.

¹¹ Nandy, Sarkar, Saxena and Mukherjee (1972), *Geological mapping of western part of Mizoram*, G.S.I.

¹² Saxena and R.N.Mukherjee (1973), *Geological mapping in parts of Lunglei district* (Progress report for the field season 1972-73).

¹³ Bertram.S.Carey and H.N.Tuck, *The Chin Hills*, 1896

¹⁴ K.Zawla, *Mizo pipute leh an thlahte chanchin* (in Mizo), 1962

their descendants. In regards to history of Mizo mention should be made of the work of Vumson (1983)¹⁵.

G.A.Grierson (1904)¹⁶, in his linguistic survey contribute to the linguistic history of Mizos in many respect, their relation to other languages dialects, their proper classes under which they falls.

In Socio-economic study the literature work of Lianzela (1996)¹⁷ is note worthy. In his work he gave description of the socio-economic development of Mizoram for four decades. In this connection mention should be made of the report of economic and statistics department of Mizoram (1981)¹⁸, in which development of socio-economic aspect of Mizoram is being highlighted covering the fourth five-year plan to the fifth plan period. Zothantluanga (1992)¹⁹ have analysed the social and economic transformation of the Mizos after the advent of the English Missionaries, tracing the History since the expedition of the British in the year 1871.

¹⁵ Vumson, *Zo History*, Aizawl , Mizoram, 1983.

¹⁶ G.A.Grierson, *Linguistic Survey of India*.

¹⁷ Lianzela, *Four decades of Planning in Mizoram*, 1996.

¹⁸ Department of Economic and Statistic, *Report on Socio-Economic review 1979-80*, Mizoram, 1981.

¹⁹ Zothantluanga, *The pace of Socio-Economic and Political Development Response to British Colonialism and the Emergence of the Mizo Nationality in Indian Politic*, in *Studies on the minority Nationalities of North East India, the Mizos* (J.V.Hluna, Sangkima, B.Romesh ed) 1992.

S.N. Singh (1994)²⁰ in his book entitled 'Mizoram: Geographical, Historical, Social, Economic, Political and Administrative', have analysed general socio-economic, historical and administrative aspects of Mizoram.

J.J. Roy Burman (1992)²¹, in his paper entitled 'Religions Transformation in Mizoram: An overview', studied the transformation of Mizo into Christianity and its impact on the social, cultural, economic and political aspect of the Mizos.

Dr.Ranju Bezbaruah (1992)²² has thoroughly studied the evolution of the present boundaries of Mizoram in his paper, Evolution of the Chin Hills-Lushai Hills boundary. He traced the boundary proposed by Colonel Loch, Scott, Goi's etc., and the disintegration of Zoram into three divisions with their amalgamation into India, Myanmar and Bangladesh.

Geographical analysis of the agricultural development in relation to the geomorphology of Mizoram appeared in the works of P. Rinawma (1980).²³ Later C. Laltani (1993)²⁴ traced the influence of environment on the agriculture of Mizoram in general and Champhai in particular.

²⁰ S.N.Singh, *Mizoram, Historical, Geographical, Social, Economic, Political and Administrative*, Mittal publications, New Delhi, 1994.

²¹ J.J.Roy Burman et.al *Religions Transformation in Mizoram, An overview*.

²² Ranju Bezbaruah, *Evolution of the Chin Hills-Lushai Hills Boundary*.

²³ P.Rinawma, *Geomorphology and Agricultural Development in Lunglei District, Mizoram*, Doctoral Thesis, NEHU Unpublished, 1986.

²⁴ Laltani, *Environmental Constraints on Agriculture in Highland economy with special reference to paddy cultivation. (A case study of Champhai)* M.Phil. Dissertation, NEHU, Unpublished, 1993.

The works of Lalrintluanga Pachuau (1991)²⁵ portrayed the Geographical analysis of economic social aspects like the population growth, density spatial distribution etc, and its relation to the settlement pattern in Mizo recent works, Geography of Mizoram, (1994)²⁶ he gave a vivid picture of the geographical facts economic and social, as well as the cultural and political milieu along with the historical development.

Statement of the Problem

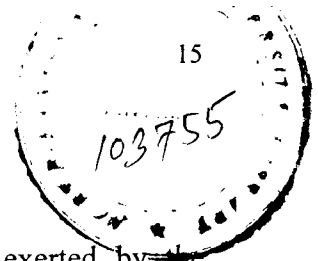
The prevailing Mizo-Myanmar border trade, according to record is older than a century²⁷, but a detailed study have not been undertaken so far. As such, a thorough investigation in this activity is necessary to explore the causes and impact that is being felt on the socio-economic life in Mizoram. The research work will cover the entire process of its causal-effects based on various factors.

The present research is an attempt to highlight the influence of various factors, which led to the Mizo-Myanmar border trade. The focus is on the ethnic and linguistic origins of the people in the border areas of Myanmar and Mizoram with special reference to the history of ancestors and origins to ascertain how it influenced the trade activities.

²⁵ Lalrintluanga pachuau, *Population Structure and Settlement Patterns in Mizoram, A Geographical Analysis*. Ph.D. Theis, NEHU, 1991, Umpublished.

²⁶ Rintluanga Pachuau, *Geography of Mizoram*, R.T.Enterprise, Aizawl, 1994.

²⁷ Old Records, D.C.Office, Aizawl, Mizoram.



The present study also highlights the extent of influence exerted by the physical factors like topography, water bodies etc, over the existing Mizo-Myanmar border trade.

Another crux in this research is to ascertain as to how far the border trade has an impact on the distribution, growth and hierarchy of market centers. Also to examine the contribution of border trades on the economy of Mizoram.

Besides these the present research will highlight the extent of impact of trans-border trade on the growth of population, distribution, literacy and lifestyle of people in Mizoram.

Salient Feature of the Study Area

Mizoram, the 23rd state of the Indian Union, covers a total area of 21,081 Sq. Km. and lies between 93°15'-93°26' East longitude and 21°56' to 24°31' North latitude. The State has a total length of 722 Kms International boundaries with Myanmar on the east and south and with Bangladesh in the west and south west. It also shares 284 Kms interstate boundaries with Assam, Manipur and Tripura. Its maximum dimensions-north to south is 277 Kms, and east to west is 121 Kms.

The tropic of cancer, i.e., 20°30' N latitude cuts across the region in Aizawl district; traversing places like Champhai, Chhawrtui, Darlung, Phuldungsei etc. The

imaginary line divides the region into two almost equal parts. Assam and Manipur bound Mizoram on the north, on the east and south by Chin Hills of Myanmar; on the west by Chittagong Hill tracts of Bangladesh and the State of Tripura.

Physiographically, Mizoram has a hilly terrain, which accounts for about (97%) and the remaining lowlying flat land cover only about 3 percent of the total geographical area. A parallel hill ranges runs in a north-south direction with its highest peak in Phawngpui (Blue mountain) 2157 metres situated in the southern part of Mizoram, near Saiha town. The ranges are separated by deep and narrow river valley, and the rivers usually flow towards north or south.

The economy of Mizoram is basically agrarian with subsistence farming is the major activity. According to 1991 census, the populations engaged in agricultural activities, as their main occupation constitutes 27.33 percent of the total population of Mizoram. The area put under rice cultivation in 1995-96 was 65713 hectare and the production accounted for 1,01,503 metric tonnes. The Net state domestic product at current prices is Rs.260007 lakhs and per capita income at current prices for the same year is Rs.4026. Industrially, Mizoram is one of the most backward states in India, as such Industries are almost negligible.

Mizoram is divided into seven (7) districts, viz., Aizawl, Champhai, Mamit, Kolasib, Serchhip, Lunglei, and Chhimituipui with its head quarters at Aizawl, Champhai, Mamit, Kolasib, Serchhip, Lunglei, and Saiha respectively.

The population of Mizoram at present is 6,89,756 with a growth rate of 39.70 during 1981-91. The density of population in Mizoram (1991) is 33 persons per Sq.Km, and the sex ratio stands at 921 females per 1000 males. The urban population is 3,17,946 against the rural population of 3,71,810 persons. Mizoram stands second to Kerela in regards to literacy with 82.27 percent in 1991 census.

At present, Mizoram is one of the least developed states of the Indian Union because of various factors like-physiographical constraints, inadequate transport and communication infrastructure, lack of power, unexploitation of its mineral resources etc have stood against the way of development in the state.

Chapterisation

I. Introduction

Chapter one is the general introductory part with objectives of the study, database, methodology, review of literature, statement of the problem, and salient feature of the study area and chapter scheme.

II. Physical Settings:

This chapter will deal with the physical settings of Mizoram and it includes the geology, topography, climate, drainage, soil and vegetation.

III. Socio-Economic Settings:

This chapter will highlight the general socio-economic profiles like agriculture, industries, demography, social amenities, power, education etc.

IV. Evolution of the Mizo-Myznmr Border trade:

This chapter is an in-depth study of the evolution and causes of the Mizo-Myanmar border trade tracing its history of racial and ethnic affinities and its development till date.

V. Impact on Economy:

This chapter highlights the economic impact of the on-going Mizo-Myanmar border trade taking into account the distribution of market centres, market sphere of influence, hierarchical pattern of market centres and the contribution of trans-border trade in the economy of Mizoram.

VI. Impact on Social:

This chapter focussed the impact of border trade on the social aspects of Mizoram. It takes into account the distribution of population, the process of urbanisation, standard of living and daily lifestyle etc.

VII. Conclusion:

In this chapter, the general conclusions, summary of the thesis, major findings has been presented.

Chapter II

PHYSICAL SETTINGS

Physical setting represents the over-all natural condition of the area *in situ*. The physical settings or the physical environment may be understood as the integrated study of the geology, topography, drainage, climate, soil and vegetation. Physical landscape or the physical environment itself has influenced the life of man in many ways. The interrelationship between the physical factors and man's way of life in the spatial context is necessary for any geographical analysis.

The physical conditions of Mizoram can be described under the following heads:

Geology

Geology is the study of rocks, which made up the earth with different types of litho-units. Geological knowledge is an integral part for an understanding of the relationships between landforms and the underlying rocks. Geological structure has an influenced on the relief and landforms of a region as well as the distribution of minerals, water table, rocks, drainage etc. Geology is the base on which various geographical factors operates creating different landscape and ultimately the pattern of activities. In order to draw a clear picture of the geographical uniqueness of a region,

the knowledge of the geological history is necessary. The geological structure again had an impact on the evolution of landforms, which ultimately controls or restricts the human activities.

The geology of Mizoram have not been studied in detail, till date, due to the rugged inaccessible terrain and covered thickly by vegetation. Few works on the geological exploration of the region have proved that the hills of Mizoram consist of sandstone and shale of Tertiary age, which is thrown into long folds. It is a continuation of the rocks forming the Patkai range and Cachar hills, and most probably laid down in delta or estuary of a large river discharged from the Himalayas in the Tertiary period¹. Traces of marine fossils of that age have been found near Lunglei town, which were embedded in nodular dark grey sandstone.

The geology of Mizoram is represented in general by repetition succession of arenaceous and argillaceous sediments, which were later thrown into approximately NNW-SSE trending longitudinal plunging anticlines and synclines². The generalized stratigraphic succession based on the work of Geological Survey of India is shown in Table 2.1.

¹ P.Rinawma- op. cit.

² *Satellite Remote Sensing Survey of Natural Resources of Mizoram*, National Remote Sensing Agency, 1979. Report Vol. I, p.20

Table 2.1

The Generalised Geological Succession in Mizoram

Geological Age	Group name	Formation name	Rock Type
Recent Pleistocene		Alluvium	Mainly in river beds
		Unconformity	
Mio-Pliocene	Surma	Bokabil	Shale, siltstone, mudstone and little sandstone
		Upper Bhuban	Mainly sandstone, siltstone and little shale
Oligo-Miocene	Surma	Middle Bhuban	Mainly shale and siltstone
		Lower Bhuban	Mainly hardstone
Oligocene	Barail	Barail	Predominantly shale, siltstone and grey waxes.

Geologically, two broad groups-Surma and Barail are eminent, where geological formation may be broadly classified under Bokabil, Bhuban and Barial formations.

The rocks of Surma groups are exposed in the western part of the state and exhibits ridges and valley features with trellis drainage pattern. This is coupled with the dominance of trend lines, which could be separated from the Barail group of rocks which are exposed in the eastern part of the state, showing a dendritic pattern and denuded hills oriented in different directions.

In the north-eastern corner along the boundaries of Myanmar, the rock shows north-south linear trend and sub-parallel mountain ranges and valley type of topography. This is due to the alteration of hard stone and soft shale beds, grouped under the Barail³.

Surma Group

The Surma group consists of two main sub-groups of rocks, viz., (1) Bhuban and (2) Bokabil. Bhuban sub-groups are again divided into three formations, namely (a) Upper Bhuban (b) Middle Bhuban (c) Lower Bhuban.

(1) *Bhuban*

(a) *Upper Bhuban Formation:*

This formation underlies conformably of the Bokabil formation; the contact in most cases is gradational. This formation covers the entire hill ranges of central region. This rock formation is predominantly arenaceous, and comprised mostly of massive, brownish, comparatively soft friable, somewhat weathered medium grained, usually containing fragments of shale.

(b) *Middle Bhuban Formation*

This formation overlies the Upper Bhuban formation conformably the contact being gradational. It is exposed mainly in the synclinal of Mat river and

³ K.Sarkar and D.R. Nandy, *Structure and Tectonics of Tripura-Mizoram area*, India, GSI Misc. Publications No.34 part.1 pp.141-145

Tuichawng river in the southern part of the state. The rock formation is predominantly argillaceous, and comprised mostly of shale, mudstone and siltstone.

(c) *Lower Bhuban Formation*

This formation comprises mostly of grayish, fine to very fine-grained massive sandstone. This rock formation is found in the eastern part of Lunglei district bordering Myanmar. This rock type is exposed in the anticline cone of Darzo hill ranges where rock exposure is clearly visible. At places, there are well bedded, hard, compact, fine to very fine grained sandstone bands, inter bedded with comparatively thinner bands of siltstone and shale.

(2) *Bokabil*

The rocks belonging this formation occurs conformably over the Upper and the contact is transitional. It is represented by soft friable, loosely packed medium to fine felspathic sandy grey wake, sandy shale with inter-laminated silt or shale alteration. The rock this formation exhibits typical turbidite features with multiple grading and ripple-drift cross lamination. At places through cross-beddings and large current beddings are also present. The shale is generally gray and brownish yellow colour. This type of rock is widely exposed in the western part of the region along Tuichhawng, Kau, Tuilianpui and Phairuang rivers synclines.

Barail Group

Barail group rest conformably on the Surma group. This rock formation is exposed in a small patch in the northeastern corner of Lunglei district in the anticline core of Thingsai hill. The Barail group mainly composed of arenaceous rocks. This group of rock is lithologically dissimilar from those of the Bhuban formation lying in the west. The Barails comprised monotonous sequence of weathered shale, interbedded and interlaminated with siltstone, exhibiting weathering pink, violet, greenish, grey and white colours. They enclosed bands of weathered micaceous, felspathic, soft, medium grained sandstone. Unlike Bhuban, the Barail contain few sedimentary structures like flute casts. The rocks have low rolling dips and have been folded into a broad anticline with axis trending approximately east west.

Regional Structure and Tectonics

Mizoram, structurally, is characterised by a series of low plunging anticlines and synclines. Based on the Satellite Remote Sensing Survey of Natural Resources of Mizoram (1979),⁴ the study of trend lines clearly indicates that folds are asymmetrical, light composed in nature. The axial planes of these folds are vertical to sub-vertical with folds axes plunging both towards south and north at low angles. The important features of the folding is that there are number of lineaments parallel to the regional tectonic trend. This fold is largely dominant in western part of Mizoram. In the eastern of the state trend lines are not seen over long distance due to massive or soft nature of

⁴ NRSA Report op.cit pp.23-24

rocks, and; hence, delineating of exact nature of folding is difficult. From the curved nature of the axis, change in plunge direction and general swerving, of trend lines, it seems that a second generation of fold might have taken place. This folding might have developed due to the adjustment in the basement blocks on which tertiary sediments were deposited.

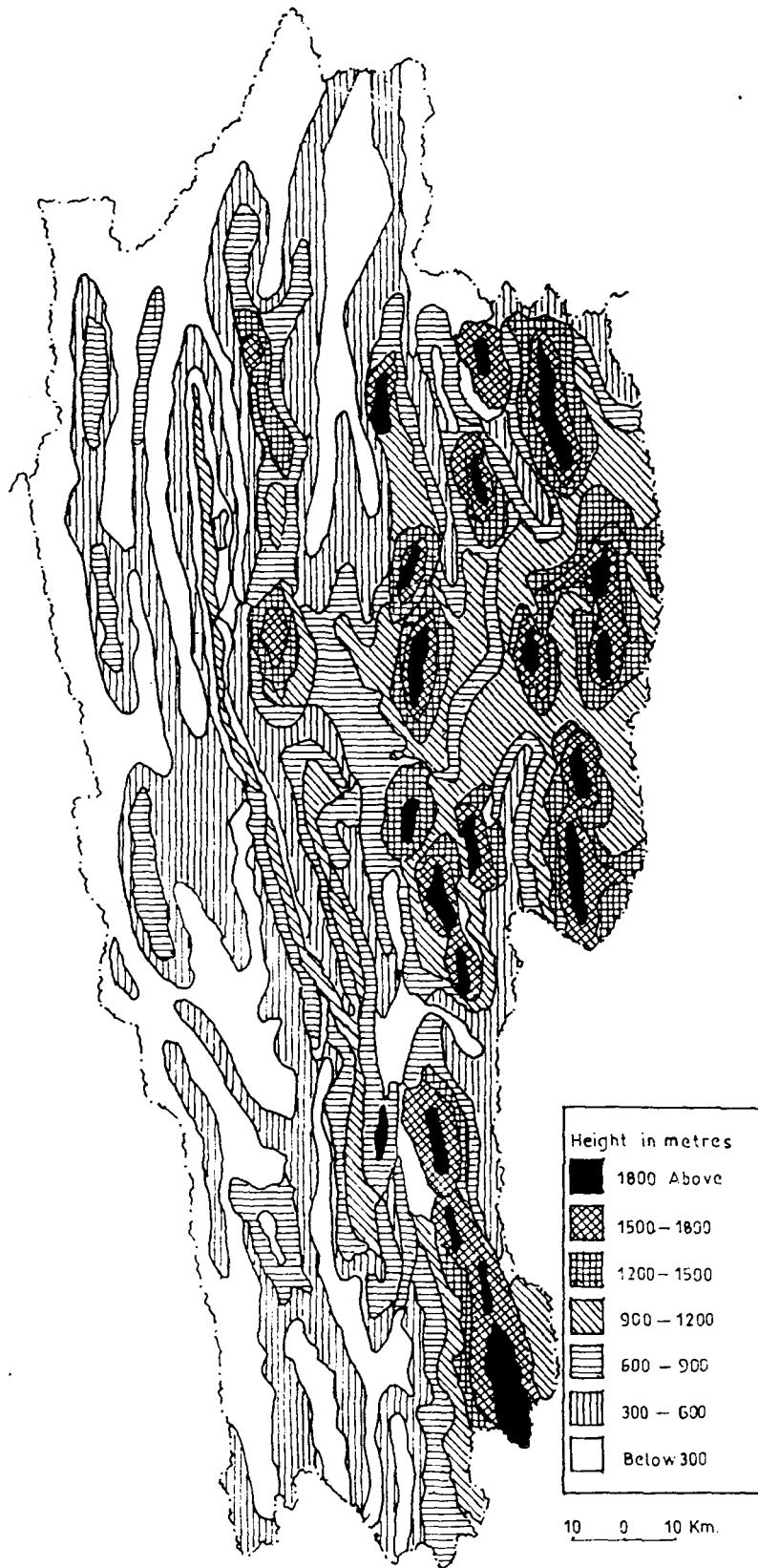
Based on image elements, geologic and geomorphic features, these broad lithological units such as Bokabil, Bhuban and Barail have been identified; and the relationship between the units are as follows:-

Table 2.2
Broad Lithological Unit

Group Name	Unit	Lithology	Age
SURMA	Bokabil	Predominantly thin bedded shale, friable sandstone and occasionally alternating with compact fine sandstone and sands	Mio-Pliocene
	Bhuban	Predominantly alternating sequence of sandstone and shale. At places, massive sandstone beds.	Oligo-Miocene
BARAIL	Upper Barail	Predominantly shale, siltstone and soft sandstone, occasionally compact, hard stone bands.	Oligocene
	Lower Barail	Alternating sandstone and shale.	

MIZORAM
RELIEF MAP

FIG. NO. 2



Topography

The physical setup of Mizoram is composed predominantly of mountainous terrain of tertiary rocks. The mountain ranges are inclined north to south direction in a parallel series. Narrow deep river valleys separate the ranges from one another. The elevation ranges from 40 metres at Bairabi to 2157 metres at Phawngpui. There are only few and small patches of flat lands, which are mostly of intermont – plains.

The terrain of Mizoram is young and immature. It shows prominent relief features with steep slopes, and is still undergoing denudation in response to various exogenetic (isostatic gravity) processes. Since the terrain is young, the geomorphic features of the state do not show much diversity in the formation of landforms. But one of the distinct features observed in Mizoram is that the all the western slope of the mountain ranges has higher degree of slopes. Most of the landforms observed are erosional in nature. The most dominant process in evolution of these forms is the action of running water, and is operating from upper tertiary period onwards, till date (Figure 2).

On the basis of relief, drainage, lithology and structural-setup, the landforms of Mizoram can be broadly classified into the following units:

I. Mountain Terrain Region

The eastern half of the state can be classed as Mountainous Terrain region. The overall relief in this region is higher and the slopes are much more steeper than the western half. The altitude varies from 400-2157 metres. The high points are generally over 1000 metres. The average elevation in this region is 1000 metres. The slopes are very steep, and the elevation difference between ridge top and valley varies between 200-600 metres. The ranges are aligned mostly in north-south direction. The important mountain ranges in Mizoram can be described as follows-

In the north eastern corner bordering Manipur and Myanmar runs the Sialkal range. The highest peak of this range is Lengteng, which at 2149 metres above mean sea level. Other peaks are Naunuarzo and Sur with a height of 2141 and 2018 metres respectively. In the middle east of Aizawl district, there runs the Chalfilh and Tawi Range with an elevation of 1905 metres and 1889 metres respectively.

The other conspicuous ranges are Mawmsrang, located in the midst of Chalfilh and Sialkal range, Hmuifang range in the central part of Aizawl district, and Reiek range in the west of Aizawl mountain. Phawngpui (Blue Mountain) with an altitude of 2157 metres in the eastern part of Chhimtuipui district is the highest peak in Mizoram.

The drainage flows either towards north or south, due to the litho-structural control on the drainage. Due to relief and moderately heavy precipitation, the

dissection is very high. The width of the valley increases towards both ends on the north and south.

II. *Ridge and Valley Region*

Western part of Mizoram depicts a characteristic ridge and valley type of topography. This region covers nearly half of the area of the state. The relief in this region varies between 40-1550 metres, and the average elevation is 700 metres. The relief is low in the western part and rise higher towards the east. The hill trend is approximately NNW - SSW direction, higher in the central part and tapering towards north and south. The slopes are generally steep on the western side of the ridge; and elevation difference between valley floor and hilltop is in the order of 100-200 metres. In this region, two conspicuous ranges are observed – Mamit range and Hachhek range in the western part of Aizawl district⁵.

III. *The Flat Lands*

The flat lands cannot be grouped as occupying a definite region, yet attempt will be made to described them as there are patches of flat lands scattered at places in Mizoram. They are mostly intermontane valley plains located in the midst of hills and narrow valleys. These plains are believed to have formed in the beds of silted-up lakes as they are covered by rich alluvial soils.

⁵ Rintluanga Pachuau – *Geography of Mizoram*. R.T. Enterprise Aizawl, 1994

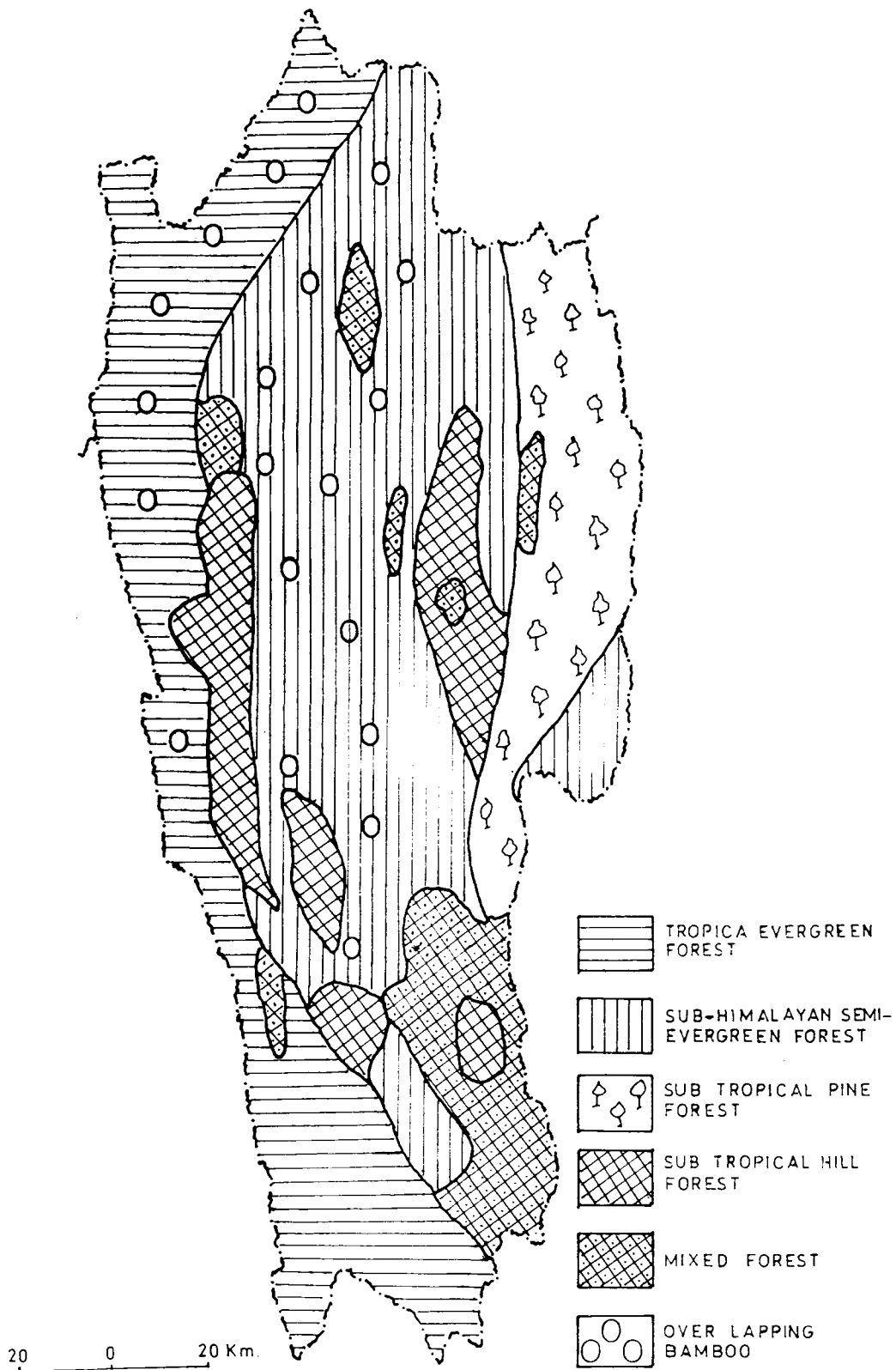
The largest plain in Mizoram is located at Champhai, about 185 Kms east of Aizawl town. Champhai plain has a total length of 11.27 Kms and the widest part is 4.83 Kms across. The whole area of this plain has been put under permanent rice cultivation.

The second largest plain is situated at North Vanlaiphai in the southeastern corner of Aizawl district. Thenzawl is another important plain in the southern part of Aizawl district, which is also put under permanent wet rice cultivation. Mention also should be made of the small patches of flat land like-Tuisenhnar near Khawzawl, Zawlpui on the side of Mat river, Phaisen and Chhimluang west of Bikhawthlir village, Hortoki and Bairabi along the river Tlawng.

IV. The Lakes

Amidst the precipitous terrain of Mizoram, there are only few natural lakes. They are formed at various places, where hills and ridges served as natural embankment on all sides. Some of the lakes in Mizoram are – Palak, Tamdil, Rengdil, Rungdil and Vachadil. Among these, only Tamdil, located 100 Kms of Aizawl town has been developed and created as the most important and productive fish-pond managed by the state government.

MIZORAM VEGETATION



Drainage

Surface configuration like relief, slope and dissection are important factors, which affect the development and pattern of drainage system of the area. A number of rivers, streams and rivulets of various patterns and length drain Mizoram. The area receives a considerable amount of rainfall during summer, and most of the streams are ephemeral in nature. Their volume is limited in dry season, whereas they swell rapidly during the monsoon season. It has been observed that running water is the most decisive agent, which has sculptured the landforms of the region⁶.

Most of the drainage line originated in the central part of the state; and flows either towards north or south directed by the north-south trending ridges. The valleys are narrow and have been carved out in softer formations. The rivers at various places formed deep gorges, and cut across the striking ridges forming water gaps. The upper courses of the rivers are often intervened by waterfalls. As parallel ranges control the drainage course, the drainage of ephemeral and consequent types shows trellis, dendritic as well as parallel drainage patterns (Figure 3).

The northern portion is drained by Tlawng (with its tributaries-Teirei and Tut), Tuivawl, Tuirial, Langkaih and Tuivai, all of them flowing towards north and falls into Barak river in Cachar plain of Assam. The southern hills are drained by Chhimtuipui on the east with its tributaries-Mat, Tuichawng, Tiau and Tuipui, while

⁶ Rintluang Pachuau. op.cit p.

Khawthlangtuipui, with its tributaries-Kawrpui, Tuichawng, Phairuang, Kau and Deh formed the western boundaries with Tripura and Bangladesh; whereas the river Tiau and Chhimtuipui (also known as Koladyne) formed the natural boundary with Myanmar in the east and south.

The major drainage systems in Mizoram can be described as follows:

(1) Tlawng Drainage System

River Tlawng is the longest river in Mizoram, which is about 102 Kms inside the region. It originates from Zopui hill, some 8 Kms from Lunglei town, at a height of about 1395 metres. Flowing towards north, it divides the region into two almost equal parts. After the confluence with tributaries Tut and Teirei from the western bank, it enters Cachar district (where it is known as Dhaleswari), and eventually falls into Barak near Badarpur. The river is navigable by small boat throughout the year, and is regarded as the most important channel of water transport in Mizoram. Rivers Tut and Teirei flow parallel with the river Tlawng for about 60 Kms and 40 Kms respectively before they join the main river Tlawng.

(2) Tuirial Drainage System

Tuirial is also navigable by small boat. Its span inside the state is about 67 Kms. Originating from north Chawilung hill in Aizawl district it flows northwards to join

Barak river in Assam. An important tributary is Tuirini, which joins the mainstream from the eastern bank after flowing parallel to it for about 29 Kms.

(3) *Tuivawl Drainage System*

This drainage drains the northeast portion of the region. The main river Tuivawl, which rises near Chhawrtui village flows towards north where it later confluent with Barak river.

(4) *Tiau Drainage System*

The eastern fringe of Mizoram is drained by the Tiau drainage system. River Tiau, which spans for about 83 Kms is a demarcating line between Mizoram and Myanmar. Rising from the northeast corner near Khuangphah village, it takes a southward direction. After its confluence with the main tributary, Tuipui, it meets Chhimtuipui river in an opposite direction. This point gives quite an interesting scene as two currents encountered with opposite forces.

(5) *Chhimtuipui Drainage System*

This system drains the southeastern part of Mizoram. The main river, Chhimtuipui is the biggest river in Mizoram by volume. It originates from the western part of Myanmar near Vannum village at an altitude of 2325 metres, and flows in south direction. It enters Mizoram near Sabawngte village from which it takes the north direction marking the international boundary and meets Tiau river in the

opposite direction. From this point, the direction is diverted towards north west and meets Tuichang river near Hnahthial village, and eventually flows southwards where tributaries Mat and Mengpui confluent it. The river Tuichawng and Mat originate from the central part of Aizawl district. Mengpui river rises near Lunglei town and meets the main stream in Chhimtuipui district.

(6) Khawthlangtuipui Drainage System

The Khawthlangtuipui represents the drainage system of the whole southwestern part of Mizoram. Originating from Saithah village in Aizawl district, the river flows towards south, forming a boundary line between Mizoram and Bangladesh. After taking about 105 Kms course, it turns towards southwest entering Bangladesh through Tlabung, a sub-divisional headquarters.

Khawthlangtuipui has numerous important tributaries such as Kawrpui, Tuichawng and Phairuang, which associate it from the south. River Kau and Deh flows parallel to it from the south for a considerable length. This drainage system shows a rectangular and parallel drainage pattern. The river is navigable by small boat and serves as a useful transport route, as far as trade with Bangladesh is concerned.

The whole drainage system of Mizoram on a large scale depicts parallel pattern. This is the outcome of the characteristics parallel mountain ranges. But one should not over look the presence of trellis pattern produced by numerous consequent

and subsequent streams, which flows parallel either to the dip or strike of the ridges. Dendritic drainage system is also observed at Chhimtuipui drainage system where tributaries such as Tiau, Tuichang, Mat and a number of streams united with the main channel.

Climate

Mizoram enjoys a moderate climate owing to its tropical location. It is neither very hot nor very cold throughout the year. The region falls under the direct influence of the southwest monsoon. As such the region receives adequate amount of rainfall. The climate is humid tropical, characterised by short winter, long summer with heavy rainfall⁷.

Temperature

Since there is no proper observatory station in Mizoram, it is not possible to give comprehensive information on the temperature condition of the region.

The salient thermo-characteristics of Mizoram is that temperature do not fluctuate much throughout the year, except in the low-lying valleys. The highest temperature is observed during May, June and July. With the onset of the monsoon the temperature decreases. The temperature continues to fall with the break of the monsoon rains, and its minimum is observed in the month of December and January.

⁷ Rintluanga Pachuau – op.cit

In autumn, the temperature is usually 18° C to 25° C, while winter temperature records normally 11°C to 23°C. The summer temperatures usually 21°C to 31°C. During the last two decades or so, a noticeable increase in temperature has been observed as it is globally, which is because of large scale deforestation and mismanagement of the environment⁸.

During winter, the lowest temperature is felt at places having high altitudes such as Champhai, Zote, Ngur etc in the east, Bualpui (Ng) and Phawngpui area in the South. The maximum temperature in summer is observed at relatively lower places such as Kanhmun, Zawlnuam, Bairabi, Vairengte etc in the northern part; Tlabung, Chawngte, Tuipang, Tuipuibari etc in the south and west end. It is truly observed that places at higher altitude experienced lower diurnal range of temperature; while places at lower altitudes have higher temperature ranges.

Rainfall

Mizoram is under the direct influence of the monsoon. The heaviest rainfall is observed from May to September. The average annual rainfall accounts for 250 Cms. North western portion of the state receives highest rainfall, with more than 350 Cms per annum. The rainfall also increases southward in humidity. Aizawl, located at 23°44'N and 92°43'E receives about 208 Cms rainfall, Lunglei, receives as high as 350 Cms rainfall annually.

⁸ Ibid.

Precipitation is heavy in summer, normally from May to September, and last till late October. Normally July and August are the rainiest months, while December and January are the driest month. The monthly rainfalls of Mizoram for certain years are given in Table 2.3.

Seasons

Depending on the variation in temperature and general weather conditions, three types of seasons are observed in Mizoram-(1) The cold season or winter (2) Warm season or spring (3) Rainy season or summer.

(1) *The Cold or Winter Season*

This season starts from November and last till February. The temperature is comparatively lower (11°C-23°C)⁹, but too low to make the human habitation difficult. The diurnal temperature varies from 8°C to 24°C during this season. This season receives very less rainfall and whatever amount it receives is from retreating monsoon. This season is pleasant with a clear blue sky, but morning mist is a common phenomenon upon the valleys, which gives an enchanting view resembling a wide stretches of ice-sheet.

⁹ Rintluanga Pachua, op.cit. p.45

(2) *The Warm Season or Spring*

This season begins from March and last till the early part of May; and it merges with the rainy season. The temperature has risen up to a range of 19°C to 29°C being aggravated by rainless days. The early part of this season is characterised by bright sunshine and clear sky with little or no cloud till the coming of pre-monsoon shower disrupts it. Maximum diurnal temperature sometimes rises as high as 32°C. Because of little cloud covering, maximum isolation is received in this season.

(3) *The Rainy Season or Summer*

This is the longest season in Mizoram, covering nearly six months from the second part of May till the late October. The season starts with violent storms, which swept the state from south west through Bay of Bengal, marking the beginning of monsoon season. Rainfall heavy from May to September and about 40 percent of the total annual rainfall is received during July and August. The heave outpours which starts normally in the morning a sometimes associated with hailstorms and thunder. In this season cyclonic rain are often felt.

Soils

The soils of Mizoram are dominated mainly by loose sedimentary formations. They are generally young, immature and sandy. Derived soils with red, loamy texture is also found with high level of laterite. The soil acidity is high; low in potash and phosphorus. But in an uneroded soil, the content of nitrogen is quite high, fostered by

the accumulation of organic matters. The soils in the valleys are heavier as the rainwater brought them down from high altitudes.

Classification of soils in Mizoram was undertaken by Sarkar and Nandy (1976)¹⁰. According to them, the soils of Mizoram can be classed into three orders of taxonomy viz., (1) Entisols (2) Inceptisols and (3) Ultisols.

(1) *Entisols*

These soils have little or no evidence of profile development. They occur on steep, actively eroding slopes and ridges, or on flood plains that receive new deposits of alluvium at frequent intervals. In order of entisols, the following soils have been identified at the family level classification.

- (a) Mixed Hyperthermic, typical Udipsamments-which occurs in narrow valleys especially on river courses in a very limited area.
- (b) Loamy skeletal, mixed hyperthermic, lithic udorthents-occurs only in ridge tops, which have been severely eroded due to indiscriminate felling of forest. The soils have coherent strata with 50 Cms thickness. Exposed rock sequences are seen at few places.

¹⁰ Sarkar and Nandy op.cit

- (c) Loamy, skeletal, mixed hyperthermic, typic udorthents-these soils have been encountered in erosional areas on ridge tops and terraces. These are found as dominant units on ridges, which are under scrubs. The soils are having 40-60 percent of coarse gravel. These soils can support good vegetation if properly managed.

(2) *Inceptisols*

This order of soils occurs widely in sub-humid region. The common horizon sequence in an ochric epipedon over a cambic horizon. Freely drained inceptisols are classified as ochrepts. The following families of sub-group typic dystrochrepts have been identified in Mizoram.

- (a) Loamy skeletal mixed hyperthermic, typic dystrochrepts-found on the concave part of slope in narrow patches of hill top ridges. Generally, these soils are deep with 40-50 Cms thick solum, below where weathered soft rocks are found. They are well suited for forest species.
- (b) Fine, loamy hyperthermic, typic dystrochrepts- commonly occurring on the steep slopes, in narrow valleys and on terraces. They are generally covered with dense scrubs and grasses. The soils are fine, loamy in texture with few rock fragments.

(3) *Ultisols*

Ultisols are commonly found on the foot slopes. The soils have horizon, which are rich in translocated silicate clays. The main-sub-order of these soils is Aquults, Humults and Udults.

- (a) Aquults-only one family of this sub-order i.e., mixed hyperthermic, fine loamy, typic palequults have been found to exist in flat lands, in Mizoram.
- (b) Humults – only one family of this sub-order have been identified. These soils are rich in humus and generally support rain forest.
- (c) Udults-are fairly widespread in Mizoram. They are fairly drained, poor in humus, associated with humid climate with high rainfall.

The hilly terrains, where the slopes are very steep, consist mainly of Hapludults, Paleudults and Palchumults. These soils are highly leached, poor in bases, rich in iron and low in pH value. They have wider occurrence as compared to other soil types.

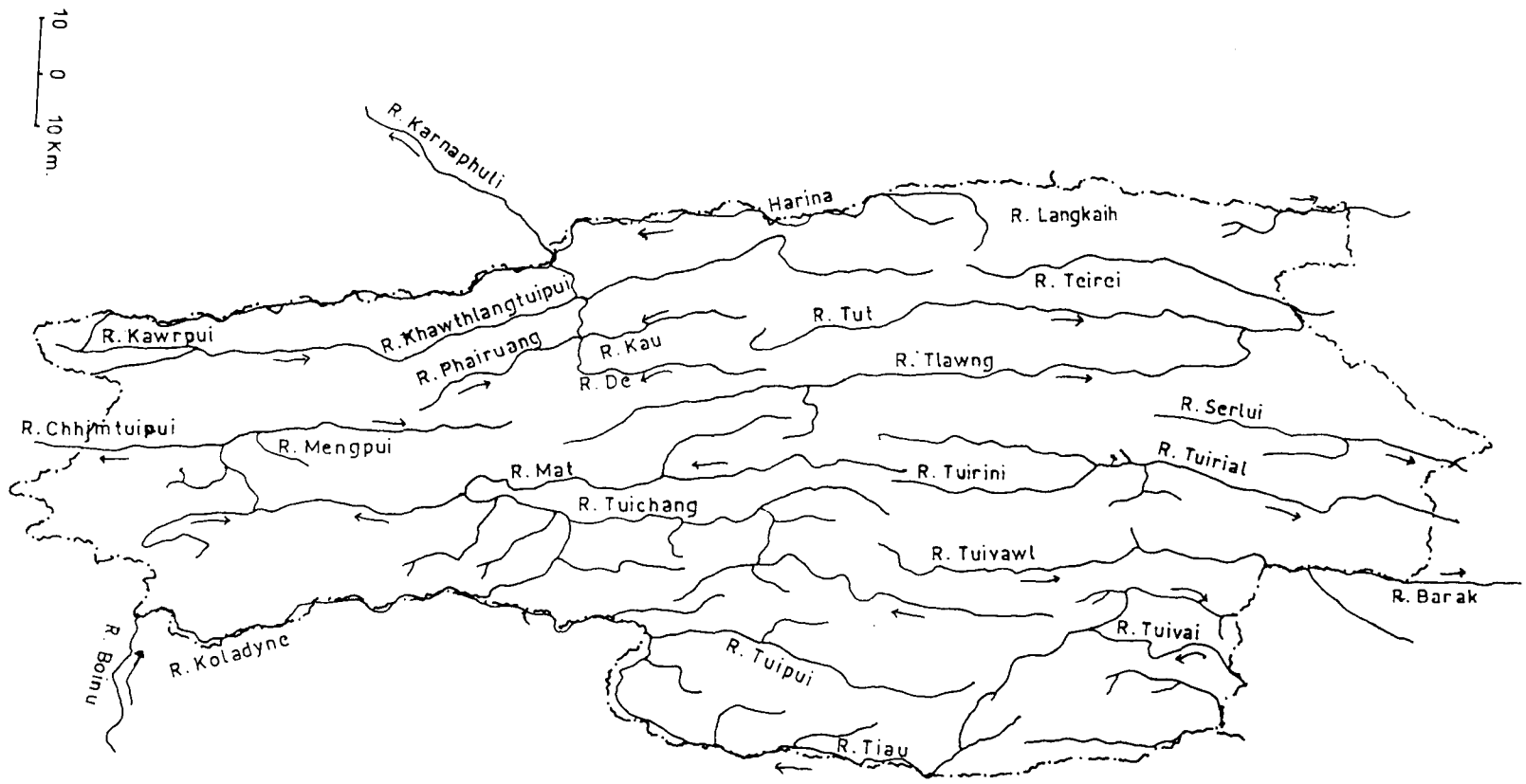
The soils on the top of ridges are mostly shallow or underlain by weathered rock and have thin depth. They have poor moisture supply and are capable of supporting only scrubs and low trees. In narrow valleys, the soils are young and sandy,

the extent is very much limited and are of least importance for land use. The soils in flat lands are poorly drained and; have high ground water table.

The soils of Mizoram as a whole, are well drained except in few flat lands, and are capable of providing substantial oxygen supply for plant growth. The soils of the region also have capability to retain soil moisture and maintain its supply throughout the growing season of normal crops. They have low inherent fertility in the form of poor supply of base and mineral reserves. This implies the necessity of inputs and proper management for utilisation.

Vegetation

Geographical factors, which influence the distribution of forest in Mizoram, are latitude, elevation, rainfall and nature of soil. There is a marked difference between vegetation of the western and eastern part of the state. The influence of altitude, soil and moisture is obvious. Mizoram has an abundant growth of vegetation. Out of the total geographical area (21,081 sq. Km), as large as 15,955 sq. Km is covered by vegetation, which accounts for about 75 percent of the total area of the state. Its tropical location, which furnishes conducive climatic conditions such as an adequate rainfall, moderate temperature etc. favours the luxurious growth of vegetation. The type of vegetation, which thrives in Mizoram, ranges from Tropical trees to sub-Tropical trees. They comprised of valuable species of timber, lumber, medicinal herbs and domestic resources.



MIZORAM
DRAINAGE

FIG. NO. 4

On a broad scale, the forest of Mizoram can be simply described as wooded forest in the lower ridges-generally below 600 metres, including riverine low lands. However, according to vegetation, they can be further classified into six types – (1) Tropical Evergreen Forest (2) Sub-Himalayan Semi-Evergreen Forest (3) Sub-Tropical Pine Forest (4) Sub-Tropical Hill Forest (5) Mixed Forest and (6) Overlapping Bamboos. This classification is shown in Figure 4?

The simple classification of forest in Mizoram falls under three broad types:

1. Tropical Wet Evergreen Forest,
2. Tropical Semi Evergreen Forest,
3. Mountain Sub-Tropical Forest¹¹

(1). *Tropical Wet Evergreen Forest*

This type of forest is found at places where precipitation is high. It is found in the western part of Mizoram bordering the Bangladesh, Tripura and Assam. Important timber species of this forest are: Thlanvawng (*Gmelina arborea*), Ngiau (*Michelia Champaca*), Sahatah (*Dysoxylum binectariferum*), Lawngthing (*Dipterocarpus turbinatus*), Muk (*Cordia wallichii*) etc.

¹¹ Rintluanga Pachuau, *Population structure and settlement patterns in Mizoram A geographical analysis*, Ph.D Thesis, Unpublished (NEHU), 1991, p.42.

Important bamboo species of this classification are: Mautak (*Melocana Bambusoides*), Rawthing (*Bambusa tulda*), Rawnal (*Dendrocalamus logispathus*), Phulrua (*Dendrocalamus hamiltonii*) and Rawthla (*Teinostachy umdullooa*).

Species of ecological importance are Khuangthli (*Bischofia Javanica*), Lenhmui (*Eugenia jambolona*), Theivawkmit (*Tarena odorata*), Thingvawkpui (*Sapium insigne*), Banphar (*Anthocephalus maculata*), Tufar (*Podocarpus neirifolia*), Nganbawm (*Acrocarpus fraxinifolius*), Theitat (*Artocarpus lokoocha*), Hmawng (*Ficus benghalensis*) etc.

Other common species found in the Tropical Wet Evergreen Forest are: Tatkawng (*Artocarpus chaplasha*), Thingthi (*Myristica longiflora*), Pualeng (*Mahoma borealis*), Thingkha (*Derris robusta*), Pangzairum (*Anogneissus ocluminata*), Phaithing (*Echinocarpus assamicus*), Kawlkar (*Leelasambu cina sanguinea*) and Pangkai (*Baccaurea sapida*).

Species of the undergrowth such as Hnahthial (*Phrynium capilatum*), Tum or Meihle (*Caryota urens*), Tartiang (*Punanga gracilis*) thrive under the thick jungle. Hmunphiah (*Thysonoloena agrestis*) used as a broomstick is also abundant in this type of forest, and in fact, it is one of the sources of revenue of the state¹².

¹² Idem

(2). *Tropical Semi Evergreen Forest*

Tropical semi evergreen forest covers about 50 percent of the area of Mizoram. It occupies the central part of the region from Chhimtuipui river in the south to Manipur border in the north. Apart from timber species which thrive well in tropical wet evergreen forest, the dominant species are: *Khiang (Schima wallichii)*, *Tei (Cedrela Toona)*, *Char (Terminalia myriocaupa)*, *Zuang (Daubanga sonnera tiodes)*, and *Thingdawl (Tetrameles nudiflora)*.

Valuable domestic species available are: *Vaiza (Hibicus macrophallus)*, *Kawhtebel (Samecarpus subpanduriformis)*, *Zawngtah (Parkia roxburghii)*, *Bil (Protium serratum)*, *Thil (Quercas excela)*, *Kharuan (Eleococarpus lanceofolius)*, *Vang (Albizzia stipulata)*, *Zihngal (Stereosporium cholenooides)*, *Thal (Quercas dilatata)*, *Thingsia (Castanopsis Tribuloides)*, *Vaube (Bauhinia Vareigata)*, *Phunchawng Bombox malabařicum)*, *Khaukhim (Sterculia Colorata)*, *Thingsir (Sapidus barak)* etc.

(3). *Mountain Sub-Tropical Forest*

These types of forest are found on a higher elevation, mostly confined in the eastern fringe of the region. They are also found in strip of ranges in the western part of around W. Bunghmun and Sangau, in the south. The vegetation of this type is dominated by *Chhawkhlei (Rhododendron)*, *Fah (Quercus deal bata)* *Tlaizawng (Prunus ceracoides)*, *Keifang (Myrica nagi)* *Phen (Quercas incana)*, *Sunhlu (Emblica*

officinalis), *Khawmhma* (*Rhus javanica*), *Thualthu* (*Butea minor*). Only few pieces like *fir* (*Pinus kesiya*), *Then* (*Quercas xylocarpa*) etc are sawn.

Other common species of this classification are *Sihneh* (*Eurya symplocina*), *Phuihnam* (*Clero dendron*), *Hmutau* (*Robus Ellipticus*) *Hulhu* (*Derris wallichii*) and *Sialinuchhu* (*Robus sirmanicus*), *Katchat* (*Didymochlaena truncatula*) etc.

Many of the species mentioned above are to be found growing here and they're irrespective of the classifications of forest types. For instance, bamboo is found almost everywhere except at higher ridges; and in fact, covers about 80 percent of the total vegetation area of Mizoram. Normally, lower slopes of the ridges and former jhummed areas, and low valley sites are covered with bamboo patches of different growth; depending when the jhum was practiced at respective plots.¹³

The man timber species mentioned earlier are found on sandstone and limestone on the crest of slopes of the ridges as well as on the higher slopes. First patch where the composition is a mixture of most deciduous, semi-evergreen and bamboos are delineated as mixed forests. They are distributed in patches-at chalfilh range, Dampa range, Mawmrang range, Tawi and Sur range; and at Phawngpui mountainous range further south.

¹³ Rualkhuma Colney Cottage and small scale industries.

Ironically, the vegetation of Mizoram has undergone a serious change due to continuous onslaughts by man, clearance for jhumming, heavy exploitation and maltreatment by burning, and over-grazing at scattered places. Most of the natural thick forest comprising of heterogeneous and valuable species have been degenerated and became an almost barren lands. Traditionally jhum system, lumbering and fueling are the major factors that accelerate the degeneration and degradation of the green forest.

Resource Potentiality

Apparently, resource potentiality of Mizoram is poor. The geology of Mizoram does not foretell good hope of minerals. The shale and sandstone have no economic utility at the present technology-based applications. Even good quality of sand is brought to Mizoram from Assam (Cachar) for construction purposes. However, it is anticipated that some petroleum reserves may exist on the anticline ranges of Rengte Pahar beyond Vairengte.

The Hydropower potentiality in Mizoram is abundant. Mizoram has water potential (3 Mm) to the tune of 31291 and hydropower potential (at 60% load factor) stands at 384 mm only. At present, the installed capacities of Micro-hydel schemes are of small mw. If the river Kolodyne or Dhaleswari were dammed at the upper stages the production of electricity would go up to meet the internal requirements of the state.

Concluding Remarks

Summing up the whole, Mizoram is a mountainous region ranging from hills in the east to small ridges and conical hills here and there in the western and central Mizoram. The flat land in western part of the south-west Mizoram is really an oasis in whole mountainous region. The rocks are young devoid of economic values. There is no economic mineral in Mizoram and hence, the economic activities are limited. The soil of the region is porous and lateritic with high percentage of acidity. Therefore, it is unsuited for agricultural purposes. There is little or no underground water hence, acute water problem exists. This also affects the economic activities of the people of Mizoram.¹⁴

The peripheral location of the state coupled with physiographic hazards affect the development of communication network. The climate is invigorating but people are confronted with various problems due to natural constraints. The physiography also affects the pattern of accessibility to a great extent. The north-south lineament of mountain ranges caused immense trouble the development of communication network. Almost all the roads in Mizoram follows a north south direction because of its physiographic conditions. The east-west direction of road construction is costly, troublesome and risky because of the north-south trending ridges. The zig-zag roads

¹⁴ S.N.Singh, *Mizoram, Historical, Geographical, Social, Economic, Political and Administrative*, Mittal Publications, New Delhi, 1995, pp.24-25.

with ups and downs adversely affects the mobility of the vehicles and transportation of materials.

Lacks of plain land have affected the settlement of population to be scattered in Mizoram. Moreover, the sparse population and limited agricultural activities is the sign of its backwardness. The inhabitants live on the hilltops or on the spur of the ridges. The possibility of compact settlement is not possible.

CHAPTER-III

SOCIO-ECONOMIC SETTINGS

The evolution of the Mizo and other sub-tribes depicts their migratory nature in the beginning of their habitation in Mizoram. These Kuki-Chin group, Tibeto-Burman branch of the Tibeto-Chinese race came to the present Mizoram in different ways and occupied the area where they could find suitable land for agriculture, besides consideration of their security.¹ But their migratory nature did not change and as such, they went on changing the places of habitation. There was no permanent settlement till the advent of the British administration at the end of the last century.

Their spatial distribution of settlement was geopolitical significant. The Lusei clans occupied the central portion of Mizoram, i.e., Aizawl and Lunglei districts. The northern area was inhabited by the weaker groups like old Kuki, Hmars, and Paite in north-eastern region. In the southern district of Chhimituipui, there is predominance of the Lakhers (in Tuipang C.D.Block), Pawis (Sangau and Lawngtlai C.D.Blocks), and Chakmas (Chawngte C.D.Block). All these tribes and sub-tribes occupy a specific area of their own and follow their own socio-economic patterns distinctly. But these tribes

¹ Liangkhaia. Mizo History. Academy of Letters, Aizawl, 1976

living in specific locations in Mizoram have not maintained water-light compartments in their mutual socio-economic life. Their mutual social relationship reflects social unity and harmonious ethnic relationship. This exhibits a close-knit Mizo society. Their social and religious customs are common with little local variations. In their early economic life they used to follow barter system irrespective of their group or sub-group feeling. But, with the advent of the British these transactions have changed to money terms.

Christianity has a far-reaching effect on the socio-cultural life of the Mizos. It has totally transformed their mode of life and their social structure. Christianity has spread education, gave them lesson of love, sympathy, the value of peace, tolerance, co-existence and universal brotherhood. Thus its impact on socio-economic life was so significant. Christianity inspired a sense of individualism and individualistic approach to life.

Population

The term Mizo is a collective word, comprising of various tribes like the Lusei; Pawi, Lakher, Paite, Hmar, Kuki, Chakma etc. Except Chakma, all other tribes in Mizoram have a distinct unit by linguistically, culturally, ethnologically and in many other respects. In 1991 census, the total population of Mizoram was 6,89,756 persons. The population shows an increase of 836.73 percent during the past century (1901-1991).

Table-3.1
Decadal variation of population in Mizoram, 1901-1991.

Year	Males	Females	Persons	Decadal Variation
1901	39,004	43,430	82,434	N.A
1911	43,028	48,176	91,204	+8,770
1921	46,462	51,754	98,406	+7,202
1931	59,186	65,218	1,24,404	+25,998
1941	73,885	78,931	1,52,786	+28,382
1951	96,136	1,00,066	1,96,202	+43,416
1961	1,32,465	1,33,598	2,66,063	+69,861
1971	1,70,824	1,61,566	3,32,390	+66,327
1981	2,57,239	2,36,518	4,93,757	+1,61,367
1991	3,58,978	3,30,778	6,89,756	+1,95,999

Source: Statistical Handbook of Mizoram, 1996, p.15

More than half of the Mizoram's total population is settled in Aizawl district, with a decadal growth rate of 48.76 percent during 1971-1980. But in regards to decadal growth rates, Chhimtuipui accounts for highest percentage with 61.44 percent during 1971-1981. But this figure declined to 50.37 percent in 1981-1991, but it is still the highest growth rate in Mizoram.

It is a well-known fact that Mizoram is a tribal populated state. As per 1951 census the scheduled caste total population was 172 persons and it was reduced to 5 persons in 1961. However, this figure shows an upward trend with 82 persons, and

691 persons in 1971 and 1991 respectively. The scheduled tribe population accounts for 94.75 percent in 1991 census, which is the highest at national level (Figure 5).

FIG. NO. 5

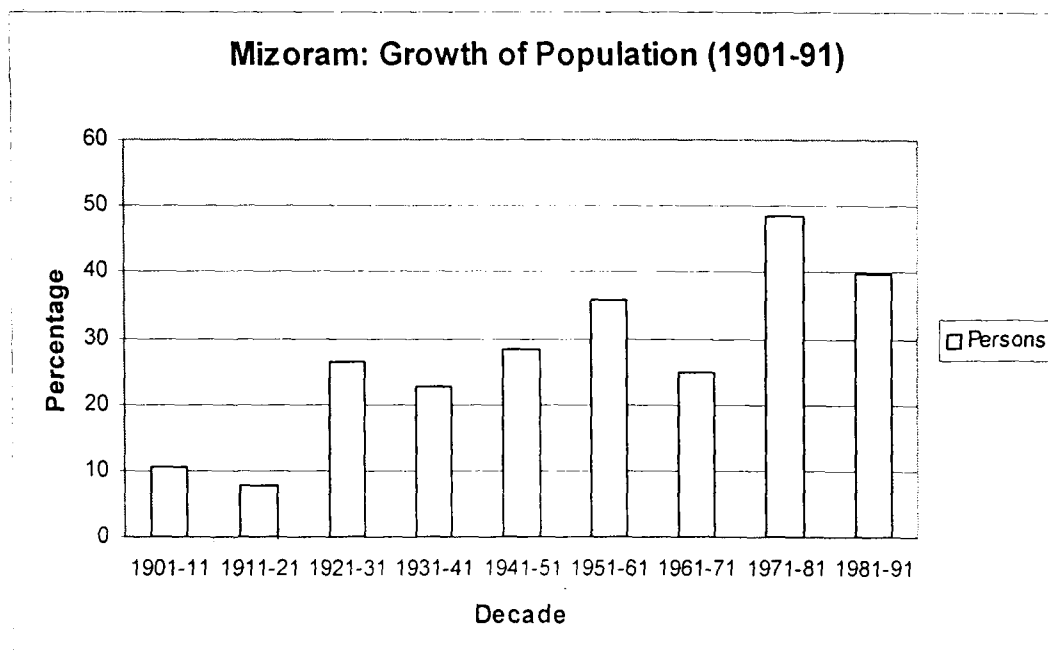


Table-3.2

District-wise population in Mizoram, 1991

State/District	Persons	Males	Females	Decadal growth rate %	
				1971-81	1981-91
Mizoram	6,89,756	3,58,978	3,30,778	48.55	39.70
Aizawl	4,78,465	2,48,348	2,30,122	48.76	40.38
Lunglei	1,11,415	58,331	53,084	39.23	28.79
Chhimituipui	99,876	52,304	47,572	61.44	50.37

Source: Statistical Handbook of Mizoram, 1996, p.4

Rural and Urban Population

Aizawl was recognized as town for the first time in 1951 census and has continued, as town in 1961 census and its population in these two censuses were 6,950 and 14,257 respectively.² However, in 1971 census, Aizawl (31,740 population) and Lunglei (6,019 Population) were classified as Urban centers. The Urban population in 1971 constituted 11.35 percent of the total population. This figure rose to 46.09 percent during 1981-91. The Urban population registered a phenomenal growth rate of 159.88 percent in 1981-91. Whereas urban population is consisted only 123439 persons in 1981 census, which is about 25 percent of the total population of the state.

The rural population constituted as high as 89 percent of the total population in 1971. Whereas rural population was 53.90 percent in 1991 census, but this figure have declined considerably. The rural population declined at 36 percent during 1971-1991. So there were increases in urban population. The sharp increase in urban population can be attributed to certain factors like -

- (i) Migration (rural-urban)
- (ii) Addition of new towns to the already existing towns during the last census.
- (iii) Expansions of the areas of towns already existing during the last census,
- (iv) Phenomenon of high birth rate and low death rate in the urban areas, and
- (v) Influx of population from Myanmar, Bangladesh and others states of India.

² *Socio-Economic Review 1979-80*, Mizoram, Bureau of Economic and Statistic, Aizawl, p.17

Table-3.3
Classified Towns and Urban population in Mizoram 1981

Sl. No.	Name of Towns	Population	Growth rate (%)
1.	Aizawl	74,493	208.39
2.	Kolasib	8,282	162.78
3.	Serchhip	7,329	186.76
4.	Champhai	7,477	278.30
5.	Lunglei	17,205	206.91
6.	Saiha	7,018	194.77

Source: Statistical Handbook of Mizoram, 1987, p.15

The above table 3.2 and 3.3 clearly shows that the rapid growth of population is to a certain degree is the inclusion of 16 constituents into towns in 1991 census, which was not included in 1981. During 1981 – 91 the urban population growth was highest in Champhai town, with 278.30 percent and followed by Aizawl town with 208.39 percent, and Saiha with 194.71 percent.

It is remarkable to mention that Mizoram ^{is} one of the most urbanised state in India, in terms of percentage of urban population to total states population. The population share of the 22 urban towns accounts for 40.09 percent, but still rural population is 53.90 percent which ^{is} higher than the ^{urban} rural population.

Table-3.4
Classified Towns and Urban population in Mizoram, 1991

Sl. No	Towns	Population	Sl.No	Towns	Population
1.	Aizawl	1,55,240	12.	Thenzawl	4,502
2.	Lunglei	35,599	13.	Darlawn	3,609
3.	Champhai	20,809	14.	Mamit	3,546
4.	Serchhip	13,688	15.	Sairang	3,527
5.	Saiha	13,669	16.	Zawlnuam	3,455
6.	Kolasib	13,482	17.	Tlabung	3,409
7.	Saitual	8,402	18.	N.Vanlaiphai	2,804
8.	Khawzawl	7,104	19.	Bairabi	2,421
9.	Vairengte	5,607	20.	Biate	2,325
10.	Hnahthial	5,548	21.	Khawhai	2,102
11.	Kawnpui	5,290	22.	Lengpui	1,808

Source: Statistical Handbook of Mizoram 1996, pp.48-57

Occupation

Analysis of occupational structure of a place is an important factor in highlighting the activities of the people. It is in fact, one of the most important characteristics influencing man's life.³ It depicts the degree of employment and unemployment and exhibits its influence as one of the major determinants of several social, economic and demographic characteristics of the population.

³ M.Edward Alba, *Preface to comparative Occupation Statistics for the united states: 1870-1940*, as cited by D.J. Bogue in *Principles of Demography*, John Wiley, New York, 1969. P.252

Census of India classified the population into workers and non-workers. Though the definition of 'work' keeps on changing in every census until 1981. Workers were grouped into primary, secondary and tertiary activities comprising of nine different categories of economic activities in the previous censuses. While the latter census have categorised 'workers' into four groups, namely – (1) Cultivator, (2) Agricultural labourers, (3) Workers in households Industry, and (4) Other workers. As per this classification, the occupational structure of Mizoram is analysed as follows:-

Mizoram is an agricultural state and most of the population is engaged in agricultural activities. Table 3.5 has clearly portrayed that the bulk of working population as cultivators, and in 1991 census this group accounts for 60.89 percent of the total man workers as against 38.75 percent for India in the same year. Secondly, 34.13 percent of the total main workers are engaged in non-agricultural activities or tertiary occupation. Agricultural labourers accounted for 3.73 percent, and Household Industry consists of 1.25 percent of the total main workers of the state.

Table-3.5

Percentage of workers into different occupation in Mizoram and India, 1991

Sl. No.	Occupation	Percentage to total main workers	
		Mizoram	India
1.	Cultivator	60.89	38.75
2.	Agricultural labourer	3.73	26.15
3.	Household industry	1.25	3.63
4.	Other workers	34.13	31.47

Source: Census of India 1991, Series 17, Mizoram, paper 1 of 1991 supplement provisional population total, p.24.

Workforce

A careful examination of workforce is imperative in understanding the diverse demographic and socio-economic relationship. The definition of economic activity can be broadly classed into two- (1) any occupation or gainful work ignoring the time when it was done, (2) the other is the economically active population which is known as the labour force⁴. This represents the number of people actually at work during a particular period.

The population is classified into workers and non-workers, wherein 1981 census workers are further divided into main workers and marginal workers. Where 'main workers' means a person who has been engaged in a work for the major part of the year proceeding the date of enumeration. Major part of the year may be defined as 183 days or more in a year, or in other words, worked for six months or more in a year. A worker who has been engaged in a work for some time during the year prior to the date of enumeration but not major part of the year is treated as 'marginal workers'.

The workforce of Mizoram is 42.29 percent in 1991 census, which shows a little higher than 1981 figure of 41.73 percent. Whereas in 1971, the workforce was 45.61 percent, it has declined to 41.71 in 1981, which is largely because of the change in the conceptual definition of workers in the different census years.

⁴ W. Barclay George, "*Man power and Working Activities*", *Techniques of population analysis*, John Wiley and Sons Inc. New York 1958. P.264

Table 3.6
Workforce of Mizoram and India, 1971-1991
(Proportion of main workers to total population)

Particulars	Percentage of main workers to total population					
	1971		1981		1991	
Total	45.61	33.06	41.73	33.45	42.29	34.12
Male	51.43	52.61	50.39	51.62	49.56	50.54
Female	39.46	12.06	32.32	14.00	34.43	16.43

Source: Census of India 1991. Series 17, Mizoram, paper 1 of 1991. Supplement Provisional Population Totals, p. 21.

It is clear from table 3.6 that the workforce of Mizoram shows a marginal increase in 1991 census. This is mainly due to the increase in participation rate of females as main workers. It is also noticeable that the workforce of India as a whole has been much less than the corresponding rates for Mizoram, and the workforce for male have been almost the same for Mizoram and India. The female workforce in Mizoram is much higher than that of the country as a whole.

Agriculture

Agriculture, in Mizoram, depends upon the interaction of physical and socio-cultural processes in which relief; fertility of soil, gradient of slopes, drainage, and climatic conditions plays a major role. The physical elements, particularly the geomorphology has a profound influence on the pattern of agriculture in the region.

Geomorphic Problem

(i) Nature of Terrain

As discussed earlier $\frac{3}{4}$ of the area is under mountains carpeted with wild natural vegetation. The availability of flat land is meager. Out of 21,01,900 hectares of land, 52,700 hectares are flat land, while 63,300 hectares are terrace able for miscellaneous crops and 2,11,00 hectares for horticulture crops⁵.

(ii) Problem of Irrigation

The prospects of irrigation are marred by the non-availability of underground water. Further young rocks (easily erosive) and lateritic soils make the agricultural prospects bleak. A small percentage of net irrigated area to the net cultivable land (12.3%) bears testimony to the fact that the state has no adequate plain land for agricultural purpose. Besides, uncertainty and uneven distribution of rainfall creates hardship in agricultural activities of Mizoram.

Land Use Pattern

The agricultural land use pattern in Mizoram as the results of an interaction of the physical and historic-socio-economic factors⁶. The development of agriculture depends upon the physical and socio-cultural processes in which relief, fertility of soil, gradient of slope, drainage system and climatic conditions plays a most significant role

⁵ R.C.Lalkunga, *Potentialities of Horticulture and Cropping Pattern of Mizoram*, Aizawl, 1976

⁶ B.C.Allen (1976) "*The Impact of landform and use on Agriculture*" *Geographical Review of India* Vol. XXXIV of 1977, p.183

in North East India. In short, the geomorphology has a profound influence on the pattern and destiny of agriculture in this region. The pattern of agriculture differs in mountains, plateaus, plains and valley flanks, flood plains and basins. The human factors like duration of occupation in the cropped area, density of population, socio-economic milieu and technological development and its application in land utilisation are equally important in the study of land use patterns of Mizoram.

Table 3.7
Area and production of principal crops in Mizoram, 1994-96

Sl. No.	Crops	1994-95		1995-96	
		Area (ha)	Production (MT)	Area (ha)	Production (MT)
1.	Rice	66,948	1,00,206	65,713	1,01,503
2.	Pulses	3,646	6,649	3,108	5,263
3.	Oilseeds	8,157	8,082	7,739	7,007
4.	Cotton	1,094	474	991	430
5.	Sugarcane	902	7,605	1,135	8,468
6.	Vegetables	1,999	24,235	1,840	27,888
7.	Maize	8,065	14,741	7,761	15,170

Source: Statistical Handbook of Mizoram 1996, pp. 60-61.

The total geographical area of Mizoram is 2108100 hectares, out of this the area reported for land utilisation is as high as 2102 hectares. Land not available for cultivation is 211 hectares and uncultivable land areas are 81 hectares, while fallow land is 442 hectares.

Tenancy System

The land in Mizoram, except the area covered under the town and the protected areas as declared by the Government, belongs to the community and the power of allotment of land for jhumming purpose is vested in the respective village councils within their jurisdictions. The powers of allotment of land for other purposes, however, rest with the Government. In the domain of shifting cultivation, which is the traditional system of cultivation, tenancy system is not possible in view of the fact that the land is available for cultivation only for one year and the area changes from year to year. Earlier, the 'chiefs' were the owners of land who distributes the land to villagers with the help of 'Ramhuals'* . The distribution was need-based and a check was done on the excess private property. The village economy was self-contained and the chief maintains low level of equilibrium in society.

Type of Farming

All the areas of Mizoram, excluding forests, streams, riverbeds, roads, towns and villages and including very steep slopes, are used for shifting cultivation. In jhumming, no permanent tenancy system is possible as the jhum land changes from year to year. The size of jhum land allotted to a family depends on their resourcefulness and in terms of manpower and availability of seeds. The production in tribal economy is self-sufficient. They had no tendency to preserve surplus stock for

* Ramhual – *A well to do families to whom the Chief gave the permission to select a plot of land for jhumming before the public select.*

sale or for exchange. At times surplus food grains in some households are voluntarily transferred to the deficit farmhouses under the customary system of “Tlawmngaihna”. Their surplus was, however, utilised for humanitarian purposes and also for performing ritual feast. Agriculture in Mizoram is in fact at an infantile stage. The cereals produced can hardly meet the requirement for a few months, and for the rest of the months of the year the state has to depend on imports from other states.

The agriculture in Mizoram is crop oriented and emphases are on food crops. The main food crops in Mizoram are paddy, maize, yam, sweet potato, vegetables, ginger, cucumber, water melon, chilly, cotton etc. Table 3.7 highlights the major crops in Mizoram for the period of 1994-96. But interestingly, even though the areas have declined, the production shows a marginal increased. This is mainly because of the increase in fertilizer use in the agricultural realms. As seen in table 3.7 the area put under rice decreased from 1995-96 respectively, whereas the production increased from 1,00,206 metric tones to 1,01,503 metric tones in 1995-96. The area put under sugarcane increased from 902 hectares in 1994-95 to 1,135 hectares in 1995-96. In regards to these seven major crops in Mizoram, the area put under all the crops have decreased by – 2.77 percent from 1994-95 to 1995-96, but the total production of all the major crops have increased by 2.30 percent during the same year.

Mixed Cropping

Mixed cropping is a common practice with jhum cultivation in Mizoram. A variety of mixed crops like paddy, pumpkin, maize, cotton, yam, cucumber, watermelon and other vegetables are widely grown in Mizoram. During the late season beans, and mustard seeds are grown in the same plot of land.

Crop Rotation

Crop rotation is important in agriculture, in order to preserve soil fertility. In the early part of April, the farmers begin with vegetables and maize. The vegetable variety includes pumpkin, cucumber, brinjal and chilly etc. The agriculture begins with the onset of monsoon. Cultivation of cash crop like sesamum, tobacco and ginger, the farmers selects a fertile plot of land and these crops are not mixed up with vegetables and other crops. During paddy seedling, the seeds of cucumber and pumpkin are mixed and sown together. Nearly 75 percent of the cultivable land is put under kharif crop, which includes rice, maize, til, yam, ginger, and sugarcane.

Agricultural Marketing

With the increase of different agricultural commodities, the marketing problem of some commodities like ginger and different fruits like pineapples, passion, orange etc also increased. Due to lack of well-organised marketing facilities in Mizoram the substantial amount of agricultural produce are being wasted and damaged. The Government of Mizoram, today, taking necessary steps to make a well-organised

marketing plan so as to give incentive to the producers during the 6th and 7th year plan. The Mizoram Food and Allied Industries Corporation Ltd. (MIFCO) has now taken up the task of developing, promoting and improvement of processing and preservation of foods, milk, fish, fruits, vegetables and all food materials of animal, poultry, agriculture or pisciculture. They also buy, stock, sell, import and export and generally to deal in such processed foods.⁷

Livestock and Animal Husbandry

The essential tool of an ordinary farmer includes a pair of bullock or buffalo for ploughing or drawing carts and a cow to propagate the species or to give milk. But this is quite uncommon in Mizoram. Due to difficult terrain, the farmers in Mizoram do not keep these animals except in wet rice cultivation areas. But poultry and piggery have been common in Mizoram, which are the important source of food and side income also (Table 3.8).

Livestock plays a very important part in the economic development of Mizoram, and it was used as a media of exchanged in the past and it still occupies a place of social prestige and economic strength. The development of livestock is, therefore, of vital importance in the economic development of the rural areas. By the end of the 2nd plan (1963-64) Mizoram had two official establishments at Aizawl and Lunglei, 3 Veterinary Dispensaries in Aizawl, Lunglei and Kolasib, 2 Rural veterinary

⁷ Lianzela, *Four Decades of Planning in Mizoram*, Khuangkungi, Aizawl, 1995, p.12.

at Thenzawl and Ngopa. Today, there are 4 veterinary hospitals, 35 dispensaries, 73 RAH center, 5 mobile units, 10 stockman centre, 10 AI centres, in Mizoram during 1993-94. The Livestock density in Mizoram accounts for 62.79 per.sq.km, with 68.11, 62.54 and 46.15 density in Aizawl, Lunglei and Chhimtuipui districts respectively. Table 3.8 and 3.9.

Table 3.8
Livestock and poultry census, 1985 and 1992

Sl. No.	Items	Years	
		1985	1992
1.	Cattle	50,355	60,651
2.	Buffalo	5,602	6,507
3.	Mithun	1,435	927
4.	Horse and Ponnies	2,302	2,530
5.	Sheep	790	1,917
6.	Goat	19,668	22,690
7.	Pig	81,032	12,005
8.	Dog	27,539	21,956
9.	Poultry	81,505	10,72,568
10.	Duck	81,505	12,739

Source: Statistical Handbook of Mizoram. 1994,pp.33-3

Table 3.9
District-wise Veterinary Institution and livestock density, 1993-1994

District	Hospital	Dispensary	RAH centre	Mobile unit	Livestock density
Aizawl	3	25	46	3	68.11
Lunglei	1	5	15	1	62.54
Chhimituipui	1	5	12	1	46.15
Total	5	35	73	5	62.79

Source: Statistical Handbook of Mizoram, 1994, pp. 30-33.

Forests

Mizoram has a total forest area of 15825 sq.km, which accounts for about 75.04 percent of the total geographical area. In Mizoram, there are three broad types of forests, namely- tropical wet evergreen forest, tropical semi-evergreen forest and montane sub-tropical forest. The forests in Mizoram was once very thick, much valuable and important species were known to exist, but due to large scale practice of jhumming since several past generations the large areas of forests were destroyed and thus converting them into a barren land. Some of the forest areas, which are left undisturbed, are known to have the valuable timber species like Champa, Hallong, Bonsum, Hallack, Gamari, Manrisal, Nahor, Bogipoma, Sam etc.⁸

⁸Report on Socio-Economic Review 1979-80, Mizoram, Bureau of Economics and Statistics, Mizoram, 1981, p.45

Besides these timber species, mention should be made of the abundance growth of various kinds of bamboos, which is available almost throughout the state. In fact, bamboo constitutes the largest component of the forests in Mizoram and also the most important source of revenue of the state. It is estimated that at least 45 percent of the total forests of Mizoram is covered by bamboo. Out of the fifteen species of bamboos in Mizoram, twelve species are classified as commercially important. Some of the commercially important species are: (1) *Melanocana*, (2) *Bamboo soides*, (3) *Bambusa tilda*, (4) *Bambusa palida*, (5) *Dendro calamus Longipathus*, (6) *Dentro calamas stricta*, etc⁹.

As seen in table 3.10 the forests of Mizoram is classified under this administrative setup – (1) State owned, (2) Village Council controlled and (3) District Council owned forest.

Forest products are the main contributors of state revenue in Mizoram, in which bamboo is the most important source, which is followed by stone from quarries and sawn Timber. Besides these, other important sources are Fish, Sand, Charcoal, and Firewood etc.¹⁰

⁹ Rualkhuma Colney, op.cit p.100

¹⁰ Rualkhuma Colney, op.cit. p.101

Table 3.10
Forests in Mizoram, 1992

Sl. No.	Classification	Total Area	
		In Sq. Km	In percentage
A	State owned forests		
1	Protected forests	1,300	8.16
2	Reserved forests	681	32.29
3	Wildlife sanctuaries	7,127	4.27
B	Village Council controlled forests		
1	Village safety and supply forests	1,782	11.18
2	Unclassed state forests (under Revenue Dept.)	5,240	32.88
C	District Council Owned forests		
1	Protected forests	347	2.18
2	Reserved forests	363	2.28
3	Wildlife sanctuaries	210	1.33
4	Village safety and supply forests	866	5.43
	Grand total	15935.00	100

Source: Statistical Handbook of Mizoram, 1992, p. 138

Mizoram endowed with varieties of Timber species, which are commercially valuable, and the bamboo species thriving in most part of the region that give ample scope for establishment of forest-based Industries. It has been estimated that a Paper Factory with a production capacity of 100 tones of writing paper and 100 tones of craft paper per day could be established at Bairabi.¹¹ There is also a wider scope for the

¹¹ Ibid, p.103

supply of bamboo for paper mill elsewhere in the country. Besides these, manufacturing of bamboo ply, particle fiber board and other household materials like bamboo bags, hats, baskets, furniture and other crafts are widely used in the state.

Table 3.11
Forest revenue in Mizoram, 1992- 1996

Sl. No.	Year	Amount (in Rupees)
1.	1991-1992	9,27,600.00
2.	1992-1993	11,99,100.00
3.	1993-1994	11, 33,200.00
4.	1994-1995	56,03,943.00
5.	1995-1996	77,20,497.00
	Grand total	1,65,84,340.00

Source: Statistical Handbook of Mizoram , 1994, p. 87 and 1996, p. 149

Wild banana also thrives abundantly in Mizoram. The dry trunk and the dry leaves of these wild bananas can be used as raw materials for paper factories. Even for the production of secondary qualities of paper, Mizoram have abundant raw materials. Apart from these, with her varieties of will Timber species. Mizoram had ample scope for the development of carpentry, automobile bodybuilding, Radio cabinets, box making and stick for safety match etc. But till date, the vast scope for development resources have not been, so far, exploited.

Industries

Industrial sector, in Mizoram, have been remained neglected and it is also seen that in regards to Industries she is one of the most backward states of the Indian Union. A systematic and proper development in this regards had its beginnings since 1979 only, with the functioning of registration of small scale and cottage Industries by the D.I.C, Aizawl. During the same year there are only 15 Industrial Units and 107 persons engaged in these fifteen Units.

Table 3.12

Small Scale Industrial Units and Workers in Mizoram, 1979-1990

Sl. No.	Year	No. of Units Regd.	No. of Persons Employed
1.	1979	15	107
2.	1980	139	787
3.	1981	118	555
4.	1982	128	794
5.	1983	96	483
6.	1984	81	394
7.	1985	205	1160
8.	1986	343	1742
9.	1987	373	1940
10.	1988	202	1054
11.	1989	473	2369
12.	1990	32	189
	Total	2205	11574

Source: Industry Directory, Mizoram, 1990.

Table 3.12 clearly portrayed the increase in number of registered small industrial units and increasing employments. The state started with 15 units of Industries with 107 employees in 1979, this figure increased to 2205 units with 11574

employees in March 1990, accounting for an annual average increase of 148.65 percent in Industrial units, whereas the increase in Industrial employees registered 137.06 percent during the last decade (1980-90). The rate of increase in the Industrial units and the Industrial employees does not correspond significantly; that the corresponding rate of increase in Industrial employees shows a lower percentage. This is an indication that the Industrial units are still very small and they are not able to absorb more labour force.

The rate of increase in the Industrial units in Mizoram during 1979-1990 depicts a very astonishing picture. The rate of increase which is about 148.56 percent annually is considerably high which, according to Rualkhuma, "...may be singled out that the people in general became aware of the importance of the sector as well as its creativity of self employment schemes. Like other states, Mizoram is also having acute unemployment problem both in rural and urban as well as educated unemployment. These jobless people having no alternative occupation are compelled to go for secondary occupations either to be employed or employer. Therefore, the total magnitude of registered small scale and cottage Industrial units and persons engaged in the sector are bound to increase physically and simultaneously".¹²

As noted from the foregoing paragraphs that Mizoram is still at an infantile stage as regards to Industrial sector. Whatever Industrial units are being setup in

¹² Rualkhuma Colney, op.cit.p.136

Mizoram were of small scale and cottage Industries; large scale and medium scale is totally absent till today. As such, the rate of increase of the Industrial units and employees are significantly fluctuating from year to year. Rather, a positive growth in a particular year does not necessarily indicate the growth in the next year and vice-versa. In other words, when the new entry of industrial unit is less, the entry of industrial employees are also less in number. This indicates the non-entry of bigger industrial establishments in this sector so far.

New Land Use Policy

To control shifting cultivation in Mizoram measures were taken up by the Government of Mizoram under the banner of New Land use Policy from the year 1990-91. The pattern adopted was called “Aibawk Jhum Control Project”. This control of shifting cultivation aimed at-

- (i) restoring ecological balances in the hill areas and
- (ii) improving the socio-economic condition of the people by encouraging land based alternative occupation other than jhumming.

The strategies adopted in this policy were:

- (i) Reclaiming land having potential for wet rice cultivation (WRC) and providing irrigation so as to encourage settled cultivation in the valleys and terraced slopes.
- (ii) Identifying areas suitable for horticulture plantation at the rate of atleast 2 hectares of plantation per family.
- (iii) Developing suitable areas for agriculture and silviculture operation, commercial forest plantation that would give full occupation to jhumia families.
- (iv) Identifying jhumia families on the basis of their individual aptitude and capability to take up livestock rearing or small and cottage industry on full time basis.

The NLUP, which launched to breakaway from the fragile means of livelihood and to provide in its place, means to generate regular income that would benefit not only the farmers, but would ultimately raise the economy of the state of Mizoram. The following objectives are put to achieve the goal-

- (i) to put an end to the practice of hillside jhum cultivation;

- (ii) to induce the jhumia families to take up alternative permanent means of livelihood under agriculture or Industry or Animal Husbandry sectors on a land allotted to them for the purpose;
- (iii) to take up Wet rice Cultivation in all potential flat land in order to promote self sufficiency in food production;
- (iv) to protect and afforested the remaining land within the block areas other than those allotted land for the scheme to individual families;
- (v) to provide marketing outlet for produces from NLUP programmes.

Table 3.13

Expenditure and Number of Families Assisted under N. L. U. P., 1992-1996

Sl. No.	Year	Agri.& Allied Sector		Industry Sector		A.H&Vety Sector	
		Families	Amount	Families	Amount	Families	Amount
1.	1992-93		15211		1048		9209
2.	1993-94		19218		1459		7622
3.	1994-95	16650	152042801	899	20679616	4780	60061894
4.	1995-96	11667	113843481	1272	16134441	5252	87951557

Source: Statistical Handbook of Mizoram, 1994, p. 173 and 1996, pp. 193-194

The main objective of NLUP is to stop shifting cultivation, the administration has found it necessary to impose ban on jhumming in the selected blocks. Order has

been issued to this effect such that clearing of jungle land is prohibited and all the labour is devoted to development of family land or trade. For providing various alternative means of livelihood in which the beneficiary families can exercise their option for the trade that suits their aptitude, the NLUP programme, as currently being implemented is broadly categories into three main sectors (Table 3.13):

- (i) Agriculture and Allied sector-comprising of 20 different trades
- (ii) Animal husbandry sector-comprising of 9 different items of trade
- (iii) Village Industry Sector- comprising of 17 different items of trade

Provision is also made under the NLUP scheme for construction of motor able road linking the areas where various trade under agriculture sectors are implemented by the beneficiaries in a compact areas for transportation of their produces. About 18.813 Kms has been reported as constructed under link road scheme. The NLUP programme is being implemented on a yearly basis and it is envisaged to cover all the state during the Eight Five Plan period.¹³

Financial Institution

Financial Institution has an important role to play in the process of socio-economic development by providing loans, subsidy and installment facilities to

¹³ Dr.Lianzela, op.cit. pp.60-62

farmers, Industrialist, traders, etc. Today there is number of financial institutions operating in Mizoram, and they can be broadly classified into four groups-

(i) *District Industries Centres*

DICs are the nodal agencies at the field level for the all-round development of the concerned district. The main purpose of establishing DICs are to introduce a single window system whereby all the assistances required will be provided under the same roof. DICs are entrusted with the responsibilities of guiding and issuing provisional and permanent registration to existing entrepreneurs, providing vocational trainings in various trades as well as scarce raw materials and marketing assistance to disbursement of loans, grants in aid and subsidies as well as self employment to the educated unemployed youth in the form of loans etc.

(ii) *Mizoram Khadi and Village Industries Board (MKVIB)*

These institutions were set up in 1986. It is entrusted with the responsibilities of the all-round development of Khadi and village Industries within the state. It performs activities like- (a) to run departmental projects, (b) to assist individual craftsmen and (c) to assist the state's artisan cooperative societies. The MKVIB is receiving loans and grants from KVIC Bombay as well as grants from the Mizoram government to implement its duties. Capital funds are issued at the rate of 75 percent grant and 25 percent loan. Interest charged to working capital is only 5 percent. Thus, the scheme is very suited to the poor states like Mizoram.

The MKVIB had assisted 3214 Industrial units covering as much as 256 villages and towns as on 31.3.1993. The assistance given to 3214 units, at least 2893 units are within Aizawl district with 1633 units (5.081%) concentrated in Aizawl town. Only 274 units and 47 units were assisted in Lunglei and Chhimtuipui district respectively¹⁴.

(iii) Zoram Industrial Development Corporation Ltd. (ZIDCO):

It is incorporated under the companies Act 1956, on the 27th Feb.1978 in Mizoram. It is the only Industrial Development Corporation in the state. The government of Mizoram and the Industrial Development Bank of India (IDBI) shares the ownership. It is notified as Financial Institution under appropriate sections of IDBI Act, 1964. ZIDCO is a twin-functional organisation, states Industrial Development Corporation, state financial corporation. The main aims and objectives are to aid, counsel, assist, finance, protect and promote the interest of the industries in the state. It is also expected to provide technical and managerial assistance to small scale Industries in the state. It is eligible to avail re-finance to and from IDBI against industrial loan disbursed upto Rs.90 lakhs to an industrial units at a concessional rate of interest.

¹⁴ Rualkhuma Colney, op.cit. pp.241-243

It is observed that during 1988-89 to 1992-93, the corporation has sanctioned loan to 332 units with a total amount of Rs. 74,700,250.00. In November 1993, ZIDCO had already disbursed about Rs. 27,70,61,000.00 as financing loans to more than 1600 Industrial units, business enterprises and transport modes, which in turn created direct employment opportunities for about 10,000 persons in the state. Since its inception, ZIDCO has assisted as many as 1178 units by way of term loan amounting to Rs.19.48 crore. It also gave loans to about 80 different trades like, Bakery, Chow making, Furniture, Handloom, Printing press, Tyre retreating, Tailoring, Automobile workshop, Blacksmith etc are the prominent trades.¹⁵

(iv) Banking Facilities:

At present, there are only three Nationalised Banks in Mizoram, such as State Bank of India with 23 branches, UCO Bank and Vijaya Bank with one branch each both being located at Aizawl. The other Banks that serve the state are of local origin. They are – (1) Mizoram Co-operative Apex Bank Ltd. (MCAB) with 8 branches. (2) Mizoram Rural Bank with 50 branches and MUCO Bank at Aizawl.

84 banks serve the state, today, the ratio being 1.8211 persons on an average. The present Bank-village ratio is about 1:7/8 villages, whereas the most of the Banks

¹⁵ Ibid, pp.249-250

are concentrated in town areas. Thus, the service rendered by Banks in rural Mizoram is still very limited.¹⁶

Transport and Communication

Development of transport and communication network is very essential for proper and speedy development of a region. Transport and communication lines are in fact the veins and arteries of socio-economic development. It is also one of the integral parts of a nation's economy and it also serves as an index of prosperity.

Mizoram is still one of the most backward states in regards to transport and communication system. A geographical factor like topography greatly affected its transport development in Mizoram. Road is the only means of transport, which is also beset with numerous problems. The north-south lineament of ranges posed hardships in the construction of road in the east-west direction. A year back in Lengpui an air base has been developed; through this major cities of mainland are connected by air.

Road Network

The main mode of transport system available in Mizoram is road transport. The Border Road Development Organisation (with 17 BRTF as its nucleus) and the state Public Works Department are the main agencies in Mizoram for her transport network. The roads in Mizoram can be broadly classified into three types:

¹⁶ Ibid, pp.250-250

(i) *National Highway*

Mizoram is connected with the mainland by one National Highway, No.54, connecting Silchar with Tuipang in the southern most part of Mizoram, through Aizawl and Lunglei. This highway is 572 Kms long, but Mizoram portion is only 521.70 Kms long. This is the main communication line between Mizoram and the mainland.

(ii) *State Highway*

The state highway is all weathered road, truck able metalled road. Important roads under this classification in Mizoram area:

- (a) Seling-Chanmphai Road (150 Kms)
- (b) Seling-Tipaimukh (139 Kms)
- (c) Sairang-Tuipuibari (134 Kms)
- (d) Lunglei-Tlabung (88 Kms)
- (e) Serchhip-Thenzawl (34 Kms)
- (f) Kanhmun-Kawrtethawveng (80 Kms)

FIG. NO. 6

MIZORAM ROAD NET WORK

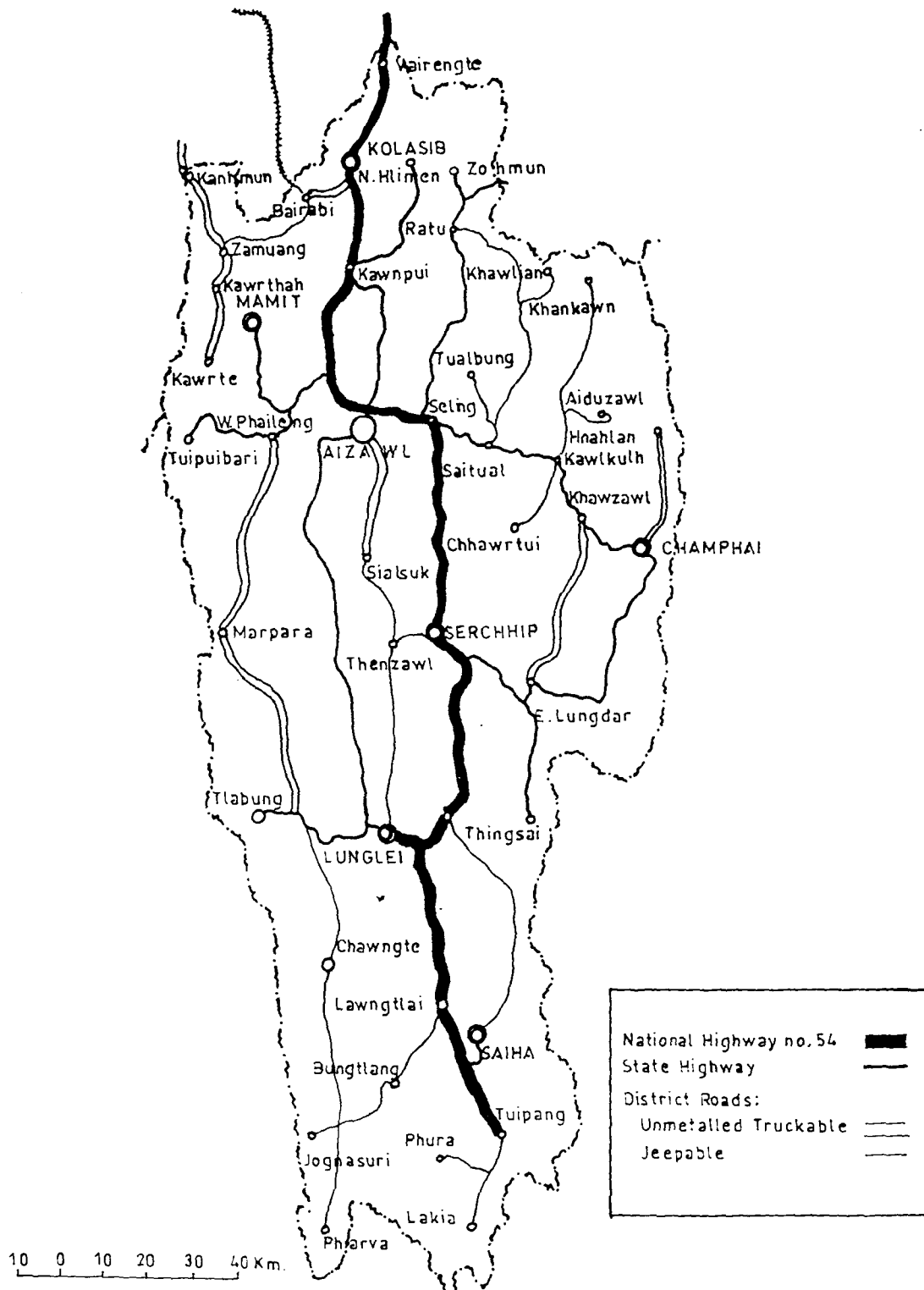


Table 3.14
District-wise Road length (in Kms) in Mizoram, 1990-92

Particulars	Aizawl District		Lunglei District		Chhimituipui District	
	1990-91	1991-92	1990-91	1991-92	1990-91	1991-92
Under B.R.O.	2222.92	2400.60	556.37	600.00	329.50	366.00
Under B.R.O.	1082.36	1062.36	353.2	353.20	373.50	366.00
Surfaced P.W.D.	431.93	582.60	159.19	105.00	14.3	51.00
Surfaced B.R.O.	690.91	673.91	353.20	353.20	244.82	244.82
Unsurfaced P.W.D.	1791.00	1818.00	397.18	495.00	315.20	315.00
Unsurfaced B.R.O.	391.45	391.45			128.20	128.20
Percentage	67.22	69.19	18.50	18.48	14.29	14.33
Total	3305.29	6931.92	909.57	1906.40	702.52	1478.04

Source: Statistical Handbook of Mizoram, 1992, pp.212-212A

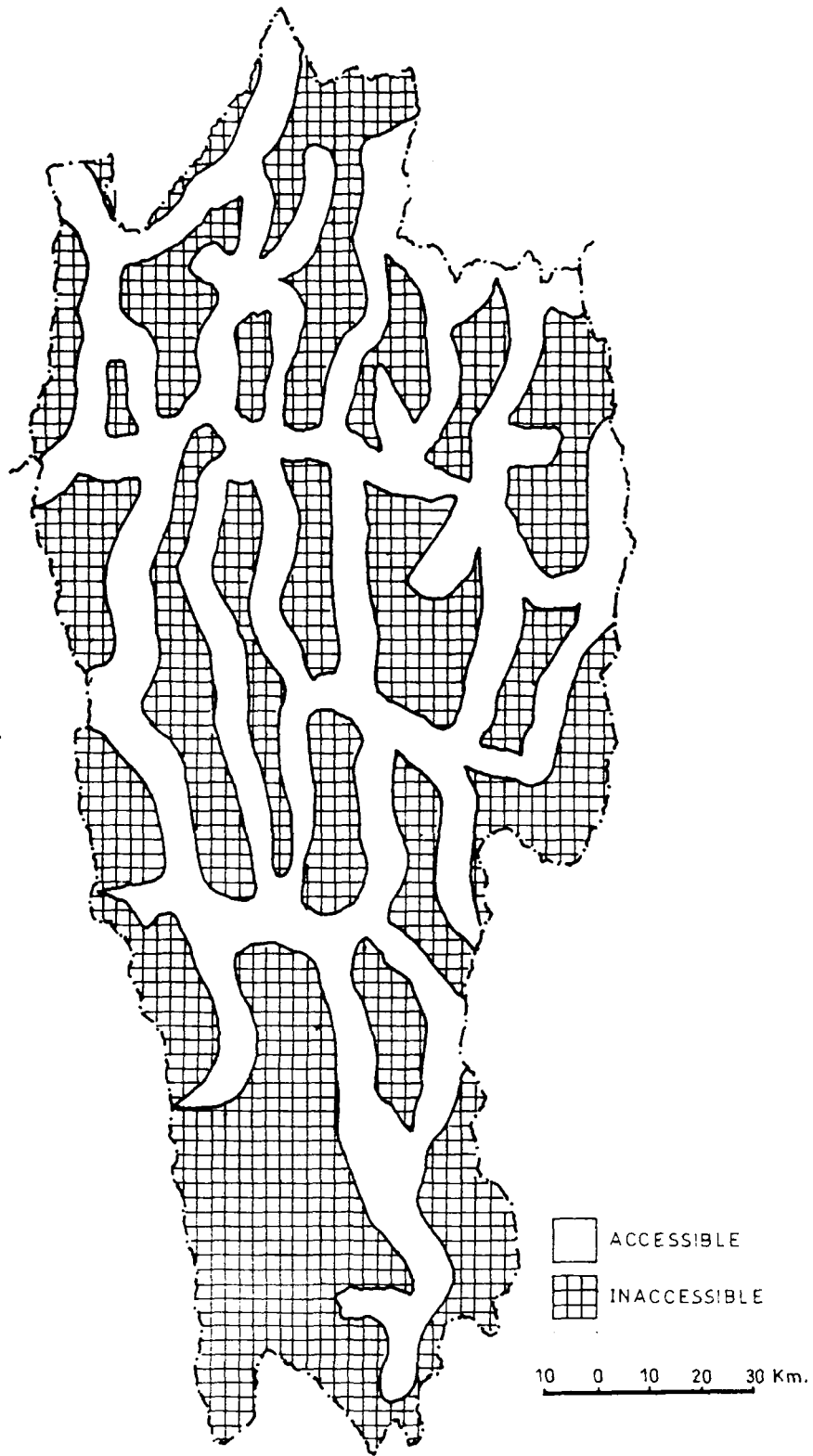
(iii) *District Road*

There are various district roads in the State. They are motorable but unmetalled, spanning different length. Some of the important routes under this classification are: Khawzawl-E. Lungdar, Aizawl-Lunglei via Thenzawl, W. Phaileng-Tlabung via Marpara, Kolasib-Zamuang, Daplui-Tuidam, Tuilut-Kawrtethawveng, Kawnpui-N.Hlimen, Saitual-Ratu, Champhai-N.Vanlaiphai, Tlabung-Chawngte, Keitum-Thingsai etc.

Table 3.14 clearly depicts the road conditions of Mizoram. The road length in 1991-92 for Mizoram were 10316.36 Kms, out of which 6931.92 Kms are in Aizawl district, which account for 69.19 percent of the total road length in Mizoram. In Lunglei district it has 1906.4 Kms, which accounts for 18.48 percent of the total road

FIG.NO. 7

M I Z O R A M
ACCESSIBILITY PATTERN



lengths of Mizoram. This is followed by 1478.04 Kms in Chhimtuipui, length of Mizoram. The total road length in Mizoram during 1990-91 was 4917.38 Kms, which shows a 209.79 percent growth in the next year 1991-92 (Figure 6 and 7).

The road distribution of Mizoram depicts an uneven nature, with the areas of low relief and high productivity accounts for a high road density. During the British period, the only road communications available were bridled paths, with a total length of 703 miles. After the Indian Independence the importance of road development in Mizoram was felt because of its strategic location. Hence, in 1919 the road density of Mizoram, have increased to 5.45 Km per 100 sq. Km, with a total length of 1149 Kms. In 1982 the road density again increased to 12.62 Kms. This figure again rose to 23.34 Kms in 1990-91 and again it increased to 48.96 Kms in 1991-92, with a total length of 10316.36 Kms, accounting both surfaced and unsurfaced.

(iv) Railway

Mizoram have been isolated from the rail network of the country and was served by railheads at Silchar. Recently, a metre gauge line from Lalabazar was extended to Bairabi in Mizoram a distance of 48.76 Kms. The north-south alignment of the project follows more or less the course of Tlawng river. About 41 Kms of the line from Lalabazar end lies in the relatively plain areas and the remaining part passes through difficult terrain. Except for 1.26 Kms of the line within Mizoram, the remaining portion lies in Assam. The project was completed and opened in 1991, and

Bairabi became the first town in Mizoram to find a place on the Railway map of India.¹⁷

(v) *Airway*

In respect to aviation, Mizoram has to go a long way. Till date, the state is served by one mini-airfield in Tuirial, 25 Kms east of Aizawl town. The Defence Ministry in the beginning constructed the field for defence purpose, the maintenance and improvement was later entrusted to the State P.W.D. The airfield is now engaged with Vayudoot Air Service, connecting the State with Silchar-Guwahati-Calcutta.

The construction of International Airport at Lengpui has been completed in 1998, and a test flight has also been launched successfully in the same year and it is operational. This Airport will be open up more air services in the near future.

(vi) *Postal Communication*

In Mizoram, postal service is the main system of communication. Today, there are 776 postal offices in Mizoram and 551 letterboxes in 1995-96, whereas in 1993-94 there were 549 letterboxes. This indicates that each letterbox serves 1256 population in 1993-94, and 1251 population in 1995-96. The number of post offices in

¹⁷ Rintluanga Pachuau, *Geography of Mizoram*, R.T.Enterprise, Aizawl, 1994, p.86

Table 3.15
Total Number of Post offices in Mizoram, 1993-94 and 1995-96

District	Units	Office		D.S.O		E.D.S.O		E.D.B.O	
		93-94	95-96	93-94	95-96	93-94	95-96	93-94	95-96
Aizawl	2	270	270	27	30	4	4	238	238
Lunglei	1	57	57	6	6			51	51
Chhimtuipui	1	58	58	5	5			53	53

Source: Statistical Handbook of Mizoram, 1994,1996

Mizoram remained same in 1993-94 and 1995-96, with 773 offices in 1993-94 and 776 in 1995-96. The ratio between post office and population accounts for 1:853.50 in 1993-94 whereas in 1995-96 it shows a marginal increase with 1:888.86.

Power

Mizoram, with its rugged topography, numerous streams and moderate rainfall endowments, is well off in respect to hydro power potentials. But owing to its terrain, lack of good transport and communication network and financial sources, development in this regard is still negligible.

In regards to hydropower, initiative was taken in the year 1962, with the commission of 75 KW Diesel power stations at Aizawl. The construction of 66 Kv line, drawing power from Assam grid was taken up in November 1977. The power available through this system is only 3 MW, which could hardly meet the requirement

of essential installation only. The power installations in 1994-95 are 11.950 MW, which was further improved to 14.52 MW in 1995-96. In 1995, a total of 590 villages have been electrified and this figure is further improved to 663 villages in 1996.

Table 3.16

Net generation of electricity with import (in Kw), 1993-96

Year	Diesel	Hydel	Import	Total
1993-94	12.66	2.76	90.10	105.52
1994-95	17.9169	1.8192	99.77	119.5061
1995-96	4.72	15.00	125.48	145.2

Source: Statistical Handbook of Mizoram, 1994, p.158 and 1996, p.168.

During the last decade efforts have been made to tap the hydropower potentials in the region and a few projects were identified. Mini hydel project at Serlui 'A' (1.0MW), which was commissioned in 24.4 1984, Khawiva (1.05 MW), Tuirivang (0.30 MW) and Maichan (2 MW) have been completed. Projects like Tuisumpui (0.45 MW), Tuipui (0.50 MW), Tuihak (2X250 KW), Laului (1X15 KW) are under construction. Besides these, investigations for major hydel projects at Tlawng river-Bairabi hydel project, with a proposed 160 MW installations has been taken up and entrusted to National Hydro Electrical Power Corporation.

Table 3.17
Number of Villages electrified, 1992-93 to 1995-96.

District	1992-93	1993-94	1994-95	1995-96
Aizawl	277	312	331	339
Lunglei	113	122	143	154
Chhimtuipui	80	94	116	170

Source: Statistical Handbook of Mizoram, 1994,p.161 and 1996, p. 171.

In Mizoram, rural electrification was taken up with the up gradation into statehood in 1986, through Rural Electrification Corporation Ltd. Acting as an agency to monitor the programme physically.¹⁸ The position regarding rural electrification was 43 percent in 1989. The rural electrification has been accelerated from 1990's (Table 3.17). In 1992-93, a total of 470 villages were electrified which accounts for 70.25 percent of the total villages. Again, in 1993-94, 528 villages were electrified which is 78.92 percent. This figure was further improved to 590 villages and 663 villages in 1994-95 and 1995-96, which accounts for 84.40 percent and 99.10 percent of the total villages in Mizoram respectively.

The per capita power consumption (utilities only) for domestic purpose in Mizoram was 3.8 K.W.H. in 1980-81, 16.4 KWH in 1986-87, but utilities and non-utilities (domestic) was 25 in 1983-84, 24 in 1984-85 and 28 in 1985-86. The all India figure for the same was 154 in 1983-84, 167 in 1984-85 and 178 in 1985-86. The

¹⁸ Lianzela, *Four Decades of Planning in Mizoram*, Khuangkungi, Aizawl, 1994, p.87

share of domestic consumption shows a rapid increase from 1990's in Mizoram. In 1992-93 the domestic share was 10.60 percent and 73.76 percent of the total consumption of electricity in 1993-94. This figure was further increased to 77.07 but has declined again to 65.33 percent in 1994-95 and 1995-96 respectively (Table 3.18).

Table 3.18

Category-wise consumption of electricity, 1992-93 to 1995-96

Category	1992-93	1993-94	1994-95	1995-96
Domestic	46.19	56.04	65.41	68.49
Commercial	5.57	5.65	5.83	8.91
Public lighting	3.33	3/40	1.3	4.38
Industrial	1/05	1.24	3.45	6.53
Public water works	7.78	7.91	8.30	11.38
Bulk supply	1.50	1.73	1.75	4.54

Source: Statistical Handbook of Mizoram, 1994, p.159 and 1996, p.169.

From the above discussion, it is evident that Mizoram stood below average in regards to electricity. Today, against the peak load requirement of 45 MW, availability is to the extent of 27.072 MW (21.697 Diesel + 3.0 Hydel + 5.375 Grid). Shortfall of 17.93 MW persists resulting in continuous load shedding. The situation worsens when there is grid failure, which is a common occurrence. Permanent solution to ensure reliable and uninterrupted power supply lies in strengthening of grid supply and taking up of at least one major power project in the state by the central agencies.¹⁹

¹⁹ Ibid, p.88

Social Services

The pace of development and growth of social services goes simultaneously. Urbanization or development has a positive relationship with the growth of social amenities. It is one of the agencies through which interactions between settlements have taken place. Generally, developed and larger centres have larger and greater amenities. These amenities attract people from the surrounding village/towns, which integrate the spatial interactions. In fact, the degree of development or urbanization is measured from the number of services or amenities towns or villages possessed. The determination of central places and centrality scores of a place is based on the availability and number of amenities in a particular place, and through this node/central place, services is rendered to the surrounding areas. As such, social services plays an important role in the integration of special interactions of the people and it also serves as a yardstick for the measurement of development.

Health Services

In regards to health services, the condition of Mizoram is still unsatisfactory as compared to other States of India. The condition of the region, like medical institutions, medical personnel and their ratio to the population indicates the degree of development of a region. It also serves as an important factor for planners and policy-makers, as such; the knowledge of health service for planners cannot be exaggerated.

Table 3.19
Medical Institutions in Mizoram, 1993-94, 1995-96

Medical Institution	1993-94	1995-96
No. of Hospitals	11	11
No. of Primary health center	36	38
No. of Subsidiary health center	16	18
No. of Community health centre.	6	6
No. of Sub center	314	314
Total	383	387

Source: Statistical Handbook of Mizoram, 1994,p.94 and 1996, p.115.

Today, Mizoram is served by 11 hospitals, 38 Primary Health Centres, 18 Subsidy Health Centres, 6 Community Health Centre and 314 Sub-Centres, which accounts to 387 medical institutions in 1995-96 (Table 3.19). The total medical Institutions show 1.04 percent growth rate during 1993-94 to 1995-96. In 1993-94 there are altogether 383 medical Institutions and in 1995-96 there were 387 medical institutions. The Medical Institution/population ratio is 1800.92 and 1782.32 in the year 1993-94 and 1995-96 respectively.

In Mizoram the number of medical personnel show a remarkable increase during the 1990's. In 1991-92 the total medical personnel accounts for 529 including 150 Doctors, in 1993-94 this figure rose to 629 medical personnel including 202 Doctors and in 1995-96 that has increased to 689 medical personnel including 232 Doctors. The growth rate accounts for 30.24 percent during 1991-92 to 1995-96

(Table 3.20). The ratio between medical personnel and population in Mizoram accounts for 1:1303, 1:1048 and 1:957 in 1991-92, 1993-94 and 1995-96 respectively.

Table 3.20
Medical personnel in Mizoram, 1991-92, 1993-94 and 1995-96

Medical Personnel	1991-92	1993-94	1995-96
No. of Doctors	150	202	232
No. of Nursing staff -			
Staff Nurse	337	313	338
Sister	37	104	105
Matron	3	3	3
Assistant Matron	2	7	11
Total	529	629	689

Source: Statistical Handbook of Mizoram. 1992, p. 147, 1994, p. 97 and 1996, p. 117.

The numbers of Doctors have also shows a remarkable growth during 1991-92 to 1995-96. There are 150 Doctors in 1991-92 and this figure rose to 232 in 1995-96, which shows a growth rate of 54.66 percent during this period. The Doctor/population ratio have also declined from 1:4398 in 1991-92 to 1:1048 in 1993-94 and finally to 1:957 in 1995-96.

As seen from the above table (3.19 and 3.20) the progress made in the fields of medical has been quite satisfactory, but the condition is still backward as compared to others states. Hence, Mizoram has still a long way to go in the fields of medical.

Drinking Water

Access to drinking water is a basic necessity for every human being, without which life on earth is not possible. From time immemorial, access to drinking water is the main problem that the Mizos used to face, because traditionally, they used to live on the hilltops and they have to carry water from the valley up to the hilltop into their houses. Till date almost all the settlements in Mizoram is on the hilltop, the traditional, which they inherited from their forefathers. As such, drinking water is one of the main problems faced by the Mizos all year around except in summer/or in rainy season. In this regards, the Government of Mizoram have taken steps through the Public Health and Engineering Department of distributing water, installment of house connections, establishing hand pumps in various towns and villages (Table 3.21) and pumping of various river water into reservoirs for distribution etc.

Table 3.21

Number of Villages provided with Hand pumps, 1995-96

Year	No. of H/P installed	No. of Villages	%age to total villages
1991-92	344	313	44.79
1992-93	133	77	55.79
1993-94	94	62	64.66
1994-95	94	47	71.38
1995-96	91	52	76.03
Total	756	551	78.82

Source: Statistical Handbook of Mizoram, 1992, p. 181, 1994, p. 166, 1996, p. 161

Table 3.21 shows the number of villages provided with hand pumps in Mizoram till 1995-96. The number of Hand Pumps installed has an increase of 756 in 1995-96 from 344 Hand Pump in 1991-92, which accounts for 119.76 percent growth during 1991-92 to 1995-96. The numbers of villages covered are 313 villages in 1991-92 to 551 villages in 1995-96, which accounts for 76.03 percent growth during 1991-92 to 1995-96, whereas in 1991-92 the percentage of villages with Hand Pump installed to total villages were 44.79 percent.

Besides the installation of Hand Pumps in various villages and Towns, the Government of Mizoram also installed house connections in Aizawl and Lunglei Town. The total number of house connections installed, as on 1996 in Aizawl town is 8126, of which 7280 is private and 846 is government. In Lunglei town, the total number of house connection installed is 1205 of which 959 are that of private and 246 is of government.²⁰

Apart from these, the government of Mizoram, at times of scarcity of water, provides an emergency water supply to villages where supply of water is not available. This system of water supply is amounted to Rs.23.80 and 19.42 lakhs in 1992-93 and 1993-94 respectively. This figure further increased to 30.40 and 14.00 lakhs in 1994-95 and 1995-96 respectively.

²⁰ Statistical Handbook, Mizoram, Directorate of Economic and Statistics, Aizawl, 1994,p.168, 1996,p.162

From the above discussions, it is imperative for the Government of Mizoram, to provide adequate drinking water to its people. In this context mention should be made that the basic necessity on the part of the Government of Mizoram, is to take up at least one or two major Hydel project to cater to the needs of power as well as drinking water.

Educational Service

Education is one of the most important determinants of development. Education moulds a man fit to work and developed the best in him. A nations economy; its strength and efficiency are directly related to the conditions of its educational quality, number of educational institutions, quantity of educated populations etc. Therefore, the knowledge of educational conditions of a region is pertinent for policy-makers in formulating strategies for planning.

Table 3.22

Number of Educational Institutions, Students and teachers, 1995-96

Course	No. of units	Students	Teachers	Teacher-student Ratio
Primary school	1254	99730	4325	1:23.05
Middle school	694	47408	4242	1:11.17
High school	321	309843	2393	1:12.94
College	32	25812	547	1:47.18

Source: Calculated from Statistical Handbook of Mizoram, 1996, p. 121-124, 195-198.

When Mizoram was upgraded to Union Territory in 1972, there were 425 Primary Schools with 1310 teachers, 154 Middle Schools with 783 teachers. In 1985, there were 927 Primary Schools with 3145 teachers and 382 Middle Schools with 1556 teachers.²¹ At present there are 1254 Primary Schools with 99730 students and 4325 teachers, 694 Middle Schools with 4242 teaching staffs and 47408 students in 1995-96 (Table 3.22).

In case of High School, there were 70 High schools with a total enrolment of 7922 students and 396 teachers in 1972. But in 1995-96 these figure increased to 321 High schools with a total students of 30983 and 2393 teachers. The Teacher-student ratio for the same period is 1:12.94 in case of High Schools only.

Regarding Higher education, there are 32 colleges with 25812 students and 547 teachers in 1995-96. The teacher –student ratio is 1:47.18 for the same year. Besides these, North Eastern Hill University Campus was started in Mizoram in 1979, where Post-Graduate courses on Economics, English, Education, Psychology and Public Administration being offered therein. The Mizoram Presbyterian Synod has one Theological College at Durtlang that offers Bachelor of Divinity course. Apart from these, there is Indira Gandhi Open University attached to Government Aizawl College.

²¹ Lianzela, op.cit. p.96

The growth of educational services in Mizoram has been accelerated since the 70's. Little over two decades Primary schools recorded a growth rate of 195.05 percent and 230.15 percent growth in case of teachers. Middle schools recorded a 350.64 percent growth rate and 441.76 percent teachers' growth in the same period. In case of High schools it recorded 358.57 percent institutional growth rate and 504.29 percent teachers growth. The teacher-student ratio stands at 1:23.05, 1:11.17, 1:12.94 and 1:47.18 for Primary, Middle, High schools and colleges respectively in 1995-96. Taking Mizoram as a whole the teacher-student ratio stands at 1:35.44 for the same year.

Mizoram, although, quite satisfactory in regards to general line of educational courses, with 1:286.72 Institution-population ratio, still lacks professional courses like Medical, Engineering, Management, Higher education for different departments. It has long way to improve in this field. Today, the Government of India has taken steps to establish a separate University in accordance to Clause (12), sub-clause (ii) under 'Other matters' of the Mizoram Accord-1986-Memorandum of settlement (see appendix). It is hoped that in the near future, a separate University will be established to cater to the needs and the long felt aspirations of the Mizos.

Literacy

The level of literacy of a society depicts the demographic dynamism, which reflects the manpower and economic potential of the population. But mention should

be made here that literacy is not the sole indicator of a region's economic development, because the definition of 'literate' envisages in censuses years is very loose*.

Literacy percentage of Mizoram was 59.88 percent in 1981 against the all India average of 36.17 percent, which accounts for third position among the states of the Indian Union. In 1991, Mizoram stood second only to Kerela, with a percentage of 81.23. The literacy growth rate during the last decade was 35.65 percent. It is also seen that in 1981 and 1991, the literacy rate in the constituent district decreases southward. Male literacy in 1981 is 64.46 percent, while female literacy is 54.91 percent.

An analysis of literacy at block levels in 1991 reveals that Tlangnuam and Lunglei blocks stand out to be the most literate blocks with 78.79 and 76.67 percent respectively. The lowest literacy percentage is recorded in Chawngte block, which accounts for 20.08 percent. Literacy is also high in R.D.blocks like – Thingsulthliah (74.49), Hnahthial (74.28), Reiek (73.44), Serchhip (73.01), E.Lungdar (71.06), Kolasib (69.55), Ngopa (69.54), Tuipang (62.15), Sangau (62.08) and Darlawn (69.03).

* According to census of India Definition, a person who can both read and write with understanding in any language is to be taken as literate. A person who can merely read but cannot write is not a literate. It is not necessary that a person who is literate should have received any formal educational standard

Literacy is low in the western fringe of the state. Certain blocks like – Zawlnuam, W.Phaileng, W.Bunghmun, Chawngte and Lawngtlai, which accounts for less than 60 percent. The lower percentage of literacy in Chawngte block can be attributed to the influx of Chakma and their domination over the blocks²².

Concluding Remarks

The socio-economic profile analysed in this chapter draws a dismal picture of its economic viability. Industrially, Mizoram is one of the most backward states primarily because of two reasons: poor communication network and scarcity of raw materials. Other reasons are the shortage of infrastructures like power, transportation and skilled labour. Further, its peripheral location and remoteness from the raw material centre and market place make the future of heavy industry is still dark. N.N.Bhattacharyya, taking suitable variables like population, area, density, net cultivable area, food production, forest resources, human resources development, etc has prepares a composite index on the basis of correlation along with other north eastern states of India, which reflects a lowest level of viability in case of Mizoram followed by Arunachal Pradesh, Nagaland, Manipur and Meghalaya²³. The important reasons for Mizoram's low level of viability can be because of deficit food production, underdeveloped industry, poor infrastructure, unutilised natural (water and forest) potentiality, low per capita income and high price index. Besides these, the states

²² Rintluanga Pachuau, op.cit. pp.106-107

²³ N.N.Bhattacharyya (1989), '*Viability of States of North East India*', Journal of North East Council for Social Science Research, vol.III, No.1, April 1989. 602-605

revenue from all sides is very poor which does not even bear the establishment cost of Government offices.

The low level of economic viability throws light on the geopolitical viability of Mizoram. The political development and multifaceted organisation and response from the masses do not glorify the geopolitical aspects of the state. The socio-economic backwardness and economic non-viability give vent to the demand of recognition of regional and ethnic identity²⁴. Subsequently, a separatist movement has developed which culminated in the formation of Mizo National Front in 1966. This regionalism and Secessionist movement and perception, which were strongly embedded in the minds of the Mizos, persist till today, although accord has been signed in 1986 between the M.N.F. and the Indian Government. These secessionist movements have led the people to refrain from India as far as possible in regards to social, cultural and also economically. The only alternatives for the Mizos in regards to economic are to have trade relation with the neighbouring countries. That led to the development border trade between Myanmar and Mizoram.

²⁴ S.N.Singh, *Mizoram, Historical, Geographical, Social, Economic, Political and Administrative*, Mittal Publications, New Delhi, 1994, pp.83-84

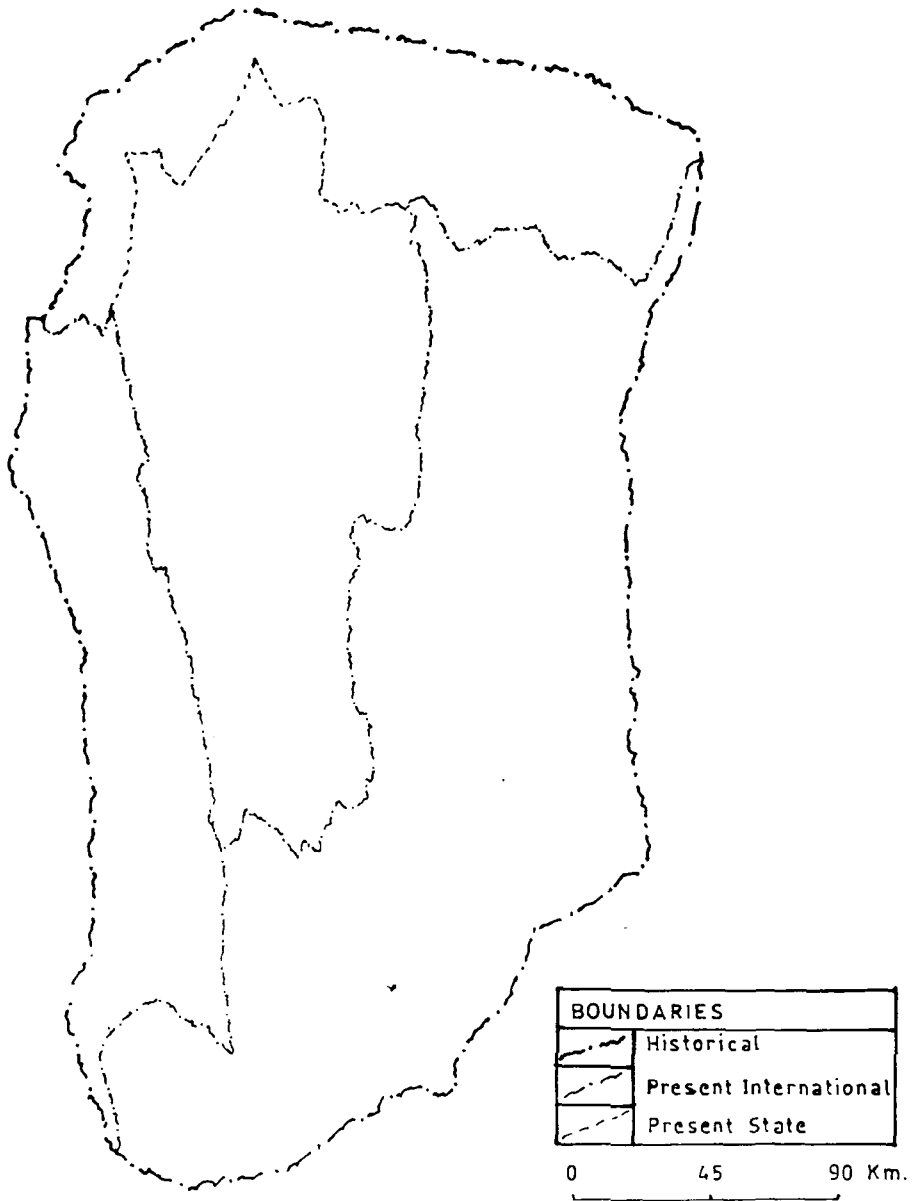
Chapter IV

EVOLUTION OF MIZO-MYANMAR BORDER TRADE

The trade ties between Mizoram and Myanmar, according to available information is at least one and a half-century years old.¹ But owing to lack of adequate information and records, it is not possible to ascertain exactly when it was started. The Mizo-Myanmar border trade has uniqueness in regards to its causes, because apart from an incentive of profit, the ethnic-cultural affinities, political, social and economic also left an imprint in these activities. Before the Indian Independence the Lushai Hills (Mizoram) and Chin Hills (Myanmar) carried on petty trade, which was inter-regional in nature, because the then Lushai Hills and Chin Hills was not a separate entity. But after the Indian Independence, the same trade ties between the two regions transformed into an International trade, because the two regions were separated and embedded into different nations. The separation of the two regions stands out as one of the major causes of the present border trade. With the separation of these two regions, the Mizos felt humiliated and their discontentment account to be a strong bases for their trade ties. The chapter will highlight the bases of the trans-border trade between Mizoram and Myanmar historically and also the pattern of its development.

¹ Old Records, Deputy Commissioner Office, Aizawl, Mizoram.

MIZORAM
HISTORICAL MAP



Occupied territory of Mizos before
the British expedition

AFTER L. MALSAWMA COLNEY



In India, language was a politically recognised base for states reorganisation since 1917 (Figure 8). The Indian National Congress accepted the principle of linguistic provinces in its annual session at Nagpur in 1920.² Language was then regarded as standing for and representing race, culture, history, individuality and finally a sub-nation. After the Indian Independence, the States Reorganisation Commission set up four major factors including “linguistic and cultural homogeneity” as one of the theme for the reorganisation of the states. But while demarcating the boundary of Mizoram, the British does not strictly observed the base of Reorganisation. Had they strictly observed the basis of reorganisation, the result would have been different, because according to Vumson, the area occupied by Zo people accounts for about 60,000 sq. miles contiguously. After the Indian Independence, when the State Reorganisation Commission took up the task of reorganisation, the demarcation under the British period was left as it is and no alterations were made as per the base of reorganisation. The demarcation of Mizoram boundary have hurt the sentiments of the Mizos till today, because the Mizo sub-groups found themselves divided among Myanmar, Manipur, Tripura, Bangladesh and Assam. This, however, culminated in the form of political secessionist with the formation of Mizo National Front (MNF) party on the 22nd of October 1961. The MNF party, in its aims and objectives includes the ‘Greater Mizoram’ scheme – integration of all the Mizo ethnic

² R.N. Mishra, *Regionalism and State Politics in Trading*, New Delhi, Ashish Publishing House, 1984, p. 14.

groups under one government possessing the highest degree of freedom.³ This theme included the amalgamation of all the areas inhabiting by the Zo clans.

Political Factors

Mizoram came under the British rule with the expedition of 1889. Since then the British ruled Mizoram till the Indian Independence in 1947. But due to lack of viable resources in Mizoram, the British did not give interest to develop the region. As such, Mizoram stood one of the most backward regions during the British. According to Lalchungmung (1994),⁴ the British during their administration over the hills have done little or nothing for the economic upliftment of the people. It is true that McCall, a British Superintendent of Lushai Hills entertained certain ideas of improving the economic conditions of the Mizo people. But his progressive ideas were fruitless due to lack of financial support in the absence of political commitment. As A. Ray puts, "Policy formulations towards development, administration remained pious wish during the British rule".⁵ It was contended that the economic constraints under the British, have prevented the Mizos for an Independent polity. After the Indian Independence, the governing body passed on to the Assam Government. On the memorandum submitted by the Mizo Union to the Government of India, suggested that the Mizos had high hopes of economic progress by joining India. However, the

³ MNF Pawl Thiltumte Hrilhfhahna, (*An Explanation of the Aims and Objectives of the MNF*), November 16, 1972, p. 1.

⁴ Lalchungmung, *Mizoram – Politics of Regionalism and National Integration*, Reliance Publishing House, 1994, p. 59.

⁵ A. Ray, *Mizoram – Dynamics of Change*, Calcutta, Pearl Publishers, 1982, p. 187.

comprehension-developed programme recommended by the committee for the Mizo district could not be materialised. According to A. Ray, the reasons for non-implementation of the committee's recommendations were 'financial difficulties', 'organisational problems' and 'lack of trained personnel who would like to go into the interior'.⁶ This was further deteriorated by the onset of the '*Mautam*' Famine in the year 1959, on which the Assam Government does not take interest and precautionary actions to the contentment of the Mizos. This has resulted trans-border trade with Myanmar.

Regionalism

The essences of regionalism in the minds of the Mizos have also contributed to the Mizo-Myanmar border trade to a certain extent. As noted earlier, the Mizos were discontent with the British government because they did not bother to take any steps for the development of the Lushai Hills. Further, the Assam government also does not take any steps to impose the conditions either. In the words of Lalchungnunga (1994),⁷ "the Mizos felt humiliated when the Assam government showed them a very indifferent attitude in their time of greatest needs". Besides, this, the Mizos considered themselves as separated by their culture and traditions with the Indians. Ethnically they were closer to the east and South-East Asian people rather than the Indian, and Christianity also played a strong base for their regionalism.

⁶ Ibid., p. 189.

⁷ Lalchungnunga, op.cit., p. 64.

There was a strong urge to safeguard the ethnic-cultural identity among the Mizos, because they ^{have} ~~were~~ learnt a lesson from the experiences of Manipuris, Cacharis and Tripuris, all of them have been assimilated and, hence, lost their ethnic identity. This fear of assimilation by other groups were so real that they even think of the process of development and any ties with the mainland could be harmful to their ethnic culture and identity, because they were aware that the native ethnic components are often disturbed and dislocated by the massive economics measures, as happened in cases elsewhere.⁸ Thus, the fear of loosing their ethnic-cultural identity was so strong that the MNF since its inception in 1961, have a perception that greater and larger the dependence upon the ^{mainland} ~~mankind~~, the greater is their economic and ethnic-cultural assimilation. Whereas having trade ties with Myanmar, the fear of ethnic-cultural assimilation does not arise, because they were the same clans as the Mizos in Mizoram. Moreover, they happened to be the people with whom they always longed to merge together. So, from this point of view, trade ties with Mynamar is patronised by the MNF and the masses as well.

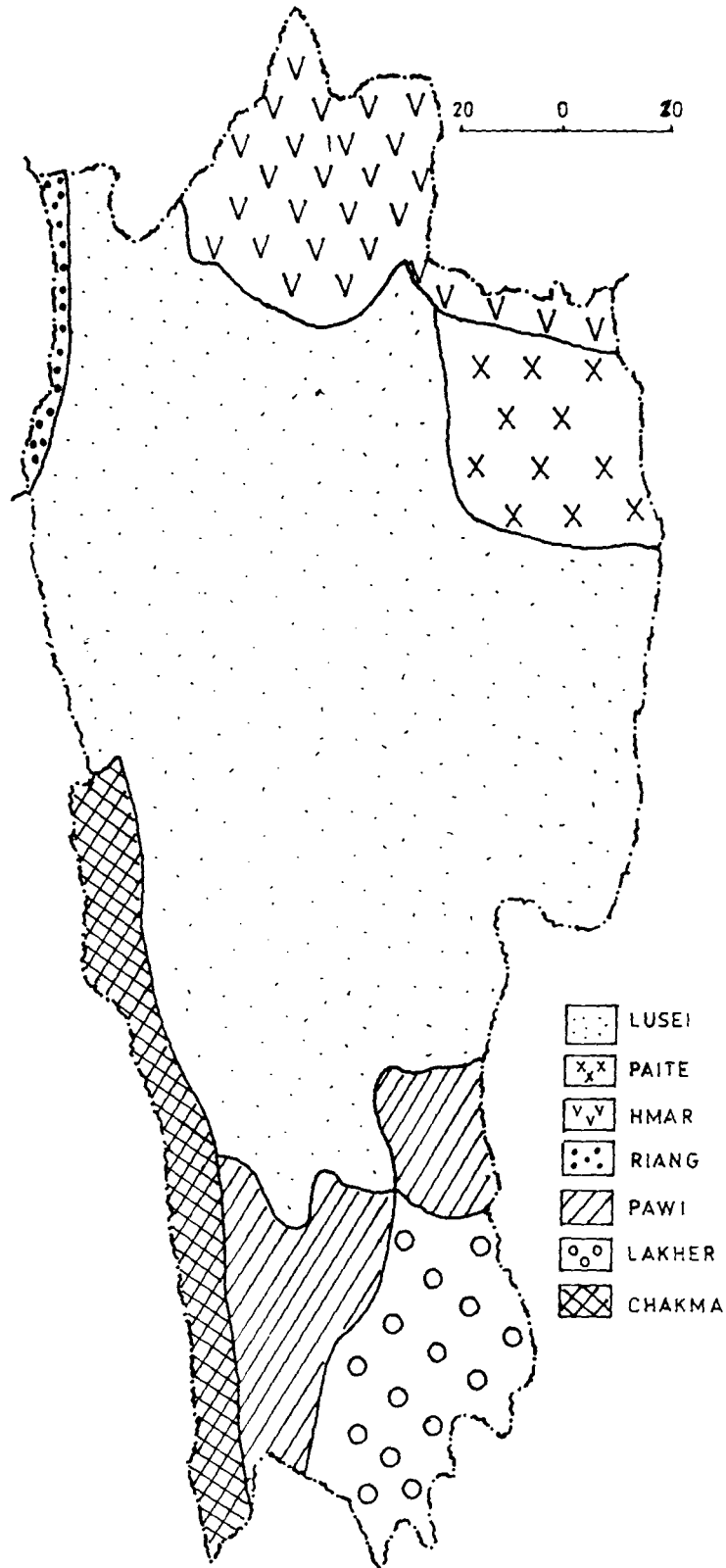
Ethnic-Cultural Affinities

The Zo people had frequent contacts with different people at their borders. The available literature is often confused as to which people should be designated as Zo or other name. When the British took possession of Bengal and had their contact with Zo people, the Bengalis told them that they were Kuki, a Bengali word for something like

⁸ Lalchungnunga, op.cit., p. 48.

MIZORAM

DISTRIBUTION OF TRIBES



savage or wild hill people. But when the British came in close contact with the Lusei, they realised that they did not call themselves Kuki. Initially the British used the term “Loosye”. However, the British later adopted ‘Lushai’ as the official designation for Zo people living in the then Lushai Hills, as the ruling clan for these people were known as “Lusei”. Among the British officers there are few of them who tried to understand the people they were dealing with (Figure 9). One of them Tom Lewin, who said, “The generic name of the whole nation is Dzo”.⁹

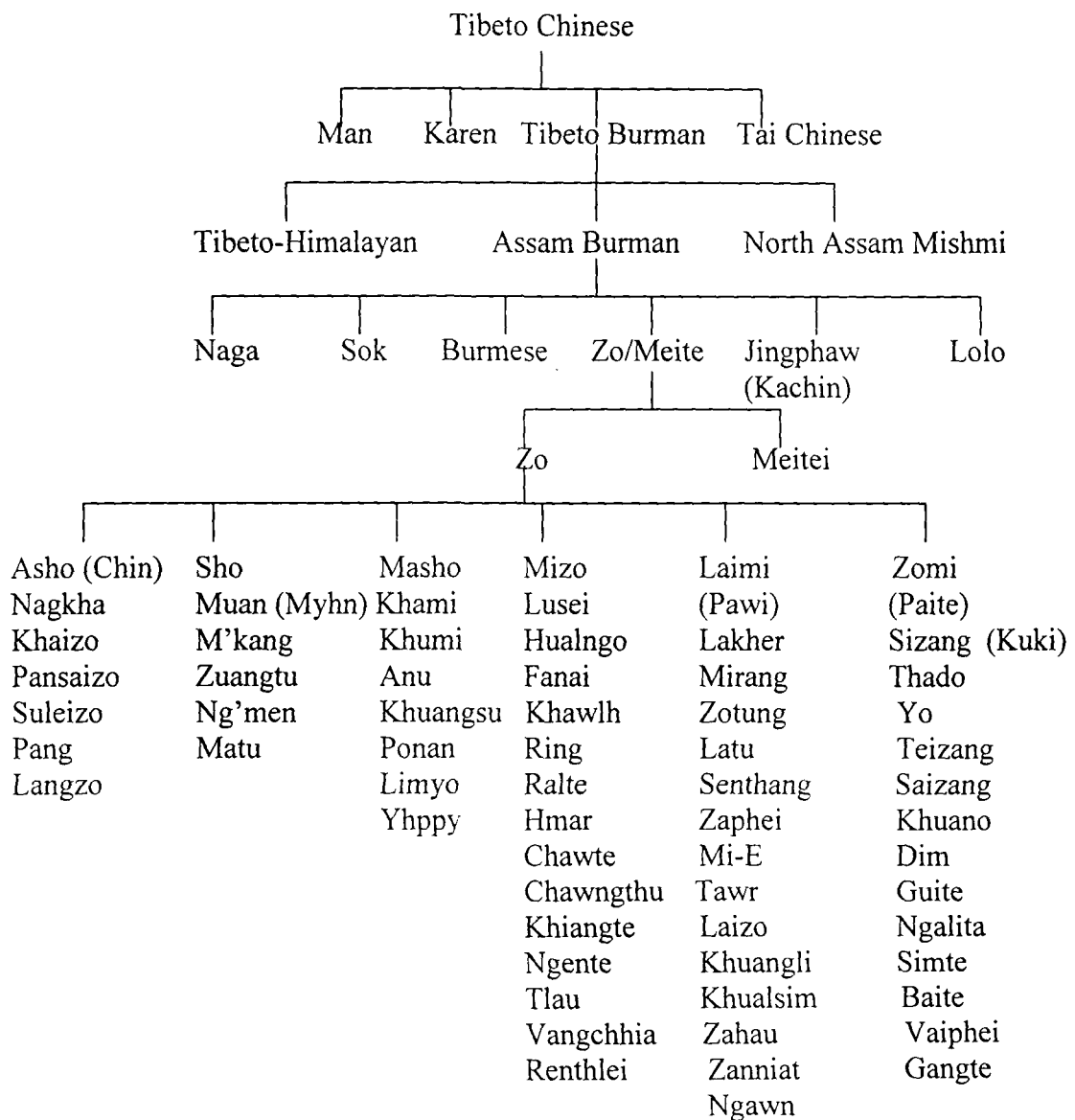
When the British annexed Assam and Manipur, they came in contact with the Hmars, and their neighbours called them Kuki. After the Hmar, Thahdo or Khuangsai started to appear in Cachar and Manipur, and the British adopted Kuki for the Hmars and New Kuki for the Thahdo. All the Paite clans were included under the term New Kuki. When in 1825 the British invaded Arakan and the southern Zo country, they gave a name Khyang for the Sho. Khyang is an Arakanese name for Zo and is an old Burmese word for Chin. When the British came in contact with hill areas of west Kale valley, Chin was adopted from Burmese. Plain Chin was the name given to the Asho, because they were found in the plains of Arakan and Burma. Thus, the British knew the Zo people as Lushai, Kuki, New Kuki, Khyang, Chin and Plains Chin¹⁰. As J. Shakespear puts, “The Lushais (Mizo) are more or less closely related to all the tribes in their vicinity.... The connection between the Lushai and their eastern neighbours as

⁹ T.H. Lewin, *A Fly on a Wheel or How I Helped to Govern India*, 1912, Reprint, 1977.

¹⁰ Vumson, *Zo History*, Aizawl, 1984, p. 2.

apparent in their language and in their customs.... Nevertheless, there is a doubt that the Kukis, Chin and Lushais are all of the same race".¹¹ According to Verghese and Thanzawna (1997), "Mizos are said to be the Assam-Burman group that had branched off from the Tibeto-Burman group of the main Tibeto-Chinese race.

Table 4.1
Zo Relationship to other People and Zo Clans (after Vumson)



¹¹ J. Shakespear, *Lushai Kuki Chin*, Tribal Research Institute, Aizawl, Reprint, 1988, p. 8.

Mizo's have a close affinity with the neighbouring tribes. According to Grierson, Mizo language falls under the Kuki-Chin group of the main Tibeto-Burman family. The speakers of the Kuki-Chin group extends from the Naga Hills in the north down into the Sandoway district of Burma in the south, from the Miltha river in the east almost to the Bay of Bengal in the west.¹² He has sub-divided the Kuki-Chin into two sub-groups – Meitei and Chin (Zo). He further divided the Chin language into four groups such as:

Table 4.2
Sub-Groups of Kuki-Chin Language (after Grierson)

Northern Group	Central Group	Old Kuki	Southern Group
Thado	Tashon	Rangkhoh	Chinme
Sokte	Lai	Bete	Welaung
Siyin	Lakher	Hallam	Chinbok
Ralte	Lushei (Mizo)	Langrong	Yindu
Paite	Bangogi	Aimol	Chinbon
	Pankhu	Anal	Khyang or Sho
		Chiru	Khami
		Hiroi-Lamngang	
		Kolreu	
		Kom	
		Mhar	
		Cha	

¹² G.A. Grierson, *Language of North-Eastern India – A Survey*, Vol. II, Gian Publishing House, New Delhi, Reprint 1987, p. 509.

Table 4.2 clearly depicts that Mizos and other tribes in their vicinity speaks the same language. The different dialects have many common words, which prove in the recent past that they lived together. This can be clearly seen in the work of Prof. Gordon Luce.¹³ He analysed 700 words of Zo language that common to at least three Zo dialects. From these 700 words 230 words are common in all the dialects of the Zo people. From the Northernmost Zo, the Thado-Khuangsai in the Naga Hills, to the Southernmost Zo, the Asho in the Sandoway-Thayetmyo area. The uses of words common to the 700 words base are as follows:

Table 4.3
Number of Common Words in Selected Zo Dialects

Zo Dialects	No. Of Common Words
1. Thado-Khuangsai	554
2. Tedim	594
3. Hualngo (Mizo)	631
4. Khualsim (Falam)	627
5. Haka	573
6. Asho	383
7. Khumi	381

In regards to ethnic and language the Mizos in Mizoram and other tribes in their vicinity were of the same origin. As we have seen in the works of G.H. Luce,

¹³ Gordon H. Luce, *Chin Hills Linguistic Towi*, Town, Burma Res. Soc., 42, pp. 19031, 1959 as quoted in Vumson, *Zo History*, p. 19.

there are on an average 534.28 common words in all the Zo dialects from the analysis of 700 words. This shows that speakers of different dialects could understand each other, which are a strong, push and pulls forces in regards to trade between Mizoram and Myanmar.

Religious Factor

The Mizos had vague idea of God. They believed in the existence of one supreme God whom they called '*Pathian*', a god of all humanity and goodness and thought that he lived beyond the sky, as such he was recognised as '*Chung Pathian*'. The term '*Khuanu*' was also used to mean or as a synonym with *Pathian* particularly in songs and poetry. It was regarded as the guardian and keeper. Lewis observed that sacrifice was made only twice in a year to the good spirit before and after harvest time.¹⁴

The Welsh Presbyterian and English London Baptist Missionaries introduced Christianity in Mizoram in the year 1894. Within a period of only five decades, all Mizos have converted themselves into Christianity, with this the tribal Mizo religion has come to an end. Today, Christianity is the dominant religion in Mizoram accounting for 85.73 percent of the total population in 1991 Census. According to

¹⁴ Grace R. Lewis, *The Lushai Hills*, Baptist Missionary Society, London, 1907, p. 29.

Zairema, the mass conversion of the whole tribes to a new religion is a peculiar phenomenon and regarded by many as God's miracle.¹⁵

The impact of Christianity, have a far-reaching effect in the Mizo society. Spreads of Western culture among the Mizos are due to Christianity, as N.E. Perry states, "A more active instrument of change than the Government is the Christian Mission".¹⁶ Modernisation and westernisation of the Mizos have its beginnings with the advent of the Christian Missionaries coupled with their introduction of education. In order to strengthen the hands of the missionaries, the then British Governor of Assam, Sir Banfield Fuller even went to the extent of closing down all government schools in the Mizo Hills. Christian Missions had a great impact on the Mizo society.¹⁷

With the introduction of Christianity in Mizoram, the lifestyle, mentality, culture and outlook of the Mizos have totally changed. Now they are pro-western culture, leaving their age-old traditions and cultures. Lalchungnunga puts, "How Christianity has brought about a far-reaching changes in the Mizo society, cannot be expressed in statistical form. Suffice is to say that it is Christianity and its sister agent of education that have made the Mizo people what they are now socially, economically and politically".¹⁸

¹⁵ Rev. Zairema, *God's Miracle in Mizoram*, Aizawl, Synod Press, 1978.

¹⁶ N.E. Perry, *The Lakhers*, Mac Millan & Co., 1932, p. 19.

¹⁷ J.D. Baveja, *The Land Where the Bamboo Flowers*, Publication Board, Assam, Guwahati, 1970, p. 40.

¹⁸ Lalchungnunga, *op.cit*, p. 51.

Psychological Factors

Mizos were totally different from the Vais (plains people) in respect to their ethnic, culture, language, traditions, mentality and outlook. This may be due to lack of communication, interaction and understanding among the various groups in such a vast country like India, yet it has a repulsive effect on Mizo psyche. According to Lalchungnunga, the feeling of being different is based on the 'reality' of being different. Lalchungnunga advocates that these differences of the Mizos from the rest of the Indians contribute a strong base for regional assertiveness and ethnic segregations.

The psychological factors have fostered the masses to be tilted towards their brethren in Myanmar.

Items of Trade

The trade ties between Mizoram and Chin Hills, according to records is at least one and a half century year old.¹⁹ It is also believed that it might be older than this, but due to lack of adequate information, it cannot be said or ascertained the starting. According to H.N.C. Stenenson (1943)²⁰ trade has always been in existence prior to the annexation of Chin Hills and Lushai Hills. The already existing trade was modified and extended since the annexation, and during the time of their entering into Chin

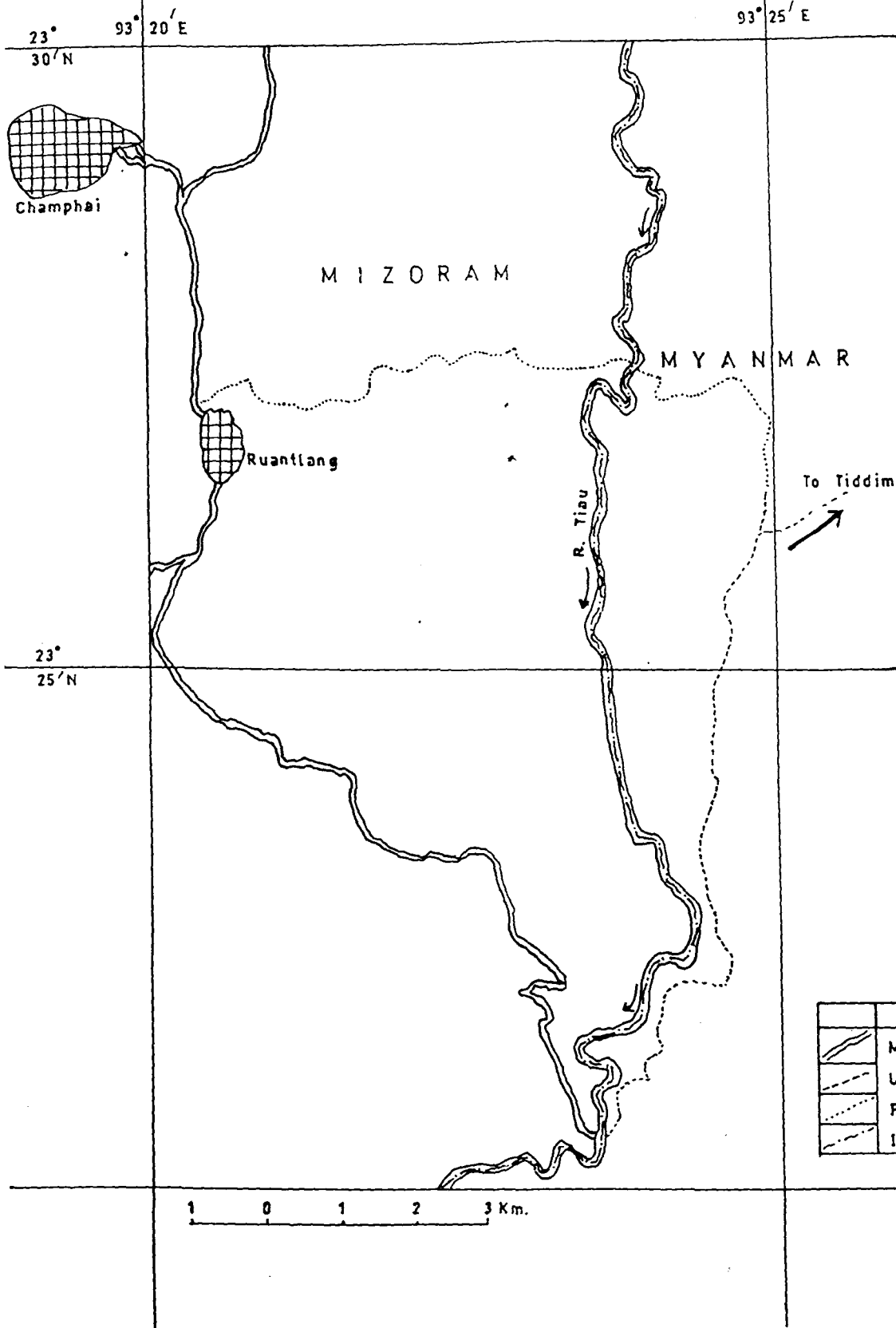
¹⁹ Deputy Commissioner's Office, *Old Records*, Aizawl.

²⁰ H.N.C. Stenenson, *The Economics of the Central Chin Tribes*, Government of Burma, 1943, Reprint, 1986, p. 102.

MIZORAM
CHAMPHAI TRADE ROUTES

FIG. NO. 10

NO. 84 E/7



LEGENDS	
	Metalled Truckable
	Unmetalled Jeepable
	Footpath
	International Boundary

Hills, the village of Tashons had reached its zenith, its rise to power coupled with its geographical enabled the inhabitants to establish a stronghold on trade from east to west. But mention should be made here that whatever trade have flourished in this region was on a barter basis, prior to the British annexation. Manufactured goods such as pots, mats, blankets, etc. are exchanged for grains but with every year that passes the amount of cash imported into the hills by ex-soldiers and others leads to a steady increase in the cash transactions. Perhaps the single greatest factor in forcing the transaction from barter to cash transactions is the annual house tax. To cater to this tax, goods were sold for cash, which could otherwise have fetched a better value in kind, because cash was very scarce during that time.²¹

There was a regular movement of petty trade between the villagers within the Chin Hills and Lushai Hills and between Chin Hills and Lushai Hills. From the Chin Hills blankets, from Laizo salt and beeswax, from Zahan tracts, new weapons and implements, from the Haka village of Vanba, and pots from Leute and Tashou goes into Lushai Hills and also in other directions. The principle products flowing from the Lushai Hills (Mizoram) and Manipur are Puanpi blankets, metal pots, pigs, fowls, mats, wax and lac; whereas Burma salt, rice, iron, cotton thread, knick knacks of bazaars were imported to Lushai Hills.²² After the introduction of cash, transactions

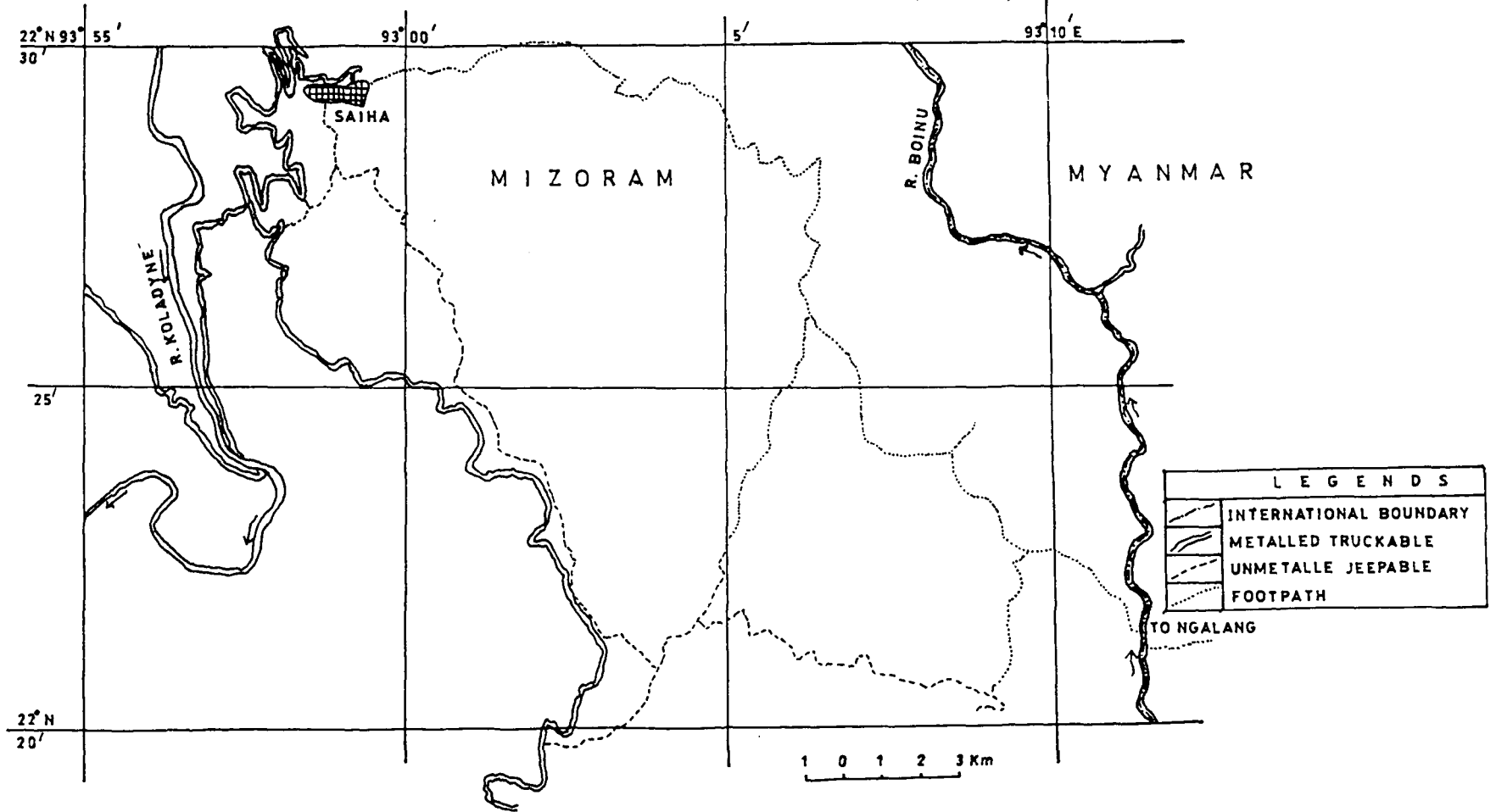
²¹ *Ibid.*, p. 104.

²² *Ibid.*, p. 105.

MIZORAM
SAIHA TRADE ROUTE

FIG. NO. 11

NO. 84 B/152 84 F/3



became cash oriented and from the Chin Hills items like cane mats, wild rubber, horn of buffalo, tusk and horn of rhinoceros, etc. became prominent.

Today, there are two border trade transit centres in Mizoram, viz., Champhai (Figure 10) and Saiha (Figure 11). Champhai is situated on the northeast corner of the state, only 40 km. away from the Mizoram-Myanmar border, whereas Saiha is situated on the southeast portion of the state. All the goods and items from the Myanmar enter Mizoram through these two centres. But the trade is still carried on illegally and, as such, data regarding the trade activities are almost not available. Therefore, data is being acquired from the Customs Department and the traders through scheduled questionnaires and observations. For convenience, items of trade has been classified into nine groups, which are as follows –

1. Electronics – this includes all the electronic gadgets like T.V., V.C.R., V.C.P., Tape recorder, Radio, Washing machine, etc.
2. Synthetic Fibres – this includes items like blanket, quilt, clothing, carpet, etc.
3. Precious Stones
4. Gold
5. Betel nut
6. Household Utensils – this include all household gadgets like dining set, tablecloth, electric cooker, etc.

7. Meat – it includes all the domestic animals coming from Myanmar such as goat, fowl, cow, pig, sheep, etc.
8. Others – this includes items like sunflower seeds, dried fruits, noodle, etc.
9. Vegetables – this includes cabbage, tomato, groundnut, peas, onion etc.

As mentioned earlier that the Mizo-Myanmar border trade has been carried on illegally till date, sources of data is not available. As such, the values of items have been prepared from the result of survey carried out by the author, which is also supplemented by information gathered from the Department of Customs. The values of all items have been given seasonally, taking two months each as one season. The total value of items gathered through the customs department amounted to Rs. 34,285,493, which accounts for 12.63 percent of the total value for items. Whereas the value of items gathered through survey conducted by the author is Rs. 237,162,233. Altogether the value of items coming from Myanmar during 1997-98 is estimated to be Rs. 271,447,726. This shows that trade between Mizoram and Myanmar seems be playing a great role in the economy of Mizoram. The bordering districts like Champhai and Saiha depends mostly on the trade for their essential commodities compared to other districts of Mizoram. Therefore, border trade has played a great role in social and economic life of Mizos.

Table 4.4

Estimated Value of Items Coming from Myanmar during 1997-98

Name of Items	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Electronics	6223465	3400	3247544	174600	4003641	243600	3416667	243150	7483411	32270	4537999	32043177
Synthetic Fibre	2047282	40233	1620053	181209	2481130	203768	1896444	169630		117488	1717791	10543716
Precious Stone								750000				750000
Gold				725940		1436820		852342		450048		3465150
Betel nut	21004728	5063214	18764130	1720481	21107793	2333621	30046893	3472821	12499860	2130958	19252387	137396886
Household Utensils	513369	46850	610462	30019	640036	53218	428896	82320	750649	49579	331413	3536811
Meat	468923		556499		504892		613342		504962		483641	3132257
Others	12264122	1036420	22634160	2724810	18046821	3410060	16843244	1023680	2799806	1241490		82024613
Vegetables	62443		246889		314439		624499		594962		301244	271447726
	15.68%	19.84%		19.39%		22.27%		11.50%		11.28%		271447726

Source: Surveyed by the author through questionnaires, 1999.

Chapter V

IMPACT ON ECONOMY

Mizoram is one of the most backward states of the Indian Union. The natural resources endowment is rich but it has not been exploited, because of the low level of economic development. Till date, the State depended financially on the Central Government. The state has neither medium or large-scale industries nor revenue to look after herself. The state's agricultural production could not meet even 50 percent of the total requirement. So, almost every essential commodity has to be procured from outside the state. When there are any instances of break-up in the supply of commodities a shortage of food and essential commodities are experienced. In order to overcome supplementary sources of border trade with Myanmar is tied up. This chapter highlights the impact of this trade ties in the economy of Mizoram.

Distribution of Market Centres and Processes

The distributions of market centres are closely related to the process of urbanisation and it also depicts the level of economic development of a region. When a town/centre is developed into a market centre, there do the market centres exert a spatial interaction because of the pull factors over the surrounding areas. According to Saxena (1984), market towns/centres provides (i) trade and commerce service to the region, (ii) act as a nodal centre for transportation, and (iii) serve as a growth centre by

providing various services to the region. Therefore, economic progress and market development is inter-dependant and their growth is mutual and symbiotic in association. The variation in spatial distribution of market is an indicator of development/backwardness of a region. The existence of more market centres or their clustered pattern shows the availability of larger quality of marketable surplus and vice-versa.¹

There is a need for proper interaction between market towns and the surrounding rural areas/settlements. An idea has been put forward in one of the seminars on Market Towns and Spatial Development, organised by N.C.A.E.R. that there should be one market town for every 40 to 50 villages.² Though this is not practicable in every region, there should be a balance between the number of villages and market centres. In some district/blocks there may be two to three market centres whereas in some other district/blocks there may be only one or not at all. This variation in distribution sometimes may result in an unbalanced regional development. In order to integrate the spatial variations in distribution and to propagate concrete suggestions it is necessary to have thorough studies of the distributional pattern. Besides this, the weakness and strength of the spatio functional organisation of a region can be best understood and proper planning strategies can be developed from the study of the distributions of market.

¹ H.M. Saxena, *Geography of Marketing*, Sterling Publishers, New Delhi, 1984, p. 129.

² National Council of Applied Economic Research, *Market Centres and Spatial Development*, New Delhi, 1972, as quoted in H.M. Saxena, *op.cit.*, p. 130.

In Mizoram, there are 36 market centres, with almost all of them corresponds with the administrative headquarters. The spatial distributions of market centres in Mizoram have been calculated with the help of Nearest Neighbours Analysis.³ When applied for spatial distributional pattern of market towns/centres in Mizoram, the resultant pattern has been presented in table 5.1.

Analysis of table 5.1 reveals that as many as seven R.D. Blocks are having a pattern of approaching uniform, while eight R.D. Blocks are having an approaching random pattern. Two R.D. blocks have a pattern of random while only one block accounts for a uniform pattern. The state as a whole as an approaching random pattern with an R_n value of 0.84. The R_n value shows that Mizoram is still underdeveloped in regards to market. The state, as a whole accounts for an approaching random pattern, which means that there are various settlements, which are not served by the market centres, or the level of development is unbalanced. On an average the market centres has 19.19 hinterlands, which is quite sufficient, but almost all of the market centres were of the lower order, i.e., they have no potentialities for further development on its own. So they have to depend on the larger/higher order of markets for their development. It is also apparent that in all the R.D. Blocks where there are inlets or

³ Nearest Neighbours Analysis is calculated by dividing the measured mean distance between the nearest neighbours points observed in a given area (rA), by the mean distance expected from a similar number of points randomly distributed in the same area (rE) or $R = rA/rE$

Thus $rA = Er/N$, where r is the distance between each point and its nearest neighbours divided by total no. of points (N) while $rE = 1/NA$, while N is the total no. of points and A is the given area. The R -value ranges between 0 and 2.1491, while the extreme value point to the clustered and the even distribution pattern respectively, the random distributions is denoted by the R -value of 0.

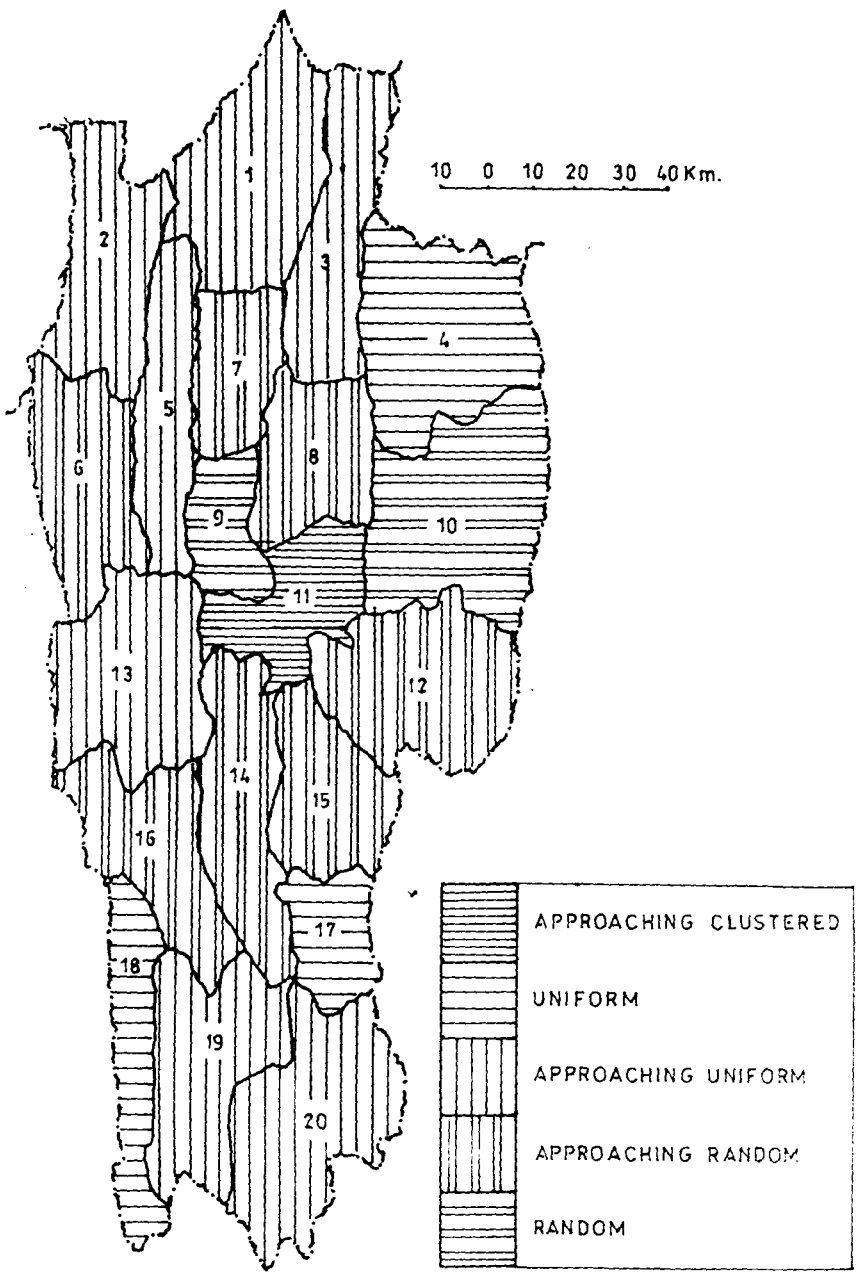
trade route, the region tends to develop, because in all these blocks there are trading facilities, which come from outside Mizoram. Take for instance, Khawzawl Block and Tuipang Blocks, where there are border transit centres, viz., Champhai and Saiha respectively; the region accounts for three market centres and two market centres respectively.

Table 5.1
Blockwise Pattern of Rn Value

Sl. No	Name of Block	No. of market	RA	rE	Rn	Nature of Pattern
1.	N.Thingdawl	5	13.8	9.04	1.52	Approaching Uniform
2.	Zawlnuam	2	17.5	12.03	1.45	Approaching Uniform
3.	Darlawn	1	28	15.37	1.82	Approaching Uniform
4.	Ngopa	1	35	16.28	2.14	Uniform
5.	Reiek	2	17	11.09	1.53	Approaching Uniform
6.	W.Phaileng	1	15	16.06	0.93	Approaching Random
7.	Tlangnuam	3	5.3	7.05	0.75	Approaching Random
8.	Thingsulthliah	2	7.5	10.45	0.71	Approaching Random
9.	Aibawk	1	15	13.02	1.15	Random
10.	Khawzawl	3	13.3	11.43	1.16	Random
11.	Serchhip	2	5	12.08	0.41	Approaching Clustered
12.	E.Lungdar	3	7.5	10.59	0.70	Approaching Random
13.	W.Bunghmun	1	27.5	19.04	1.44	Approaching Uniform
14.	Lunglei	1	16	17.02	0.94	Approaching Random
15.	Hnahthial	1	16	16.06	0.99	Approaching Random
16.	Lungsen	2	18	12.01	1.49	Approaching Random
17.	Sangau	1	35	11.89	2.94	Uniform
18.	Chawngte	1	26	12.85	2.02	Uniform
19.	Lawngtlai	1	22.5	18.25	1.23	Approaching Uniform
20.	Tuipang	2	22	13.21	1.66	Approaching Uniform
21.	Mizoram	36	10.16	12.09	0.84	Approaching Random

FIG. NO.12

MIZORAM
BLOCK-WISE PATTERN OF R_n VALUE



In these two centres there are surplus trading items, which attract peoples from the settlement around. As such, market centres evolved in these regions. This is attributed to the trade route from Myanmar, which is the only inlet into Mizoram (Figure 12).

Table 5.2 shows the movement of surplus items that had entered Mizoram through the two channels, viz., Champhai and Saiha. In Champhai the total surplus of Betel nut is worth Rs. 831,56,751, which is 52 percent of the total Betel nut procurement in Mizoram. In Saiha the figure is worth Rs. 125,806,048, which accounts for 22 percent of the total betel nut procurement. Taken together 74 percent of the total betelnut procurement have been distributed among other R.D. Blocks. Of all the items household utensils accounts for highest figure that moved out from the border transit centres with 90 percent, whereas vegetables records only 11.5 percent of the total procurement. This is because the region is far from self-sufficiency in vegetables and that almost every vegetable item that entered were consumed within the Blocks itself. Moreover, in these two Blocks, because of their distance, commodities especially vegetables could not reached them, so they have to depend on their products and the one coming from Myanmar. Of all the seasons, November-December accounts to be the lowest surplus season, because during this time consumption of different items rises due to Christmas shopping. On the other hand, the surplus items accounts for highest in the January-February season (Figure 13).

Table 5.2**Movement of Surplus Items from Champhai, 1997-98**

Name of Item	Jan-Feb	%	Mar-Apr	%	May-Jun	%	Jul-Aug	%	Sep-Oct	%	Nov-Dec	%	% to total value
Electronics	3640726	90	1888797	83	2544548	81	2240083	85	4344100	79	2068503	73	52.20
Synthetic Fibres	959356	85	87055	86	1315195	76	766934	68	78283	71	999286	70	47.31
Betel nut	9389112	74	25590153	77	12019086	81	19311737	84	8743445	80	8103218	68	60.52
Household Utensils	275627	82	247929	79	314791	81	186867	76	3607807	80	164588	72	44.00
Meat	214062	84	243412	81	228412	87	255149	80	194910	78	204821	77	42.00
Others	5935834	88	11134640	84	11204217	87	8895250	72	1872743	74	471269	73	48.20
Vegetables	7792	24	19998	15	37638	21	26228	7	29034	8	18797	12	6.50

Source: Survey done by the author through Questionnaires, 1999.

Table 5.3**Movement of Surplus Items from Saiha, 1997-98**

Name of Item	Jan-Feb	%	Mar-Apr	%	May-Jun	%	Jul-Aug	%	Sep-Oct	%	Nov-Dec	%	% to total value
Electronics	1895045	87	789980	81	887876	85	799402	78	2121914	82	1319894	76	24.60
Synthetic Fibres	838361	91	584421	88	829318	89	789680	80	51058	86	429455	78	33.40
Betel nut	5844284	89	94198662	76	6551714	82	7418376	79	4191231	82	7601779	79	22.00
Household Utensils	188233	84	293981	90	200950	92	200800	85	1881800	81	115821	76	48.00
Meat	164592	78	222711	87	218114	90	238468	81	199908	80	174111	80	38.00
Others	4746215	86	9269399	89	9182830	91	6319031	80	1015164	74	452896	76	35.00
Vegetables	2697	9	12487	11	21633	16	34972	14	46407	20	10121	7	5.00

Source: Survey done by the author through questionnaires, 1999.

Economic development and spatial processes are interrelated phenomenon. Economic development of a region or the surplus products of a region results in the higher degree of spatial processes of a region. A region, which is endowed with surplus resource, is bound to have a higher degree of interaction within the region itself and also with other regions. This is because people around the region come into this region or town to commute or make use to those surplus products or facilities. Means of transport and communication helps in the understanding of the degree of interaction; the higher the degree of interaction the higher is the frequency of transport with the other region. So, when a region or town is endowed with surplus facilities, transport frequency will always be higher because those surplus facilities have to be transported to other regions by means of some transport, viz., road transport, air transport, water transport or pipeline etc.

Table 5.4
Number of Bus Services to Different Markets, Weekly

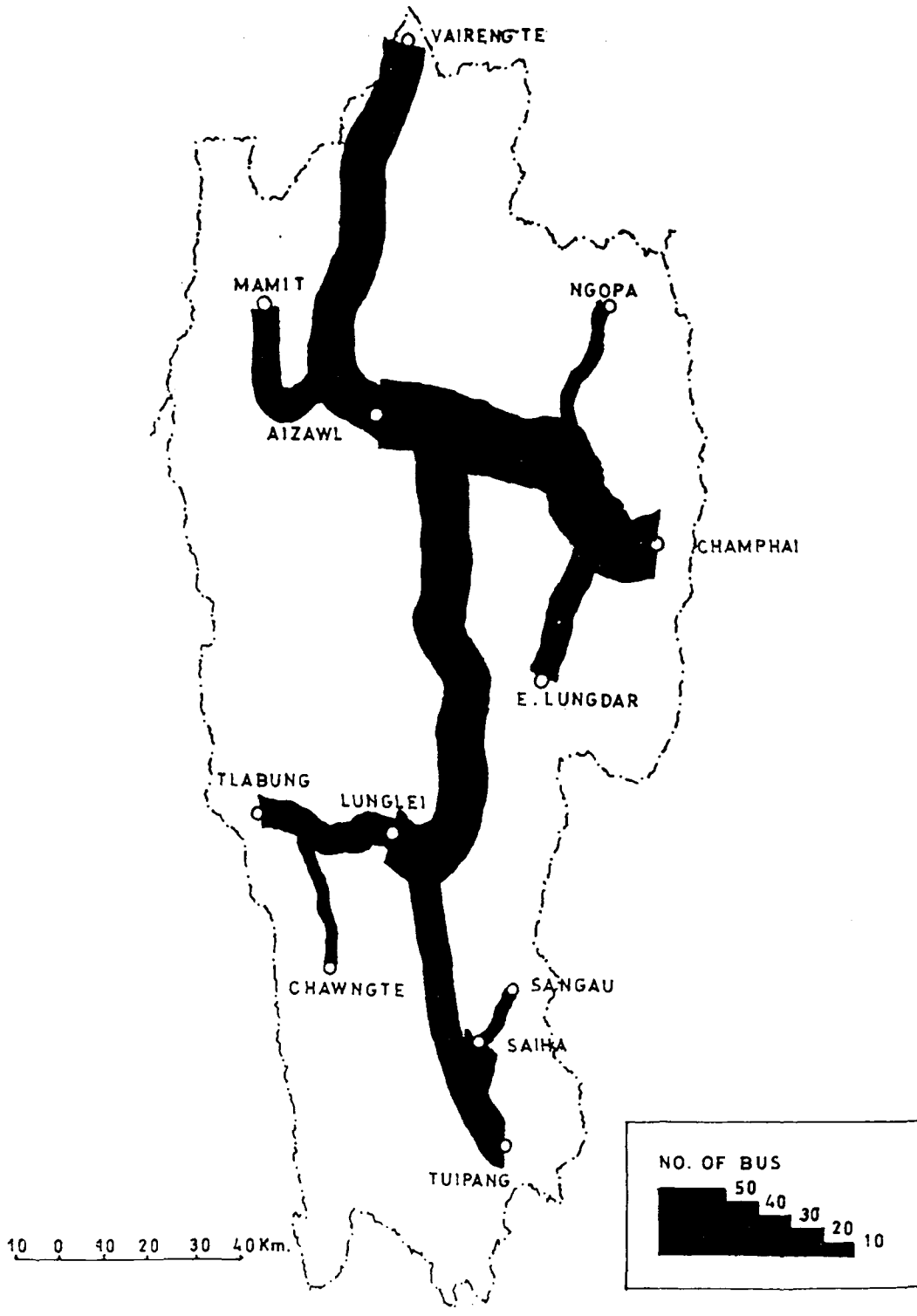
Names of Towns/Markets	M.S.T.	Private	Total
Aizawl to			
Lunglei	6	24	30
Champhai	6	36	42
E. Lungdar	6	6	12
Ngopa	3	6	9
Vairengte	3	24	27
Zawlnuam	2	6	8
Saiha	6	12	18
Lunglei to			
Saiha	3	12	15
Tlabung	6	12	18
Sangau	2	-	2
Chawngte	3	-	3
Saiha to3			
Tuipang	6	6	12

Source: Mizoram Statistical Handbook 1998, pp. 125-126 and household survey.

FIG. NO.13

MIZORAM

Weekly Bus Services



From Table 5.5, it is seen that Champhai accounts for highest with 42 buses a week, and Saiha accounts for 18 buses a week from Aizawl, whereas from Lunglei, it accounts for 15 buses weekly. Vairengte accounts for 27 and Tlabung shows 18 buses a week. It is apparent that Champhai and Saiha, because of surplus facilities coming from Myanmar the frequency of bus service tend to be higher. The surplus facilities are being transported to Aizawl to be distributed to other markets, whereas in case of Saiha, the surplus facilities are less than Champhai, the frequency of bus services are low. It can be inferred from here that there is a positive correlation between the value of surplus facilities and the frequency of bus services. Besides Champhai and Saiha, towns like Lunglei, Vairengte and Tlabung show a higher frequency. Vairengte is situated on the Aizawl-Silchar route, the only link with the mainland, whereas Tlabung receives some amount of surplus facilities from Bangladesh, and immediate larger/higher order centres or markets happens to be Lunglei. As such, these three market centres shows a higher frequency or higher degree of spatial interaction.

Market Areas

A market centre cannot exist in isolation. Its growth, origin and prospects of developments depend upon the surrounding area, which may be termed as market area. In fact, market area is a geographical area from which a market draws its customers and offers retail as well as other services. Market areas are complex areal phenomenon and are a result of (i) size of the market, (ii) economic structure, (iii) nature of accessibility, (iv) range of goods, (v) consumer behaviour, etc. and

sometimes physical and political factors becomes effective in delimitation of the market area boundaries. In fact, there can be no specific boundaries for market or trade areas, and whatever boundaries that have been drawn are generalised ones otherwise each commodity has its own trade area which overlap similar areas of other centres.¹

There are various techniques and methods used in determining the market area, which can be grouped under two heads, viz., empirical and theoretical. The empirical method of delimiting the market area boundary is based on the information incurred from the field survey, whereas the theoretical methods are based on gravity model or on a theoretical formula. Basically, all these models are based on some presumptions or hypothesis. Regarding the gravity model the works of William Reitly (1931), Converse (1965), Huff (1963), Siddall (1961), Lakshmanan and Hansen (1965), etc. are noteworthy. In the present study, delimitation of market area boundaries has been based on the population² and this delimitation can be based on two working hypothesis-

- (i) that every trade centre with facilities superior to that of its neighbours always attracts customers from outside, and
- (ii) the larger the population of a market town the larger will be its trade area.

¹ H.M. Saxena, *op. cit.*, p. 80.

² Delimitation based on population can be based expressed as –

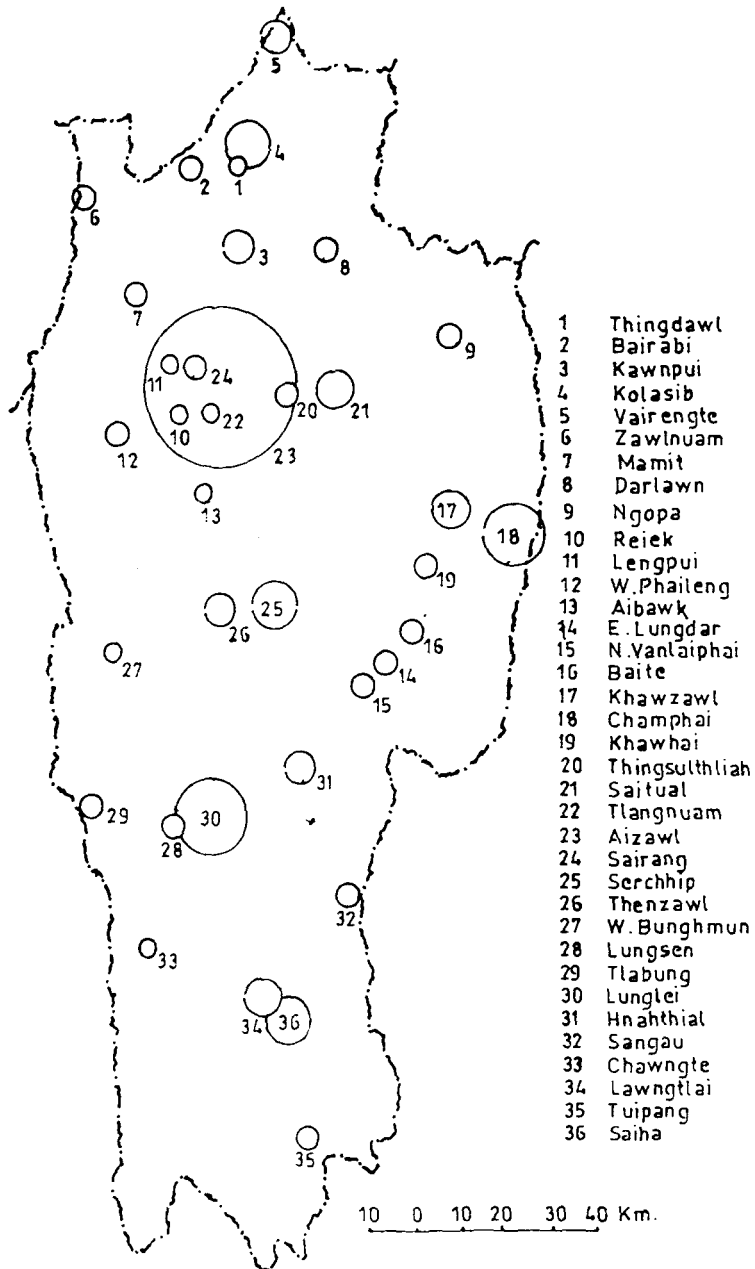
$D = \frac{P_i \times A_j}{P_j}$ $R = \sqrt{\frac{P_i \times A_j}{P_j}}$	Where P_i = Population of the i th market P_j = Population of the j th region A_j = Area of the j th region R = Radius of the circle.
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Table 5.5
Mizoram, Market Sphere of Influence

Market Centres	Population	Radius
Thingdawl	1390	2
Bairabi	2421	3
Kawnpui	5290	4
Kolasib	13482	6
Vairengte	5607	4
Zawlnuam	3455	3
Mamit	3546	3
Darlawn	3609	3
Ngopa	2590	3
Reiek	1241	2
Lengpui	1808	2
W.Phaileng	3059	3
Aibawk	1246	2
E.Lungdar	2470	3
N.Vanlaiphai	2804	3
Biate	2325	3
Khawzawl	7104	5
Champhai	20809	8
Khawhai	2102	3
Thingsulthiah	3692	3
Saitual	8402	5
Tlangnuam	2179	2
Aizawl	155240	21
Sairang	3527	3
Serchhip	13688	6
Thenzawl	4502	4
W.Bunghmun	983	2
Lungsen	2186	3
Tlabung	3409	3
Lunglei	35599	10
Hnahthial	5548	4
Sangau	2428	3
Chawngte	1022	2
Lawngtlai	9514	5
Tuipang	2379	3
Saiha	13669	7

FIG. NO. 14

M I Z O R A M
MARKET SPHERE OF INFLUENCE



Based on this presumption, the radius of 36 market centres in Mizoram has been calculated and has been shown in Table 5.6 (Figure 14). There are 4, 9 and 23 market centres in the first, second and third order respectively. The first order accounts to be Aizawl, Lunglei, Champhai and Saiha. These were the centres from which the lower centres draw their facilities. In other words, all the other centres depend on these four centres for their development. On these four centres Champhai and Saiha draws their trade facilities from Myanmar, while the mainland serves Aizawl and Lunglei, by Bangladesh through the Tlabung market centres. In Champhai the surplus items accounts for worth Rs. 150,864,433, which is 55.5 percent of the total procurement. In Saiha, the surplus items accounts for worth Rs. 439,797,53, which is 16.2 percent of the total items procured in Mizoram during 1997-98. As mentioned earlier, any surplus items in a region attract people from the surrounding areas/settlements. Table 5.6 shows the surplus items.

Table 5.6

Value of Surplus Items in Champhai and Saiha (1997-98)(value in Rs)

Name of Items	Champhai	Saiha	Total	Percentages
Electronics	16726757	7814111	24540868	9.04
Synthetic Fibres	4989109	3522294	8511403	3.13
Betelnut	83156751	54240135	137396885	50.61
Household Utensils	4997610	2881587	2881587	2.94
Meat	1340766	1217905	2558671	0.94
Vegetables	139487	128319	267806	0.09
Others	39513953	29045537	68559490	25.25
Total	150864433	43979753	194844186	71.77
	55.57	16.20		

Source; Surveyed by the author through questionnaires, 1999.

Betel nut accounts for highest surplus as well as total items procured compared to other items, vegetables accounts for 0.09 percent of the total items procured during the same year, 1997-98. Taken together, the surplus items from Champhai and Saiha accounts for worth Rs. 194,844.86, which is 71.77 percent of the total items procured in the state from Myanmar. And this is why the market sphere of influence for Champhai and Saiha stood in the highest-ranking in order of hierarchy, as the criteria for market sphere of influence is based on population. The degree of growth of population or the degree of attraction that these two centres exerted upon the other market/settlements can be best understood from table 5.7 of the centres Zawlunam Block that registered the highest growth during 1991-97 with 71.48 percent. Khawzawl block registered a 20.5 percent growth rate and Tuipang block registered 39.64 percent which host the Champhai and Saiha centre respectively. The market growth rate of Champhai and Saiha together accounts for 3.45 percent. The state as a whole records a 19.54 percent growth rate out of which 17.66 percent accounts for Champhai and Saiha together. During the same period Ngopa, E. Lungdar and W. Bunglemun R. D. Blocks registered a negative growth rate with -17.91, -42.18 and -1.85 respectively. This may be due to the carving out of two blocks – Phullen Block and Khawbung Block, which accounts for 12086 and 20012 populations respectively. Moreover, in these three blocks there are no surplus facilities, which could attract the people, whereas in their vicinity Khawzawl block, which offers surplus facilities, hence it attracts people from its surroundings. It is also noteworthy that N. Thingdawl block and Zawlunam block records a high growth rate of 35.70 and 71.48 percent

respectively. This is because the N.H. 54, the only road link with the mainland cuts across N. Thingdawl block, items from the mainland move into the state. So, naturally it is bound to be surplus in this block, hence it has a higher degree of attraction. As such, the growth of population registered a high rate. In case of Zawlnuam block the rapid population growth is because of the Riang refugees who had migrated from different parts of Mizoram and also from Tripura.

Table 5.7
Blockwise Population of Mizoram, 1981, 1991 and 1997

Name of R.D. Block	1981	1991	1997	Growth Rate (%)
Zawlnuam	24838	30853	52909	71.48
W. Phaileng	16838	21591	24676	14.28
Reiek	10973	12128	13749	13.36
N. Thingdawl	35351	44833	60840	35.70
Darlawn	18066	20983	25521	21.62
Tlangnuam	93769	170667	213153	24.89
Aibawk	11671	14439	16398	13.56
Serchhip	23428	29993	34751	15.86
Thingsulthliah	20638	27095	32944	21.58
Ngopa	20956	23347	19332	-17.91
Khawzawl	35807	50192	60513	20.50
E. Lungdar	28885	32344	18700	-42.18
W. Bunglemun	12239	15549	15261	-1.85
Lungsen	31127	26496	29634	11.89
Lunglei	34530	48493	57058	17.66
Hnahthial	8615	20877	24054	15.21
Chawngte	16983	24870	31357	26.08
Lawngtlai	18517	29330	-	-
Sangau	8777	10746	12815	19.25
Tuipang	22143	34930	48779	39.64

Source: Statistical Handbook Mizoram, 1982, 1990 and 1998.

Hierarchy of Market Centres

The study of the hierarchical pattern of a market centre is an important phenomenon in urban geography. Although, each market has its individual status, at the same time it is also an integral part of a regional system, which has its functional and spatial inter-relationship with other markets. A study of the hierarchical pattern is essential in order to understand the (i) spatial interdependence, (ii) functional wholeness of the system, (iii) discrete stratification of centres, (iv) for interstitial placement of orders. Another advantage of the study of hierarchy is that it will provide a base for regional development and planning. Regarding the hierarchy and central places, the work of Christaller (1931) is noteworthy. The essence of this theory is that a certain amount of productive land supports a centre, which exist because essential service must be performed for the surrounding land. He based his theory on certain assumptions as priority foundations of the model. These assumptions are:

- (i) a plane with soil of equal fertility and an uneven distribution of resources;
- (ii) an uneven distribution of population and purchasing powers;
- (iii) a uniform transportation network in all directions;
- (iv) a constant range of any one central goods.

Taking the above mentioned assumptions in view, Christaller has developed three controlling principles for the central place hierarchy. These assumptions are:

- (i) The marketing principle $K=3$. All are areas are served from a minimum set of central places.
- (ii) The transport principle $K=4$. In this category, the distribution is such that as many places as possible lie on the main transport routes connecting the higher order centres.
- (iii) The administrative principle $K=7$. Better administration is the controlling factor of the principle.

Christaller's central place theory is a much discussed theory and very few accept all the aspects of his work, but there is no doubt that his work has stimulated some of the most advanced and scientific work in geography. Among his principles only the marketing principle finds its place in real world application in most of the studies and $K=4$ and $K=7$ have not been applied anywhere in the world.

In the present study, the following variables have been selected for determining the hierarchical pattern of market centres in Mizoram. They are - (i) education, (ii) health, (iii) recreation, (iv) communication, (v) administration, (vi) transport, (vii) financial institution, (viii) trade, and (ix) industry.

On the basis of the above variables the weighted scores of every market centres are calculated. In which there are 1,3, 7 and 25 in first, second, third and fourth order respectively. Aizaw is the first order; the second orders are Lunglei, Champhai and Saiha. The third order market centres are Bairabi, Kolasib, Zawlnuam, Mamit, Khawzawl, Serchhip, Tlabung and Hnahthial. The hierarchical analysis reveals that the existing hierarchical classes of central places in Mizoram are tied up with 'marketing norms' as $K=3$ and therefore primary in the vertical distribution and functional gapping in space are exhibited. When scatterness of this functional components are plotted, the primacy of Aizawl town on all the scale brings out its highest order due to its identity as state capital with more than one lakh population. Besides this, Aizawl happens to be the destination of all the trade items coming from the mainland as well as from Myanmar. As stated earlier that at least 71 percent of the total surplus items from Myanmar destined to Aizawl, and then it is distributed to other market centres within the state.

Table 5.8
Nature of Functional Hierarchy in Mizoram, 1998

Order Name	No. of Centres	No. of Service/ Facilities	Population Size	Availability of Services/ Facilities
1. Service Towns (State Capital)	1	20-22	50,000 above	All educational, medical, recreation, postal facilities including telephone, banking, trades & transport. Highest order of administration, wholesale market, small-scale industry
2. Service Centres (District or Sub-Div. HQ)	3	18-20	10,000-50,000	College, High School, JBS, all medical, telephone exchange, post office, district or sub-divisional HQ., bus terminal centres, wholesale, small-scale industry
3. Service Centers (Block HQ)	7	16-18	5,000-10,000	High School, JBS, C.H.C., P.H.C., sub-centre, post office, sub-divisional or block HQ, bus station, metalled road, bank, wholesale market, small-scale industry
4. Service Village (Dependent Centres)	25	Below 16	Below 5,000	JBS, sub-centre, post office, block HQ, bus terminus, metalled roads, market daily or periodic, co-operative society.

Application of Rank Size Rule³ shows that in the second, third and fourth orders centres, the functional facilities were very weak, which is apparent from the concavity of the distribution. The deviation of the actual distribution from the theoretical population decay is very wide, which shows that in the middle and lower

³ According to Zipf (1949), rank size regularities evolving in the distribution of town-size are logarithmically marketed as:

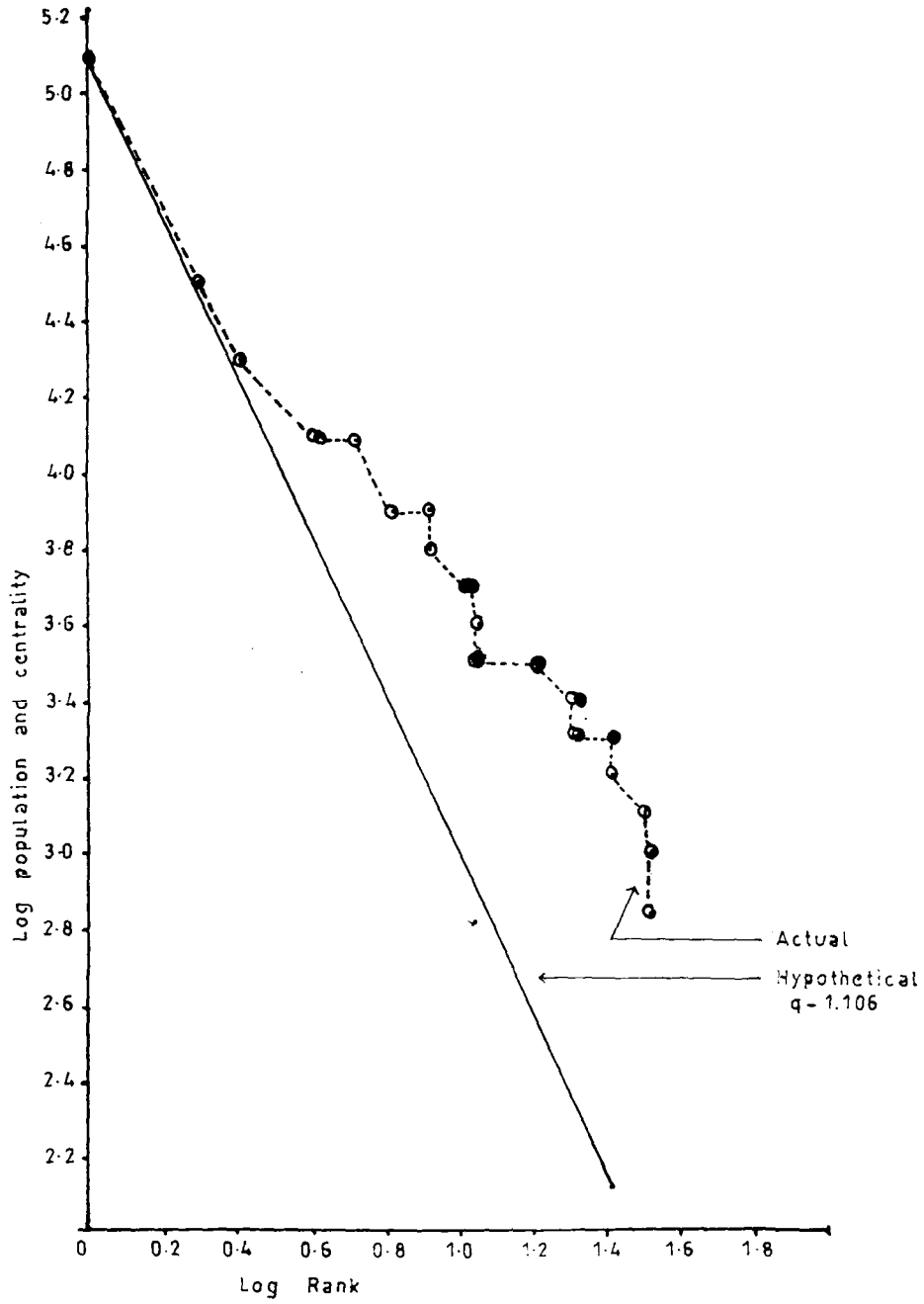
$P_r = P_1(r-q)$, Its linear form is

$\log P_r = \log P_1 - q \log r$

Where, P_r = Population of town rank r , P_1 = largest town where $r=1$, and q = constant. If $q=1.0$, then established relationship, as Zipf further asserts, is simply reciprocal which follows the best condition of settlement (town) sizes distributed in whole of the system.

MIZORAM
RANK SIZE RULE

FIG. NO. 15



centres, functional facilities have to be strengthened in order to have a balanced growth (Figure 15).

Table 5.9
Difference of Actual and Theoretical Market Centres, Mizoram

Hierarchical Order	Actual	Theoretical	Difference
I Order	1	1	0
II Order	3	2	1
III Order	7	6	1
IV Order	25	18	7

As seen from table 5.9 the actual population decay nearly corresponds to the theoretical population decay upto the third order, whereas in the fourth order there is a deviation of 7; but in the second and third order centres there is a deviation of only 1 each. The fourth order, which is also the dependant centres account to be the most numerous, with 25, centres therein. These centres lack potentialities for further development, therefore, proper planning strategies are required for the strengthening of facilities in order to minimise the gap between their immediate higher order centres. The availability of various types of goods and services, unevenly distributed in their horizontal nature are road-route biased, which creates differentiation in the features of functional interactions and people's mobility. Thus the areas situated on the main road and which act as a nodal centres for trade like Aizawl, Champhai and Saiha is noticeable for the emergence of intensive interaction patterns. It should also be noted

here that the only means of transport is the land route for the conveyance of passenger and goods. Of all the centres, Aizawl emerged as the primate market centre that is because it is the terminal of all the land routes from all directions. Champhai in the east, from Saiha via Lunglei in the south, from Mamit in the west and from Silchar via Vairengte in the north are connected. As such all the trade items and surplus products destined in Aizawl. This fact resulted in the acceleration of the spatial interaction around these centres and hence possessed the highest number of facilities and services.

Income of Families

As already stated that Mizoram is one of the most backward states in regard to economic development. She is not self-sufficient even on the essential goods and she has to procure almost all the commodities required for the consumption of her people from outside. She is solely depending on the financial assistance from the Central Government of India. Rice, the main staple food of the Mizos is also far from sufficiency. The production of rice within Mizoram could meet only about 49 percent of the total state's requirement. Therefore, at least 50 percent of the state's requirement has to be procured from outside Mizoram.

Table 5.10
Production and Procurement of Essential Commodities in Mizoram, 1997-98

Items	Total Production in Mizoram (MT)	Total Procurement from Outside Mizoram (MT)	Total	%age of Production in Mizoram to Total
Rice	110573	112444	223017	49.58
Wheat	11	16980	16991	0.06
Sugar	7488	3934.80	11422.80	65.55
K. Oil	-	7872	7872	100.00
E. Oil	-	100	100	100.00

Source: Statistical Handbook, Mizoram 1998, pp. 46, 65.

As seen from table 5.10, the essential items produced within Mizoram could not meet the requirement. The production of rice could meet only 49 percent, while the production of wheat could meet only 0.06 percent of the total requirement and the production of sugar could meet only 65.55 percent of the total requirements. In regards to kerosene and edible oil, Mizoram doesn't produce, so the state has to depend 100 percent on the procurement from outside the state.

The incomes of traders in Champhai and Saiha have been divided into five income groups, viz., Rs. below 6000, Rs. 6000-7000, Rs. 7000-8000, Rs. 8000-9000 and Rs. above 9000. In Champhai and Saiha 350 families are within Rs. 7000-8000 income group accounts for highest income group with 95 percent families in it, which is 27.14 percent of the total traders in both Champhai and Saiha. This is followed by Rs. 6000-7000-income group, which accounts for 24 percent of the total traders in both the transit centres. The Rs. 9000 and above income group are the lowest income group

which is 12 percent of the total traders in both the towns. But this income group accounts at least 40 percent of the total income of the traders. Income groups of Rs. 8000-9000 and Rs above 9000 traded mainly on electronic goods and betelnut respectively, where the trade items consists at least 60 percent on both the cases. In Rs. 7000-8000 income group items deals mainly electronics, vegetables, synthetic fibres etc. While Rs. below 6000 and 6000-7000 income group traded mainly on household utensils, vegetable and others.

Besides, the financial assistance from the Central Government there is a supplementary source of finance from Myanmar, which resulted in the higher per capita income in the two border transit centres, viz., Champhai and Saiha. In order to bring out a clear picture, the state per capita income has also been highlighted (table 5.12), as well as the per capita income of the non-traders in both the transit centres.

Table 5.12
Per Capita Income of Mizoram, 1991-92 to 1997-98

Particulars	1991-92	1992-93	1993-94	1994-95	1997-98
Persons	684756	689756	689756	689756	689756
Total Income	4097840396	3930919444	5184895852	5340780708	6600964920
State Per Capita Income	5941	5699	7517	7743	9570

Source: Statistical Handbook, Mizoram, 1998, p. 46.

As seen from Table 5.13 the per capita income during 1991-92 for the state was 5941 whereas in 1997-98, it is 9570 registering a growth rate of 61 percent during 1991-99. The total income for the state during 1991-92 was Rs. 4097,840392, whereas in 1995-96, it is Rs. 5340,780708 and during 1997-98, it is Rs. 6600,964920. The per capita income on both the transit centres shows a higher value than the states per capita income. The per capita income of non-traders registered lower than the trader's in both the centres.

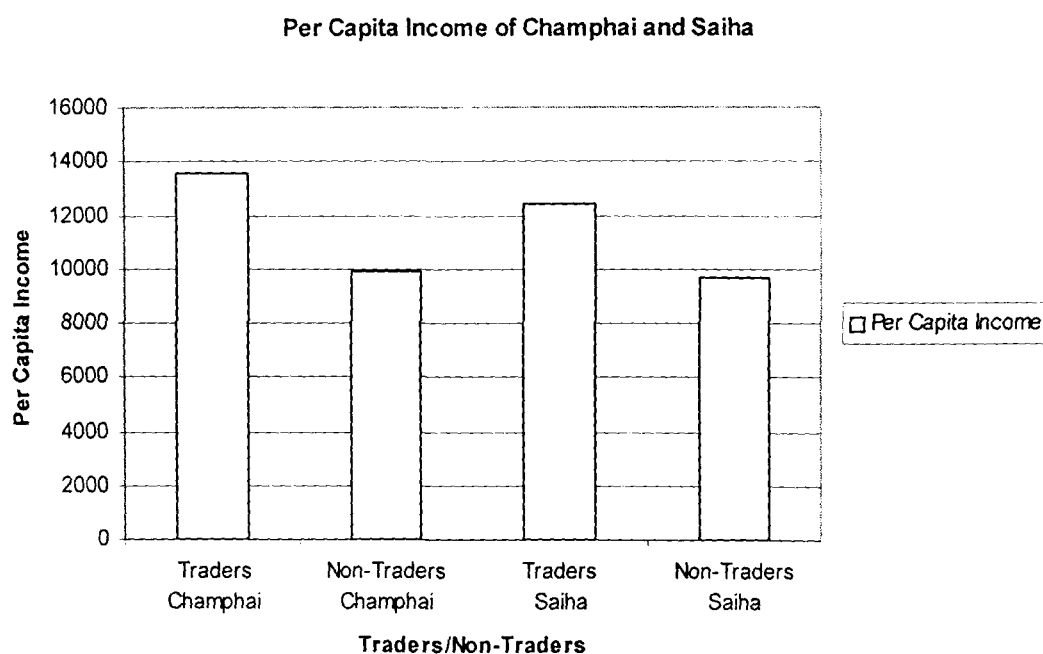
Table 5.13

Per Capita Income of Traders and Non-Traders in Champhai and Saiha and Mizoram, 1997-98

Particulars	Champhai		Saiha		Mizoram
	Traders	Non-Traders	Traders	Non-Traders	
Persons	1756	1731	711	782	689756
Total Income	23815364	17093625	8808423	7513670	6600964920
Per Capita Income	13562	9875	12388	9685	9570

Source: Surveyed by the author through questionnaires, 1999 and statistical Handbook of Mizoram, 1998, p.46.

FIG. NO. 16



It is clear from table 5.13 that the total income for traders and non-traders are Rs. 238,15364 and Rs. 170,93625 respectively, registering a difference of Rs. 67,21739 in Champhai, whereas the total income for traders and non-traders are Rs. 88,08423 and Rs. 75,73670 respectively, showing a difference of Rs. 12,34753 in Saiha. The per capita income of traders and non-traders in both the centres have registered higher than the states per capita income. In both the centres again, the impact of border trade manifests the higher per capita income of traders than non-traders. The non-traders in both the centres, however, may not directly reaped the benefit of border trade, but it is evident that the border trade have its impact even on the non-trader, because their per capita income is still higher than the state's per capita income. The per capita income of traders in Champhai registered as high as Rs. 13562

and traders in Saiha shows a per capita income of Rs. 12388. Whereas the per capita income of non-traders are Rs. 9875 and Rs. 9685 for Champhai and Saiha respectively. The per capita income in both the centres are higher than the states per capita income because of the border trade. The two centres account for 25 percent of the total value of items coming from Myanmar (Figure 16).

Contribution to the Economy of Mizoram

As noted in the preceding paragraphs, the economy of Mizoram depends mainly on the assistance from the Central Government. She has to procure almost every essential commodity from outside the state. As such, any break in the supply of these essential commodities, there is an acute shortage in Mizoram. So, to cater to these needs and other factors a border trade is carried on with Myanmar, where a little amount of essential commodities and other items entered Mizoram through Champhai and Saiha transit centres. It contributes substantially in the economy of Mizoram through border trade.

Table 5.14

Income of Traders in Champhai, Saiha, Mizoram and State's Total Income 1997-98

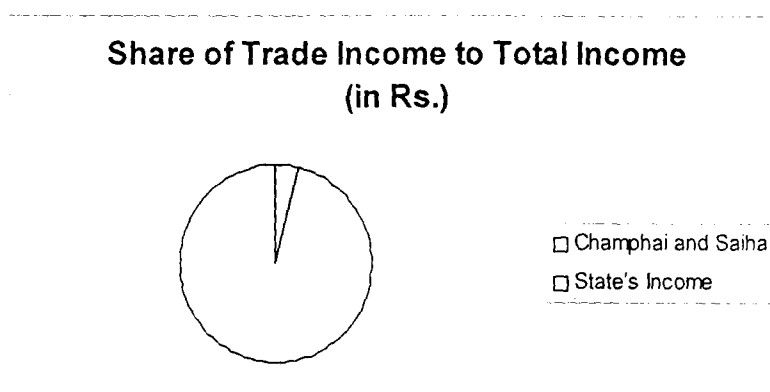
State/Transit Centres	Income (in Rs.)	Per Capita Income	%age of Total Income to Total State's Income
Champhai	23815364	13562	0.36
Saiha	8808423	12388	0.13
Mizoram	271447726	393	4.11
State's Income	6600964920	9570	

Source: Statistical Handbook of Mizoram, 1998, p.46 and surveyed by the author through questionnaires, 1999.

As seen in table 5.14, the total income of Mizoram is Rs. 6600,964920 during 1997-98, while the per capita income for the state as a whole is Rs. 9570 during the same period. As mentioned earlier that trade item comes through the two border trade transit centres, viz., Champhai and Saiha. The estimated amount of trade items coming from Myanmar accounts for worth Rs. 271,447726 during 1997-98, which is 4.11 percent of the total state's income for the same period. The two transit centres, Champhai and Saiha accounted for Rs. 326,23787, which is about 0.49 percent of the total state's income. Here the share of Champhai is Rs. 238,15364 and Rs. 88,08423 for Saiha, which also accounts for 0.36 and 0.13 percent of the total state's income, whereas it accounts for 55 and 16 percent of the total value of items coming from Myanmar. Therefore, the Mizo-Myanmar border trade has contributed about 4.11 percent in the economy of Mizoram during 1997-98 (Figure 17).

FIG. NO. 17

**Share of Trade Income to Total Income
(in Rs.)**



Financially, the contribution of Mizo-Myanmar border trade is 4.11 percent, whereas the total persons who earned their livelihood through the border trade

accounts for 6.51 percent of the total persons. In Champhai, 250 households, and 1756 number of persons are engaged in border trade, in Saiha 100 households and 711 number of persons engaged in border trade, which is 0.10 percent of the total state's population. In the state, there are 8992 families who earn their livelihood through border trade. At least 44964 persons, 6.51 percent of the total state's population are dependant on border trade. The number of families in the state is estimated to be 98536 and according to this, the Mizo-Myanmar border trade gave livelihood to 9 percent of the total families in Mizoram.

Table 5.15
Number of Families Engaged in Border Trade, 1997-98

Town/State	No. of families	No. of Persons	Percentage to Total State's Population
Champhai	250	1756	0.25
Saiha	100	711	0.10
Mizoram	8992	44964	6.51

Source: Surveyed by the author through questionnaires, 1999 and statistical Handbook, 1998, p. 48.

Concluding Remarks

It is evident from the discussion that border trade in Mizoram act as a bone to the prevailing economy. The total value of item that entered Mizoram from Myanmar is estimated for Rs. 2717,447726 during 1997-98. The distribution of market and spatial interaction among markets bears the impact of border trade. Mobilisations of

the means of communication are enhanced because of border trade. Trade items, which entered Mizoram through the transit centres, attract traders from different markets, which resulted in the increase of interaction. Besides this, the per capita income of the state, which is Rs. 9570 during 1997-98, this could have decreased to Rs.9385, had there been no border trade.

Chapter VI

IMPACT ON SOCIAL

The social condition of Mizoram is to a great extent moulded by the Christian Missionaries in particular and the British as a whole. As mentioned in the earlier chapter that with the introduction of Christianity and education changed the outlook, mental horizon and social values of the Mizos considerably. It is praiseworthy that the missionaries taught them Christianity but along with this they also taught their culture, so as to make them pro-western cultured. and they made a remarkable success in their endeavour. Within only five decades, the total population get transformed into Christians, and not only this, now the Mizos have worshiped the white man, they perceived that everything that is of the white man is superior and what they did and what they say is always good and correct. This trait have been embedded in the minds of the Mizos deeply that they were inclined towards everything that is of a foreign product. In other words, they have a strong liking for foreign goods. They also perceived that possession of foreign goods is something modernised and so they, as far as practicable look for foreign goods even when there is supplementary goods, which is of indigenous.

Impact on the Population Distribution

The fundamental aspects of population structure provide the basic considerations for existing spatial organisation and future activity-interaction patterns in an area/regional planning. These aspects are –

- (i) population size, growth and spacing, that are the basic elements of settlement processes and their forms where their activities and their interaction patterns exists;
- (ii) the non-working population (children plus old person), that not only increases the density and magnitudes of basic needs in the existing conditions but provides the future potentials for human resource for generating extra production for its future demands; and
- (iii) the labour force and its occupational structure, i.e., associated with the production activities and their locations, while extra labour force (unemployed) may accelerate the future production generation.¹

Settlement forms are the spatial realisation on the population produced by settlement processes: colonisation (expansion of settlements), spread (population densification), and completion (settlement), functions and their interactions. Such processes are inter-related in space in relation to enhancement of its intra and inter-

¹ Surendra Singh, *Integrated Area Development and Planning*, Shree Publishing House, New Delhi, 1990, pp. 27-29.

areal relations that becomes more complex when population growth proceeds.² The general pattern of population distribution are not much uniform areally on account of its greater difference, e.g., in the spatial perspective, density of population is higher (50 above) in the north eastern and central part extending southwards upto the Lunglei district. In the southern part Chawngte R.D. Block stands out as the higher density region, which is also above 50 persons per square kilometres.

The growth of population and development of market centres are complementary to each other. A development in market centres is followed by a growth in population because the market centres or towns provides goods, services and facilities to the surrounding settlements which attracts the people from outside to settle in that market centre or towns. The distribution of the density of population clearly depicts the influence of market centres in Mizoram. This fact will be examined with the help of 'Potential Model'.

The potential model³ is the simplest and most widely applicable of all interaction models. It postulates that interaction between any two groups of people or locations increases in proportion to the size of the groups (population) and decreases with some functions (unit or exponent) of the distance between the groups. The

² *Ibid*, p. 29.

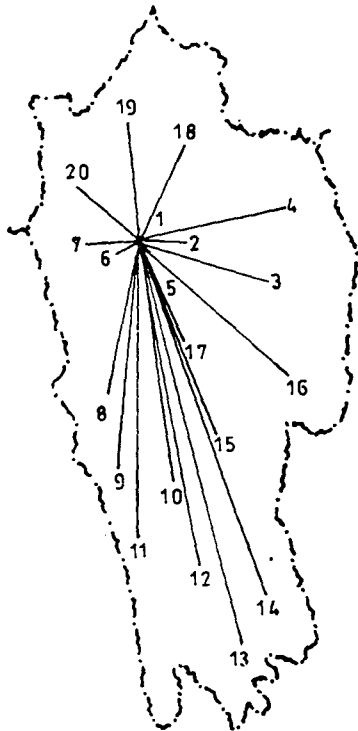
³ Potential Model can be represented as –

$$V_i = \frac{P_j}{d_{ij}}$$

V_i is the summation of the effect of all places on place 'i' including the effect of 'i' itself.

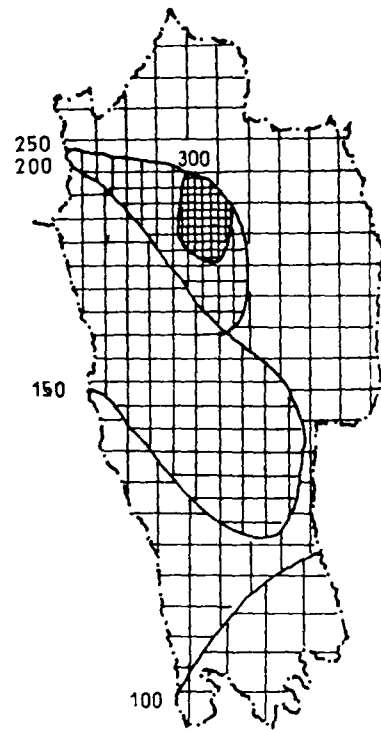
Where V_i is the potential 'i' is the point. D is the distance, j is the population.

MI Z O R A M POPULATION POTENTIAL

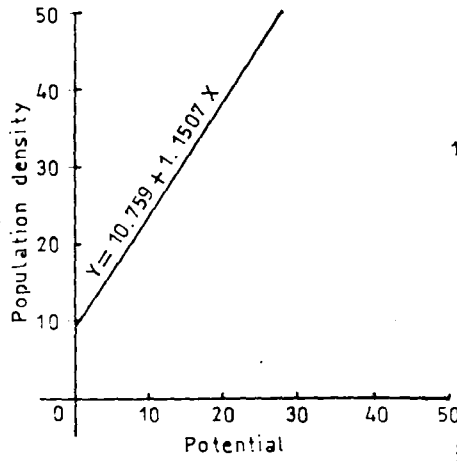


Measurement of distance from one dist. to all other districts.

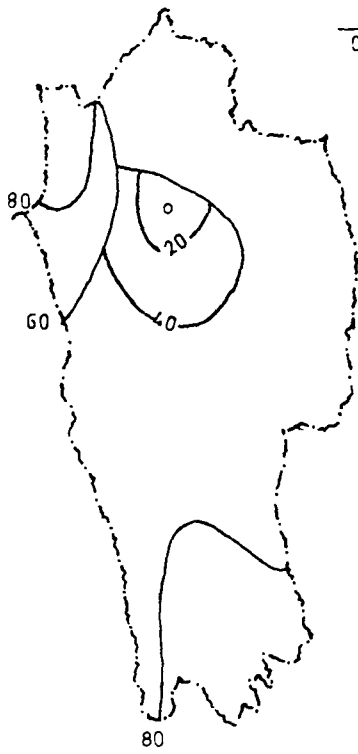
POTENTIAL SURFACE



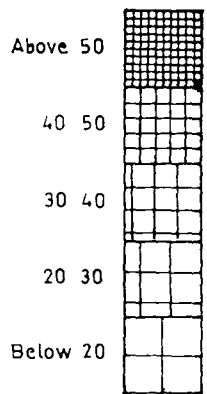
Population potential



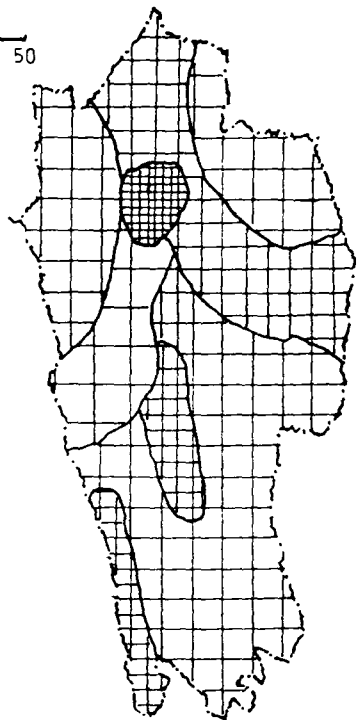
POPULATION DENSITY 1991



Isolines at an interval of 20% below the highest population potential (o)



20 0 20 Km.



population potential may portray a real picture of the original distribution in which it is based. It gives an idea of the number of people within reach of different localities.⁴ Application of potential model in case of Mizoram reveals that a maximum number of people are within reach of the places around Aizawl situated in the north central part of the state. The population potential ranges between 77 persons per kilometres in Tuipang R.D. Blocks to 460 persons per Km. in Tlangnuam R.D. Block. There are potential blocks where more than 2000 persons per sq. km can accomodate; such blocks are Tlangnuam Thingsulthlah, Aibawk and Reiek. All these blocks were around the state capital, Aizawl. Generally, the potential is higher in the northern part, which falls between 1000-2000 persons per sq. km. and gradually decreases in the southern part, with less than 100 persons per sq. km. in Sangau and Tuipang (Figure 18).

As seen in table 6.1 the population potential varies widely within the state. The actual population densities when compared with the expected density,⁵ it nearly corresponds to each other with the exception of few R.D. Blocks such as: Thingsulthlah (31 actual and 105 expected), Aibawk (23 actual and 105 expected) and Reiek (13 actual and 142 expected).

⁴ H. Lal, "Potential Model and Spatial Distribution of Population", in R.B. Mondal and V.N.P. Singh (eds.), *Recent Trends and Concepts in Geography*, Concept Publishing Company, New Delhi, 1980, pp. 287-288.

⁵ Expected Density (D) is found to vary as the square of the potential (V). In equation Density (D) equals KV^2 , where K is a constant derived from the following formula –

$$K = \Sigma(D/V^2)$$

N.B. – In the present study the constant K comes to 0.169296.

Table 6.1
Population Potential and Population Density of Mizoram, 1991

R.D.Blocks	Population potential (in '00 persons Km)	General population density	
		Actual	Expected
		320	358
Thingsulthiah	251	31	105
Khawzawl	142	32	33
Ngopa	105	22	16
Aibawk	254	23	105
Reiek	293	13	142
W.Phaileng	172	22	48
W.Bunghmun	123	11	24
Lungsen	130	25	28
Lumglei	175	44	48
Chawngte	122	38	24
Lawngtlai	97	22	13
Tuipang	77	25	8
Sangau	112	19	20
Hnahthial	157	21	38
E.Lungdar	132	24	28
Serchhip	147	27	33
Darlawn	138	22	28
Thingdawl	104	30	17
Zawlnuam	100	28	16

Source: Statistical Handbook of Mizoram, 1982 and 1998.

Table 6.2

Blockwise Growth Rate of Population in Mizoram, 1981, 1991 and 1997

Name of Items	1991	1997	1981-97 Total
Zawlnuam	24.22	71.48	113.01
W. Phaileng	28.22	14.28	46.54
Reiek	10.52	13.36	25.29
N. Thingdawl	26.82	35.70	72.10
Darlawn	16.14	21.62	41.26
Tlangnuam	82.00	24.89	127.31
Aibawk	23.63	13.56	40.50
Serchhip	28.02	15.86	39.79
Thingsulthliah	31.28	21.58	59.62
Ngopa	11.40	-17.91	-7.74
Khawzawl	40.17	20.50	68.99
E. Lungdar	11.97	-42.18	-35.26
W. Bunglemun	27.04	-1.85	24.69
Lungsen	-14.87	11.89	-4.79
Lunglei	40.43	17.66	65.21
Hnahthial	142.33	15.21	179.21
Chawngte	46.44	26.08	84.63
Lawngtlai	58.39	-	-
Sangau	22.43	19.25	46.00
Tuipang	57.74	39.64	120.29
	39.68	19.54	99.74

Source: Statistical Handbook of Mizoram, 1982 and 1998.

It is evident from table 6.2 that R.D. Blocks like Zawlnuam, N. Thingdawl, Tlangnuam, Khawzawl and Tuipang shows a remarkable growth rate during 1981-91. On careful scrutiny of these five blocks it is evident that except Zawlnuam all the other blocks enjoys the surplus or trade facilities from outside Mizoram. Where Khawzawl and Tuipang block enjoys the surplus items from Myanmar, while N. Thingdawl block enjoys surplus items from the mainland and Tlangnuam, which is the destination or terminal of all items from the mainland or from Myanmar. Zawlnuam shows 71.48 percent growth rate, because of immigrants from other blocks and Tripura. People from the surrounding areas/blocks were attracted towards the centres which are having surplus items, thereby resulted in the increase of population. In Khawzawl, the growth rate during 1981-91 accounts for 68.99 percent while Tuipang block shows a growth rate of 120.29 percent during the same period. Tlangnuam block registered a growth rate of 127.31 percent during 1981-91 that is the highest growth rate among all the R.D. Blocks in Mizoram. This may be attributed to the coming of surplus items from Tuipang (Saiha), Khawzawl (Champhai) and the mainland. Moreover, it is the state capital and so more services and facilities are being offered here, which is also a strong factor in attracting the people. The state as a whole registered a 39.61 percent of growth in 1981-91, while it is 19.54 percent in 1991-97, and for 1981-97, it almost doubled itself with a growth rate of 99.74 percent.

The push and pull factors that is being exerted upon the different blocks because of the availability of services/facilities and surplus items have resulted in the

settling of people in a particular block, and thus in turn increases the density. As table 6.1 depicts, the expected density for Thingdawl is 17 persons per sq. km. while the actual density accounts for 30 persons per sq. km. In case of Khawzawl, the expected density is 33 persons per sq. km., while the actual density accounts for 32 persons per sq. km. In Tuipang, the expected density is 8 persons per sq. km., while the actual density accounts for 25 persons per sq. km. According to the population model, in an ideal case, i.e., that of an even distribution of population the highest potential values would be found in the geometric centre of the region. In and around this centre, the potential for interaction are good. At the edges of the region, potential falls to a minimum because the model is based on the assumption that the region is plain and there is an even distribution and it also postulates that interaction increases when the distance is shorter and decreases with some functions when the distance between the groups are longer. As per the model Tlangnuam block is supposed to have the highest density of population followed by the surrounding blocks like Reiek, Aibawk, Thingsulthliah, Hnahthial, W. Phaileng and Lunglei. But it is found that all those blocks registered a population density lower than the expected density, and even the actual density is lower than the actual density of Khawzawl block. This is because Khawzawl block is the host of Champhai, which is the border transit centre of surplus items coming from Myanmar, which strengthened the attraction of this block. In case of Tuipang block, it is southern most part of the state, and according to the potential model interaction has been the lowest. The expected density is 8 persons per sq. km. but the actual density accounts for 25 persons per sq. km., which is higher than

Aibawk, Reiek and W. Phaileng. Therefore, Tlangnuam block is the highest interaction centre. This is because Tuipang block hosts the Saiha border transit centre, through which surplus items from Myanmar enters the state, and which also attracts commuters from other markets and blocks. Hence, the actual density stood higher than the expected density.

The Process of Urbanisation

The level of development of any region closely corresponds with the processes of urbanisation. In fact, urbanisation is an indicator of the level of development of a region. It also bears testimony to the pattern of migration within the region and it is also important for propagation of further development and planning. The process of urbanisation in Mizoram began with two towns since 1951. Due to rapid growth there are 22 classified towns in 1991. There are one class I town, two class III towns, three class IV towns, five class V towns and eleven class VI towns in Mizoram. The urban centres/towns are Aizawl, Khawzawl, Vairengte, Kawnpui, Thenzawl, Darlawn, Saireng, Zawnuam, N. Vanlaiphai, Bairabi, Biate, Khawhai and Lengpui, Lunglei, Hnahthial and Tlabung and Saiha.

Table 6.3
Number of Towns in Each Town Class, Mizoram, 1991

Town Class	Name of Towns
Class I	Aizawl
Class II	Nil
Class III	Lunglei, Champhai
Class IV	Serchhip, Saiha, Kolasib
Class V	Saitual, Khawzawl, Vairengte, Hnahthial, Kawnpui
Class VI	Thenzawl, Darlawn, Mamit, Sairang, Zawlnuam, Tlabung, N. Vanlaiphai, Bairabi, Biate, Khawhai, and Lengpui

Source: Census of India, Mizoram, series 17, 1991.

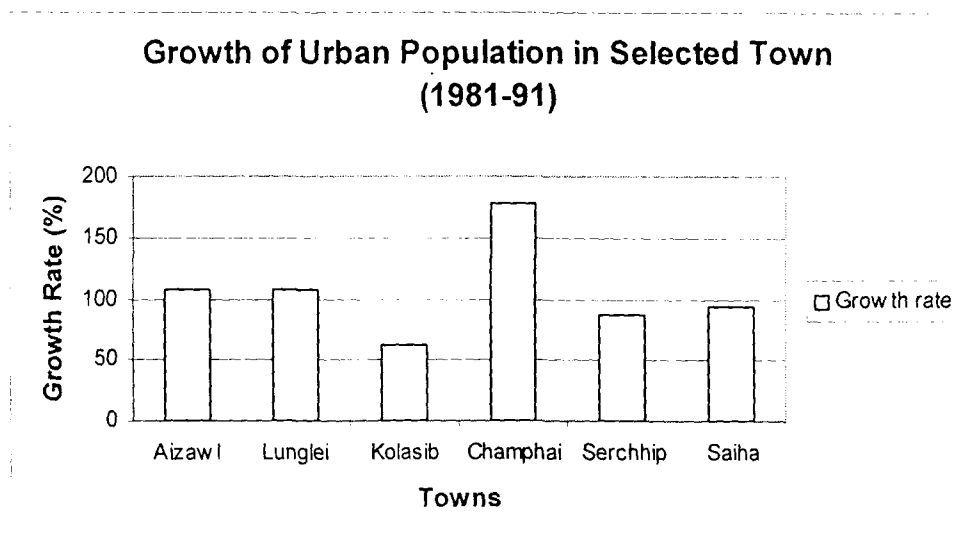
The urbanisation in Mizoram has started since 1951, with a total population of 6950 persons, which were concentrated in Aizawl town. In 1971, the number of urban centres increased to two with a total population of 37759 persons concentrated in Aizawl and Lunglei town. In 1981, it shows a rapid progress and the urban population registered a 222.61 percent increase with a total population of 121814, which is distributed among 6 towns. Finally, in 1991, the total urban population accounts for 317040, which is 46.20 percent of the total population. During 1981-91, 16 new towns have been added to the existing urban centres, with a growth rate of 160.27 percent.

Table 6.4
Growth of Urban Population, Mizoram, 1951-91

Year	No. of Towns	Urban Population	Percentage of Urban to Total Population	Decennial of Growth Rate of Urban Population
1951	1	6950	3.54	-
1961	1	14257	5.36	105.14
1971	2	37759	11.36	164.85
1981	6	121814	24.67	222.61
1991	22	317040	46.20	160.27

Source: Census of India, Mizoram, Series 17, and p. 17.

FIG. NO. 19



The table 6.4 depicts, the urban population of 1951 i.e. 3.54 percent of the total population, whereas in 1961, it registered a 5.36 percent. The trends are of 11.36, 24.67 and 40.20 percent during 1971, 1981 and 1991 respectively. The highest

growth rate is registered during 1971-81 with 222.61 percent. The rapid increase of urban population during 1971-1981 is because of in-migration as well as changing of the definition of towns in Census of India. Because of the change of the definition of towns, four towns have been added to the existing towns in 1981 and 18 towns in 1991. The total population of new towns are 65497 persons, which accounts for 33.55 percent of the total urban population in 1991. During the same period the share of the population of new towns accounts for 35.67 percent in Aizawl district, and 32.74 percent in Lunglei district (Figure 19).

Table 6.5
Increase of Urban Population from New Towns, 1991

State/ District	No. of Towns		Population of New Towns in 1991	Percentage of Population in New Towns to Total Increase in Urban Population
	1981	1991		
Mizoram	6	22	65497	33.55
Aizawl	4	18	56549	35.67
Lunglei	1	3	8948	32.74
Chhimituipui	1	1		

Source: Census of India, Mizoram, Series 17, and p. 15,1991.

The growth of urbanisation has a positive relationship with the level of economic development. In case of Mizoram, towns, which act, as nodal centres for items coming from outside India, tend to register a high growth rate. The nodal centres like Champhai and Saiha, items come from Myanmar and Aizawl. In these centres there are surplus items, which attracts people from the surrounding areas/towns.

Table 6.6
Increase of Population to the Existing Urban Centres in Mizoram, 1991

Name of Towns	1981	1991	Growth rate
Aizawl	74493	155240	108.39
Lunglei	17205	35599	106.91
Kolasib	8282	13482	62.78
Champhai	7487	20809	177.93
Serchhip	7329	13688	86.76
Saiha	7018	13669	93.57

Source: Census of India, Mizoram, Series 17,p.18, 1991.

As noted in table 6.6, the increase of urban population in Champhai town shows the highest growth rate of 177.93 percent during 1981-91. During the same period Aizawl registered a growth rate of 108.39 and Saiha registered a growth rate of 93.57 percent. The high growth rate in these towns may be attributed to their economic status over the other urban centres/towns. Aizawl town happens to be the destination of items coming from Myanmar via Champhai and Saiha. Therefore, a high growth rate is registered. In case of Champhai and Saiha, surplus items coming from Myanmar values worth Rs. 150864433 and Rs. 43979753 respectively. Therefore, these two towns exert attraction to people from other settlements. Therefore, the growth rates in these two centres are high.

Standard of Living

The Mizo-Myanmar border trade has its impact on the standard of living in Champhai and Saiha in particular and Mizoram as a whole. The standard of living taken in this study is the degree of establishment of traders in their respective home town, source of income and value of income, number of vehicles owned, kinds and quality of kitchen gadgets own and luxury items own, i.e., gold ornaments. For this purpose the researcher has visited the houses and interviewed the traders and non-traders for comparative study.

Generally in Mizoram, there are three types of houses, viz., R.C.C., Assam Type and other i.e. thatched roofed and bamboo walled houses. Before the advent of the British, the Chief owned the land and he always give a plot of land to every family. A plot of land, which measures the same sq. metres, may not cost the same in villages and in towns. Therefore, when a man owns any surplus finance, he generally tried to purchase a house or plot of land for building houses than luxury items. Therefore, establishment or house type of a region indirectly highlights the economic development of the region.

Table 6.7**No. of House Owned by Traders and Non-Traders in Champhai, 1991-98**

House Type	Traders		Non-Traders		Percentage of the Families to the Total Families	
	No. of Houses	No. of Families	No. of Houses	No. of Families	Traders	Non-Traders
R.C.C.	102	84	37	37	33.5	14.8
Assam Type	132	118	82	72	47.2	28.8
Others	30	30	68	68	12.0	27.2
Total	264	232	187	177	42.8	70.8

Source: Survey done by the author through questionnaires 1999.

The table 6.7 shows the number of houses own by traders are larger in size than the others. The total trader families are 250 in number, they owns 264 numbers of houses. This is due to some families' own more than one house. In Champhai 250 non-trading families own houses. This shows that there are some families who did not own even one house. Of all the house types, Assam type registered the highest figure with 132 houses by 118 families. In case of R.C.C. type, the figure is 102 houses against 84 families. Total houses owned by traders in Champhai are 264 houses against 232 families. Construction of R.C.C. type house in Mizoram, the cost may be nearly double to that of construction in Assam, because all materials like cement sand, iron rod and carpenter etc. have to be brought from other states. Whereas in Champhai 84 traders could construct 102 R.C.C. houses, which is an indication that the traders were financially better off. At the same time, non-traders in Champhai, could not afford to construct more than one R.C.C. house, where only 34 families owns one

R.C.C. house each. This also reveals that the traders have some additional income over the non-traders. The number of families who could afford to construct R.C.C. house in case of traders are 33.5 percent, whereas for non-traders it is only 14.8 percent of the total families of traders and non-traders respectively. The Assam type houses records the highest percentages. The traders and non-traders showing percentage of 47.2 and 28.8 percent respectively. The number of families who owns a house is 232 in number, which is 92.8 percent of the total families in case of traders in Champhai. The number for non-traders accounts for 177, which is 70.8 percent of the total families. Therefore, the percentage of traders shows a 20 percent greater than the corresponding non-traders.

Table 6.8

No. of House Owned by Traders and Non-Traders in Saiha, 1997-98

House Type	Traders		Non-Traders		Percentage of the Families to the Total Families	
	No. of Houses	No. of Families	No. of Houses	No. of Families	Traders	Non-Traders
R.C.C.	43	33	25	21	33	21
Assam Type	62	48	49	42	48	42
Others	22	15	27	19	15	19
Total	127	96	101	82	96	82

Source: Surveyed by the author through questionnaires, 1999.

It is apparent from table 6.8 that the number of houses surpassed the number of families for traders in Saiha also, showing a figure of 127 and 96 for total number of

houses and total number of families respectively. In case of the non-traders also the total number of houses shows 101 and families. In Champhai 33 families owns R.C.C. houses and 21 non-traders families owns R.C.C. houses. In Saiha 96 and 82 percent of the total traders and non-trader families owns RCC houses respectively.

It is apparent from the above analysis that traders are having more houses than non-traders in both Champhai and Saiha. The percentage for non-traders also shows a relatively higher figure for Saiha than Champhai, with 82 and 70.8 percent respectively. Even though there is a variation in between the two centres, however, the figures of traders are higher than that of non-traders because of their endowments with additional income from Myanmar.

As mentioned earlier that Mizoram is one of the most backward states in the Indian Union. As such transport and communication system is underdeveloped. The only means of transport system is the road transport, which is also in an infantile stage of development. So, the importance of road communication and vehicles cannot be exaggerated. Therefore, traders in Mizoram give prime importance to own a vehicle.

Table 6.9
No. of Vehicles Owned by Traders and Non-Traders in Champhai, 1997-98

Types of Vehicle	Traders		Non-Traders		Mizoram	Percentage Vehicles to Total Vehicles	
	No. of Vehicles	No. of Families	No. of Vehicles	No. of Families		Traders	Non-Traders
Heavy Vehicle	23	12	4	4	1137	2.02	0.35
Tempo	26	16	6	6	1813	1.43	0.49
Light	74	25	14	12	9993	0.74	0.21
Two Wheelers	86	22	20	16	14184	7.56	0.16
Total	209	74	44	38	27127	0.77	0.21

Source: Surveyed by the author through questionnaires, 1999.

As seen from table 6.9 the number of vehicles surpasses the number of families in case of traders in Champhai i.e. 209 and 74 number of vehicles and number of families respectively. Likewise, the figure for non-traders shows 44 and 38 and number of vehicles and number of families respectively. The number of two-wheelers shows highest both for traders and non-traders, with a figure of 86 for traders and 20 for non-traders. Out of the total 250 families, there are 74 families owns vehicles among the traders, whereas only 38 families owns vehicles among the non-traders. The number of vehicles owns by the traders in Champhai accounts for 0.77 percent of the total vehicles in Mizoram. The total number of vehicles owns by non-traders accounts for 0.21 percent of the state's total.

Table 6.10**No. of Vehicles Owned by Traders and Non-Traders in Saiha, 1997-98**

Types of Vehicle	Traders		Non-Traders		Mizoram	Percentage Vehicles to Total Vehicles	
	No. of Vehicles	No. of Families	No. of Vehicles	No. of Families		Traders	Non-Traders
Heavy Vehicle	7	5	2	2	1137	Neg	Neg
Tempo	12	8	4	4	1813	Neg	Negative
Light	20	11	7	7	9993	Negative	Negative
Two Wheelers	32	13	15	12	14184	Negative	Negative
Total	71	37	28	25	27127	0.26	0.10

Source: surveyed by the author through questionnaires, 1999.

It is seen from table 6.10 that in case of Saiha also, the number of vehicles surpassed the number of families for both traders and non-traders. Like Champhai, in Saiha also the highest vehicles possessed by the families are two-wheelers, with a figure of 32 and 15 vehicles for traders and non-traders respectively. The total number of families who owns vehicles is 37 for trader and 25 for non-traders, which is 37 and 25 percent of the total number of families. The total number of vehicles owned by trader's accounts for 71 and 28 for non-traders, which is 0.26 and 0.10 percent of the total vehicles in Mizoram. It is also evident that the total number of vehicles for traders surpassed the total number of vehicles for non-traders by 16 percent. In all types of vehicles, the figure for traders shows a higher number than that of the non-traders.

The above analysis portrays that traders own more vehicles than that of the non-traders. Not only this, the number of families who can afford to buy vehicles among traders also surpassed the total number of families who can afford vehicles. This clearly reveals that traders were better off in financial aspects than the non-traders. The total number of vehicles owned by traders in both the centres accounts for 1.03 percent of the state's total vehicles. It is therefore, apparent that the trader's living standard is higher than that of the non-traders.

Daily Lifestyle

Man is born with the instinct of giving priority to his food and shelter. But when he earns more and more, he always wanted to improve his standard of living and in course of time he may change his lifestyle. As human wants are unlimited, he always tries to improve his lifestyle by using the best available means he can afford.

Table 6.11
Kitchen Gadgets Owned by Traders and Non-Traders, Champhai and Saiha, 1997-98

Name of Gadgets	Champhai				Saiha			
	Traders		Non-Traders		Traders		Non-Traders	
	No. of Families	%	No. of Families	%	No. of Families	%	No. of Families	%
Fridge	117	46	76	30	54	54	37	37
Washing Machine	186	74	93	37	67	67	52	52
Micro-wave Oven	129	51	97	38	58	58	41	41
Electric Rice Cooker	219	87	105	42	84	84	64	64
Cooking Gas	243	97	221	88	93	93	87	87

Source: Surveyed by the author through questionnaires, 1999.

Table 6.11 clearly shows the income differences of the traders and non-traders in Champhai and Saiha. Man always tries to develop and improve his lifestyle as best possible as he can afford. The table shows kitchen gadgets own by traders surpassed the non-traders of both the centres. In case of traders and non-traders in Champhai, the total number of families who owns at least one of the kitchen gadgets totalled a figure of 894 and 592 families respectively. The cumulative percentage of families to total families accounts for 71 and 47 percent for traders and non-traders in Champhai respectively. The total number of families who owns at least one of the kitchen gadgets accounts for 894 for traders and 592 for non-traders in which the difference accounts for 302 families in Champhai. While in Saiha the corresponding figure is 356 and 297 for traders and non-traders respectively, with a difference of 77 families. The cumulative percentage happens to be 71.2 percent and 56.2 percent for traders and non-traders respectively.

Table 6.12

No. of Families who Owned Luxuriant Items, Champhai and Saiha, 1997-98

Name of Gadgets	Champhai				Saiha			
	Traders		Non-Traders		Traders		Non-Traders	
	No. of Families	%	No. of Families	%	No. of Families	%	No. of Families	%
Television	238	95.2	152	60.8	92	92	69	69
Video Cassette Player	186	74.4	105	42.0	82	82	44	44
Tape Recorder	246	98.4	192	76.8	96	96	68	68
Radio	163	65.2	98	39.2	71	71	72	72
Telephone Connection	95	38.0	22	8.8	48	48	42	42
Gold Ornaments	218	87.2	91	36.4	83	83	73	73

Source: Surveyed by the author through questionnaires, 1999.

The table 6.12 reveals that in case of traders in Champhai, television own by 238 families, which is 95.2 percent. Whereas for non-traders own only tape recorder by 192 families, which is 76.8 percent of the total families. It is also interesting to note that both traders and non-traders in Champhai show the lowest figure for telephone connection. This is because telephone connection is in its initial stage of development. So, majority of the people has not been able to get a connection.

In case of Saiha, shows 96 families own tape recorder and radio 71 families. This may be because with the process of development radio has been outnumbered by television. It is also evident from the table that families who owns at least one luxury items happens to be 472 families for traders and 368 families for non-traders in Saiha. The cumulative percentage accounts for 78.66 percent and 1.33 percent for traders and non-traders respectively. In case of Champhai, total number of families accounts to be 1146 and 660 for traders and non-traders. The cumulative percentage happens to be 764 and 440 percent for traders and non-traders respectively.

From the above analysis, it can be summed up that the figure against non-traders is less than the traders both for Champhai and Saiha. Whereas the percentage for both the two centres nearly corresponds to each other, with 71 percent for traders in Champhai and 71.2 percent for traders in Saiha. While the figure for non-traders, it is seen that Saiha (56.2%) surpassed Champhai with 47 percent.

In regards to luxury items owned, Saiha shows a higher percentage both for traders and non-traders, with 76.4 percent for Champhai traders and 78.66 for Saiha traders, showing 2.26 percentage higher than Champhai. Whereas in case of non-traders, the figure is still higher for Saiha, with 61.33 percent showing a 17.33 percent higher than Champhai. As a whole the figure and percentage for traders in both the centres shows a higher figure than non-traders. It is evident that traders were more or less better off in economic status than the non-traders. Moreover, the traders have advantage over non-traders in the procurement of kitchen gadgets and luxury items because of Myanmar, with which they use to trade.

Literacy

It is always said that education tries to bring out the best in every individual. It also tries to develop mental capabilities of man. So, it is an utmost important to acquire education before pursuing any works. Education moulds a man to work efficiently within a minimum time span. Therefore, educational qualifications or workforce of a particular occupation bears testimony to its efficient running or development. In the present study, educational qualification of workforce for traders and non-traders are given for both the centres. This is because a comparison is needed to have a comprehensive study of literacy in these two centres.

Table 6.13
Educational Qualifications of Traders in Champhai, 1997-98

Age Groups	Number of Persons						%age to Total Persons
	Below HSLC	HSLC	HSSLC	Graduate	Post-Graduate	Total	
Below 30 Yrs	5	670	473	52	6	1201	68.00
30-50	19	245	174	21		437	25.00
50 above	40	39	9	3		48	2.00
Total	64	954	656	76	6		96.01

Source: Surveyed by the author through questionnaires, 1999.

It is seen from table 6.13 that the highest numbers of educated persons are found to be in the age group of below 30 years, which accounts for 68 percent of the total persons. Whereas the lowest educated traders are found in the age group of above 50 years, which accounts for 2 percent of the total persons. Of all the educational qualifications, HSLC accounts for the highest with a figure of 954 persons. It is noted that educational qualifications of HSLC and above are taken as literate. Taking this postulation the literacy rate for traders in Champhai accounts for 96.01 percent. Out of the total 1756 persons, only 64 persons are illiterate, i.e., 5 persons, 19 persons and 40 persons below 30, 30-50 and 50 and above age groups respectively.

Table 6.14**Educational Qualifications of Non-Traders in Champhai, 1997-98**

Age Groups	Number of Persons						%age to Total Persons
	Below HSLC	HSLC	HSSLC	Graduate	Post-Graduate	Total	
Below 30 Yrs	17	499	287	74	26	886	51.18
30-50	34	182	62	43	8	295	17.04
50 above	38	205	155	84	14	458	26.45
Total	89	886	504	201	48	1642	94.85

Source: Surveyed by the author through questionnaires, 1999.

In case of non-traders in Champhai also the highest figure is found in the age group of Below 30 years, which accounts for 51.18 percent of the total persons. Whereas, unlike traders, the lowest figure is found in 30-50 age groups, registering a 17.04 percent of the total persons. Post-graduate qualified persons are 48 in number, which is seven times higher than that of the traders. This is mainly because; non-traders are government servants, for which education qualification is a must. Hence, the total number of educated persons in the age group of above 50 tends to rise higher than the corresponding traders. The literacy rate for non-traders in Champhai is 94.85 percent.

The above tables (6.13 and 6.14) depicts that there are more persons in the age group of below 30 years than in other age groups. Number of traders is 1201 persons and non-traders are 886 persons. This indicates that the working population (i.e., below 30 years) accounts to be the highest in number engaged in border trade. It also

shows that 68 percent of the total trading persons are literate and for non-traders it is 51.18 percent. It is also apparent that at least 1201 educated persons sought employment through the border trade. This could be because of unemployment problem prevalent in the state, and also because of its attractive income through border trade. Whereas in the higher studies, i.e., Post Graduate level among the traders are only 6 persons, while non-traders accounts for 48 persons. This is generally because they usually take up the family business rather than continuing their studies. As a whole, the literacy percentage of traders is still higher than that of the non-traders, because they are financially better off than the non-traders.

Table 6.15
Educational Qualifications of Traders in Saiha, 1997-98

Age Groups	Number of Persons						% age to Total Persons
	Below HSLC	HSLC	HSSLC	Graduate	Post-Graduate	Total	
Below 30 Yrs	15	207	120	41	3	371	52
30-50	36	113	79	6		198	27
50 above	62	24	5			29	4
Total	113	344	204	47	3		83

Source: Surveyed by the author through questionnaires, 1999.

In Saiha the educated workforce for different age groups nearly correspond with Champhai. The high literacy is in the age group of below 30 years, while the lowest is in the age group of 50 and above. The percentage of below 30 years age group accounts for 52, while for 30-50 age group accounts for 27 and above 50 age group it is 4 percent. Out of 711 persons, 113 persons are illiterate, whereas the

remaining 587 persons are literate, showing a literacy percentage of 84.10 for traders in Saiha.

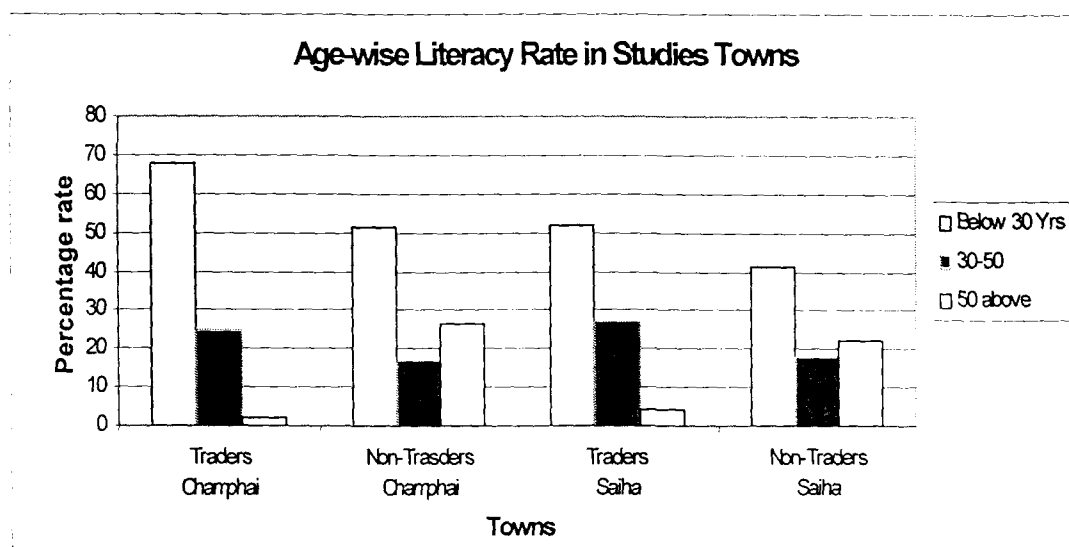
Table 6.16

Educational Qualifications of Non-Traders in Saiha, 1997-98

Age Groups	Number of Persons						% age to Total Persons
	Below HSLC	HSLC	HSSLC	Graduate	Post-Graduate	Total	
Below 30 Yrs	26	193	82	36	12	323	41.30
30-50	58	71	43	21	4	139	17.77
50 above	63	80	56	28	9	173	22.12
Total	147	344	181	85	25	635	81.20

Source: Surveyed by the author through questionnaires, 1999.

FIG. NO. 20



It is observed from table 6.16 that, unlike the traders, the highest age group accounts for below 30 years whereas the lowest accounts for 30-50 age groups. The percentage for below 30 years is 41.30 percent and 30-50 is 17.77 percent. Out of 732 persons, 147 persons are illiterate and 635 are literate which shows 81.20 percent literacy rate (Figure 20).

The literacy percentage for traders' accounts for 84.10 and non-traders are 81.20. The total literate for traders in Saiha accounts for 113 persons and non-traders it is 147 persons. It is seen from the table that educated youth were attracted to border trade. Out of which 41 persons are graduates and 3 persons holding a postgraduate degree. It can be said that the pace of growth of literacy and growth of employment opportunities in Mizoram does not go hand in hand. Therefore, educated youth sought for a supplementary source of employment through border trade, which is evident from the number of educated traders as seen in Saiha and Champhai.

The figure for traders and non-traders both in Champhai and Saiha does not portray a big difference. However, it is remarkable when compared to the respective block literacy rate, which is 89.52 and 79.78 for Khawzawl (Champhai) and Tuipang (Saiha) respectively. From the above analysis it can be said that border trade has affected the literacy percentage in the both centres.

Concluding Remarks

To conclude, it can be said that the border trade to a certain extent brought social changes in Mizoram. The pattern of population distribution and density also bears testimony to the impact of border trade. It is observed that because of border trade, which resulted in high density of population in the transit centres as well as in the blocks where these two transit centres are located. The distributional pattern of population does not correspond to the population potential surface, as per the potential theory population decreases from the centre of attraction which is the geometrical centre of a region. But in case of Mizoram, Khawzawl and Tuipang block, even though it is situated far off from the centre of attraction it accounts for the highest population density blocks in Mizoram, which is because of its attraction due to surplus items coming from Myanmar. Besides this, border trade has its impact also on the process of urbanisation. Because of the surplus items either from Myanmar or the mainland, which destined into Champhai, Saiha and Aizawl, brought the pace of growth of urbanisation relatively faster.

It is also seen that border trade has raised the standard of living. The total incomes of traders are higher than that of the non-traders. As such, traders have greater financial capabilities than the non-traders. Hence, it resulted in the higher standard of living in case of the traders.

Chapter VII

CONCLUSION

The present study is an attempt to probe into the impact of Mizo-Myanmar trade on the socio-economic life in Mizoram. The border trade between Mizoram and Myanmar has its beginnings before the advent of the British in 1881. Since then, it developed and flourished during the British period. But it was put to an end with the Indian Independence in 1947.

In the traditional Mizo society, each and every village was self sufficient with the jhum system of agriculture. But after the Indian Independence the economy of Mizos registered a sharp decline, which ultimately ushered them into a dependant economy. Coupled with this, the government of Assam has not taken any steps to improve or develop the socio-economic conditions of Mizoram. When Mizoram was upgraded to the status of Union Territory, initiative was taken to improve the economy, but the insurgency within the region retarded the process. With the signing of Peace Accord, 1986, between the MNF and the Indian Government the trouble have been cleared of. But still, self-sufficiency could not be achieved till date. In fact, Mizoram needs feeding from outside. Obviously, commodities are coming from the mainland but there are instances when the supplies of these commodities are deteriorated by various factors. In order to overcome the supply difficulties from the

mainland, an alternative was sought through trade relations with Myanmar. Through the process of this research work, the nature of border trade in Mizoram, its causes and impact on various activities of life have been identified. Following are some of the important findings –

The research work has been divided into seven chapters, the first chapter deals with the general introductory, objectives of the study, data base, review of literature, statement of the problem, methodology, salient features of the study area and chapter scheme.

The second chapter highlights the physical settings like geology, topography, climate, drainage, soil and vegetation. Analysis in this chapter shows that Mizoram is a hilly region, having rugged topography with deep gorges and narrow valleys. The hills are running in a North-South direction in parallel ranges. The influence of the North-South trending mountain ranges can be observed in the drainage pattern, which is generally flowing towards north or south. As the region is situated within the tropical belts, most of the vegetation is found to be that of tropical type.

Mizoram is richly bestowed with forest resources but these resources have not been properly utilised. In spite of the rich bamboo resources, there is not a single industrial unit of bamboo processing in the state, while raw bamboos are transported

to the neighbouring states. Again, there is no lumbering unit in the entire state; while valuable species of trees are grown abundantly.

Chapter three focuses on the general socio-economic conditions of Mizoram. It takes into account the agriculture, demographic structure like occupational structure, workforce, education, power and electricity, communication, etc.

Mizoram is basically an agricultural state with more than 60 percent of the population engaged in this sector. In Mizoram, the traditional shifting cultivation is still prevalent, which is mainly because of the inhospitable and difficult terrain. The cropping pattern is mono crop, and entirely dependant on the monsoon rain. At present, the local agricultural products could substantiate about 49 percent of the state's requirements, while as many as 84 percent of the workforce were engaged in agriculture and related activities.

Transport and communication is one of the most important factors for socio-economic development of a region, especially for Mizoram because she solely depends on the road transport in regard to communication. The only road link between Mizoram and mainland is the National Highway 54, connecting Silchar and Aizawl. The state highway linked some important towns with a total length of 545 Kms. Rail head have been extended till Bairabi with a total length of 1.26 Kms. within Mizoram, which was open up in 1991.

In spite of good prospects in regard to development of hydroelectric power, only 13.38 megawatt has been generated through hydro projects. Another 21.07 megawatt have been generated with the help of diesel generators, and the total power installations in Mizoram is 34.45 Megawatt covering more than 75 percent of the total villages.

Mizoram is one of the most backward states of the Indian Union in regards to industry. It is also defined as Non-Industries District under category 'A'. All the so-called industries is of small scale and cottage industries. As on 1990, the number of registered small-scale industries in the region accounts for 1836 units. The pace of industrial development is retarded by various factors such as poor infrastructure, lack of financial assistance, lack of skilled human resources, lack of technical know-how etc.

Unlike other states of the Indian Union, Mizoram is a single religion and single language dominant state. About 92 percent of the total population of Mizoram are Christians and 76 percent of the total population speaks Mizo. The scheduled tribe population in the state accounts for 94 percent of the total population.

Growth rate of population registered a sharp rise during the last two decades with 39.69 percent. In regards to literacy, Mizoram stood above the national figure and is second only to Kerala.

The fourth chapter throws light on the evolution of the Mizo-Myanmar border trade, tracing the evolution and development of the trade through time. It also takes into account the affinities shared by the neighbouring countries in regard to ethnic and culture.

The trade between Mizoram and Myanmar is older than one-and-a-half century. Before Mizoram and Myanmar became a separate entity, the trade have been carried on, but during this time the trade was carried on a barter system. Transaction of cash was introduced only after the advent of the British.

The demarcation of Mizoram boundary have hurt the sentiments of the Mizos till today, because the area occupied by Mizo people, which account for 60,000 sq. metres was separated to different states of India, Burma and Bangladesh. This is mainly because the state Reorganisation Committee did not observe the base of reorganisation as language.

During the British period, the economy of Mizo Hills, remain static and primitive. The British did little or nothing for the upliftment of the socio-economic conditions of the people. The Mizos did not opt for an Independent polity only because of the economic constraints under the British rule.

After the Indian Independence, the Mizos have high hope of economic development by joining India through the province of Assam. But their hopes have not been materialised, because development programmes could not be concretised due to lack of trained personnel who would like to go into the interiors. Whatever be the cause of the non-implementation of the programmes, this infuriated the Mizos. This is coupled with the onset of the 'Mautam' famine in 1959. The Assam Government did not take any precautionary actions to the contentment of the Mizos. This was the turning point of the Mizos that they started thinking to secede from the country. This, in turn, led the Mizos to patronise their relations with the neighbouring countries.

The Mizos felt separated by their culture and traditions with the Indians. Ethnically, they were even closer to the east and Southeast Asian people rather than the Indians. They felt a strong urge to safeguard their ethnic-cultural identity because they have learnt a lesson from the neighbouring states. This fear of assimilation was so strong that they even think the process of development and any ties with the mainland could be harmful to their ethnic-cultural identity. Therefore, they tried to have as little ties with the Indians or the mainland.

The Mizo people were known by the British and their neighbours by different names, such as Lushai, Kuki, Chin, Khyang, etc. All these tribes were Assa-Burma group that had branched off from the main Tibeto-Burman group of the main Tibeto-

Chinese race. Therefore, tribes like Mizo, Kuki, Chin, Khyang, Khumi, Hmar, Masho, Paite, Pawi, etc. were only sub-tribes of the main Zo tribes.

In regards to languages Mizos have close affinities with that of the tribes in the neighbouring states and countries. According to Grierson, the Mizo language falls under the Kuki-Chin group of the main Tibeto-Burman family. The Mizos, Paite, Hmar, Kuki, etc. happens to be a different dialect under the Mizo language.

The one who speaks Mizo can understand other dialects too or vice-versa. Prof. Gordon Luce analysed 700 words of Zo dialect common to at least three Zo dialects. According to this analysis, there are 230 words common in all dialects of the Zo people. Therefore, in regards to language, Mizos, Chin, Kuki, Kyong, Paite, etc. speaks the same language. Hence, they belonged to one ethnic group.

The Welsh Presbyterian and English London Baptist Missionaries introduced Christianity in Mizoram in the year 1894. Within five decades, the Mizos have totally transformed themselves into Christianity. The missionaries taught the Mizos not only Christianity, they also taught their culture, brainwashed them to worship the white man. The Mizos not only transformed themselves to Christianity, they also transformed themselves into the western culture. This acculturation has led the masses to worship the white man, and even their belongings or everything that is of foreign origin.

The trade items during the British period were blankets, bee wax, war weapons, salt, rice, lac, etc. from the Chin Hills to Lushai Hills. Whereas items like cane mat, wild rubber, horn of buffalo, tusk of rhinoceros, etc. from Lushai Hills to Chin Hills.

Today, items of trade from Myanmar came to Mizoram through Champhai and Saiha route. Principle items coming through these two centres can be categorised into seven groups such as –

- (i) Electronics
- (ii) Synthetic Fibres
- (iii) Betel nut
- (iv) Household utensils
- (v) Meat
- (vi) Vegetables, and
- (vii) Other miscellaneous items.

The total value that entered Mizoram through these two centres/routes are estimated for worth Rs. 271,447,726 during 1997-98. Of all the seasons, in July-August season, the highest value entered Mizoram, accounting for 22.27 percent of the total items during 1997-98.

Chapter five depicts the impact of Mizo-Myanmar border trade on the economic aspects of Mizoram. In this author studied the morphology of market in Mizoram including its distribution; spatial processes, sphere of influence, hierarchy, income of families, and the contribution of border trade in the economy of Mizoram.

Economic progress and market development are interrelated phenomena. A progress in economic conditions resulted in the development of market, its distribution and pricing, etc. The existence of more market centres or their clustering pattern shows the availability of larger quantity of marketable surplus and vice-versa.

There are 36 market centres in Mizoram. They all correspond to the headquarters of the administrative units. At present one market centre serves 19.41 numbers of settlements in Mizoram.

Application of Nearest Neighbours Analysis reveals that Mizoram shows an approaching random pattern with R_n value of 0.84. This indicates that there are some settlements, which are not served by market centres. Of all the R.D. Blocks, Serchhip Block accounts to be the most developed with an approaching cluster pattern.

It is observed that the block through which commodities entered accommodates more market centres. Khawzawl Block, the trade route of Mizo-

Myanmar trade, accommodates three market centres and Tuipang trade route of Myanmar also accommodates two market centres.

Surplus trade items moving out of Champhai route is estimated for worth Rs. 194,844,186 and from Saiha it is estimated for worth Rs. 326,23,787 to other parts of Mizoram. Items like Betel nut moving out of Champhai, accounts for highest in value, with 52 percent of the total betel nut procurement from Myanmar compared to other items that comes from Myanmar.

The sphere of 36 market centres has been drawn taking population as the base for gravity. According to this, there are 4 first order, 9 second order and 23 third order market centres available in Mizoram. The first order market centres are Aizawl, Lunglei, Champhai and Saiha. All other centres draw their facilities from these four first order centres. Of these four centres, two market centres, viz., Champhai and Saiha draws their trade facilities from Myanmar. Whereas the other two centres, Lunglei and Aizawl draws their facilities from the mainland.

According to the hierarchical analysis of the markets Aizawl is rated the first order, Lunglei, Champhai and Saiha are rated as second order. The third order market centres are Bairabi, Kolasib, Zawlunuan, Mamit, Khawzawl, Serchhip, Tlabung and Hnahthial. The hierarchical analysis reveals that the existing hierarchical classes of central places in Mizoram are tied up with 'marketing norms' as $K=3$.

The application of rank Size Rule shows that in the second and third order centres, the functional facilities were very weak, which is apparent from the concavity of the distribution. The deviation of the actual distribution from the theoretical population decay is very wide, which shows that in the middle and lower centres, functional facilities have to be strengthened in order to have a balanced growth.

The income of traders and non-traders has been divided into five monthly income groups – Rs below.6000, Rs.6000-7000, Rs.7000-8000, Rs.8000-9000 and Rs. above 9000. Among all Rs.7000-8000 income groups shows highest number of families, i.e., 97families, which is 27.14 percent of the total traders for Champhai and Saiha too shows the same trend as Champhai.

The highest income group shows lowest in number. In this income group there are only 12 percent of the total families of both the centres. But it accounts for 40 percent of the value of items that comes from Myanmar.

The per capita income for the state as a whole is Rs. 5941 in 1991-92, whereas it has increased to Rs. 9570 in 1997-98. On the other hand, the total income for traders in Champhai accounts for Rs. 238,15,364 and for Saiha, it is Rs. 88,08,422, where the per capita income accounts for Rs. 13562 and Rs. 12388 for Champhai and Saiha respectively.

The total state's income for 1997-98 is Rs. 660,09,64,920, where the per capita income is Rs. 9570. The total income of traders in Champhai accounts for 0.36 percent of the total state's income. The total income of traders in Saiha accounts for 0.13 percent of the state's total income.

The total value of 4.11 percent items coming from Myanmar of the total state's income percentage, which it gives livelihood to 6.51 percent of the total population of Mizoram. Of the total families as many as 98536 (9 percent) in Mizoram engage themselves or earn their livelihood through the Mizo-Myanmar border trade.

Chapter six portrays the social impact of Mizo-Myanmar border trade in Mizoram. The chapter deals the population distribution, the process of urbanisation, standard of living, lifestyle of the traders and literacy.

Border trade between Mizoram Myanmar is to a certain extent, the impact of British rule in Mizoram and of the missionaries. The British used the missionaries to propagate their aims and objectives, which is to suppress the Mizos by transforming them into Christianity as well as their culture. The British have succeeded in their endeavour, and within a short period the Mizos have transformed themselves into Christianity and they gave up their age-old traditions and cultures. With this, the Mizo psyche has totally changed, they are now pro-western cultured, and they craze for

anything what is foreign and foreigners. They usually choose the foreign commodities rather than the indigenous made, no matter of the quality.

Application of potential model reveals that a maximum number of people are within reach of the places around Aizawl situated in the north central part of the region. The population potential ranges between 77 per kilometres in Tuipang Block to 460 per kilometres in Tlangnuam.

The actual density and expected density nearly corresponds to each other with the exception of Zawlnuam, Khawzawl, Tuipang, N. Thingdawl and Tlangnuam Blocks, where the actual density is higher than the expected density. This is because trading items coming from outside Mizoram influences all the four blocks except Zawlnuam.

Urbanisations in Mizoram have its beginnings since 1951 with a total population of 6950, which were concentrated in Aizawl town. In 1971, the number of urban centres increased to two, Aizawl and Lunglei with a total population of 37759. During 1971-81, it registered a rapid progress with 222.61 percent growth rate, with a total population of 121814 persons, which is distributed among 6 towns. In 1991, the total urban population accounts for 317040, which accounts for 46.20 percent of the total population.

The urban centres, which have existed in 1981, were – Aizawl, Lunglei, Champhai, Kolasib, Saiha and Serchhip. In 1981, Champhai registered a highest growth rate with 177.93 percent, followed by Aizawl with 108.39 percent. Saiha accounts for the fourth in regards to growth rate, which shows 93.57 percent.

In the present research a total number of 250 families for traders and 250 families for non-traders have been undertaken. In Saiha, a total number of 100 families for traders and 100 families for non-traders have been undertaken. The total number of persons for Champhai is 1756 and 1731 for traders and non-traders respectively. While, in Saiha, the number of persons accounts for 711 and 782 for traders and non-traders respectively.

In regards to standard of living and daily lifestyle, the conditions of traders in both the centres shows a higher standard than that of the non-traders. Whether it is in terms of vehicles owned or houses owned or luxury items owned, the traders have surpassed the non-traders number.

The last chapter deals with the summary of the thesis and major findings impinged by the border trade.

From the present research, the socio-economic impact of Mizo-Myanmar border trade have been observed as follows –

The R.D. blocks which acts as trade routes with the neighbouring countries or from the mainland have high concentration of population. This is because trade items coming from outside Mizoram attract traders from the surrounding markets for convenient. It is also apparent that R.D. Blocks, which acts as a route for trading items from outside Mizoram accommodates more market centres.

The study revealed that market centres having an inlet facilities from outside the state attracts more people than other markets. Therefore, the sphere of influence for these market centres shows larger radius of sphere of influence.

The hierarchical pattern shows that the first and second orders, the R.D. blocks, having market facilities were Aizawl, Champhai and Saiha. Because trade items that available in these centres attracts people from the surrounding settlements. The increased population in a town demands more social amenities and facilities thus Government or NGO's, accelerated amenities and facilities in the market/town. Therefore, towns/markets like Aizawl, Champhai and Saiha placed in the first two classes of the hierarchy.

The border trade supplements the economy of Mizoram. It is observed that the per capita income of traders both in Champhai and Saiha is higher than the state's per capita income. It is also apparent that the per capita income of traders in the two centres is higher than that of the non-traders in the respective centres. Had there been

no border trade in Mizoram, the per capita income of the state would have decreased to Rs. 9196 from Rs. 9570 in 1997-98, which is 4.11 percent of the total state's income.

The research also portrays that the total number of persons engaged in border trade are 6.51 percent of the total population of Mizoram in 1991. The total items coming from Myanmar accounts for 4.11 percent of the total state's income in 1997-98. The study reveals at least 9 percent of the total families of Mizoram earn their livelihood through the border trade.

The social impact of the trans-border trade can be summed up as –

The population distributional pattern of Mizoram does not correspond with the population potential model, where population decreases on the edge of a region and is highest in the centre. But in Khawzawl and Tuipang blocks, which are situated on the edge, account to have a higher population than the block situated near the centre, because they were bestowed with trade items coming from Myanmar.

It is observed that trade items entering through Champhai and Saiha route create a strong pull factor of the population growth in these blocks. This is evident from the fact that Champhai shows the highest in growth of population during 1981-91 and Champhai placed in the fourth after Aizawl, Lunglei and Kolasib.

In regards to standard of living, traders in Champhai and Saiha registered a higher living standard than the non-trading families in both the centres. This is simply because the per capita income of traders are higher than the non-traders. So, naturally, it can be inferred that the total income of individual trader is higher than that of the individual non-trader. So they are financially better off than the non-traders.

To conclude, Mizo-Myanmar border trade is a booster to the economy of Mizoram, leaving its impact on various aspects of economic and social life in Mizoram. In near future the provision relating to border trade in Mizoram, enshrined in the Memorandum of Settlement, 1986, will be put into action. However, it should be noted that in the Mizo-Myanmar border trade a third party of a country is involved. As such, when the border trade is materialised as per the Peace Accord, many of the items that entered Mizoram today will not be included in the trade list. So, it is still controversial as to whether having a trade ties officially with Myanmar will be profitable than what it is today, because till today, Mizoram could not respond her counterpart in a reciprocal basis, which time will tell.

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APPENDIX – A

CLACULATION OF RANK SIZE RULE, MIZORAM

Towns	Population	log r (X)	log Pr (Y)	Log r - log r X-X	log Pr - log Pr Y-Y	Log r - log r ² (X-X) ²	(X-X) (Y-Y)
Aizawl	155240	0	5.191	-1.154	1.658	1.331	-1.913
Lunglei	35599	0.301	4.551	-0.853	1.018	0.728	-0.868
Champhai	20809	0.477	4.318	-0.677	0.785	0.458	-0.531
Serchhip	13688	0.602	4.136	-0.552	0.603	0.305	-0.333
Saiha	13669	0.698	4.135	-0.456	0.602	0.208	-0.274
Kolasib	13482	0.778	4.129	-0.376	0.596	0.141	-0.224
Lawngtlai	9514	0.845	3.978	-0.309	0.445	0.095	-0.137
Saitual	5402	0.903	3.924	-0.251	0.391	0.063	-0.098
Khawzawl	7104	0.951	3.851	-0.203	0.318	0.041	-0.064
Vairengte	5607	1.000	3.748	-0.154	0.251	0.024	-0.038
Hnahthial	5548	1.041	3.744	-0.113	0.211	0.013	-0.024
Kawnpui	5290	1.074	3.723	-0.075	0.190	0.0056	-0.014
Thenzawl	4502	1.113	3.653	-0.041	0.120	0.0017	-0.004
Thingsulthliah	3692	1.146	3.567	-0.008	0.034	0.000064	-0.0002
Darlawn	3609	1.176	3.557	0.022	0.024	0.00048	0.0005
Mamit	3546	1.204	3.549	0.050	0.016	0.0025	0.0008
Sairang	3527	1.230	3.547	0.076	0.014	0.0058	0.001
Zawlnuam	3455	1.255	3.538	0.101	0.005	0.010	0.0005
Tlabung	3409	1.278	3.532	0.124	0.001	0.015	0.0001
W. Phaileng	3059	1.301	3.485	0.147	-0.048	0.021	-0.007
N. Vanlaiphai	2804	1.322	3.447	0.168	-0.086	0.028	-0.014
Ngopa	2590	1.342	3.413	0.188	-0.120	0.035	-0.022
E. Lungdar	2470	1.361	3.392	0.207	-0.141	0.042	-0.029
Sangau	2428	1.380	3.385	0.226	-0.148	0.051	-0.033
Bairabi	2421	1.397	3.383	0.243	-0.150	0.059	-0.036
Tuipang	2379	1.414	3.376	0.260	-0.157	0.068	-0.040
Biate	2325	1.431	3.366	0.277	-0.167	0.077	-0.046
Lungsen	2186	1.447	3.339	0.293	-0.194	0.086	-0.056
Tlangnuam	2179	1.462	3.338	0.308	-0.195	0.095	-0.060
Khawhai	2102	1.477	3.322	0.323	-0.211	0.104	-0.068
Lengpui	1808	1.491	3.257	0.337	-0.276	0.114	-0.093
Thingdawl	1390	1.505	3.143	0.351	-0.390	0.123	-0.137
Aibawk	1246	1.518	3.095	0.364	-0.438	0.132	-0.159
Reiek	1241	1.531	3.093	0.377	-0.440	0.142	-0.166
Chawngte	1022	1.544	3.009	0.390	-0.524	0.152	-0.204
W. Bungmun	983	1.556	2.992	0.402	-0.541	0.162	-0.217
		41.556	127.206			4.939	-5.467

APPENDIX – B

Name :
 1. (a) Name of Village :
 (b) Origins :
 (c) Occupation :

2. Socio-economic Structure :

Sl. No.	Name	Relationship with head of Family	Age	Sex	Educational Qualification	Monthly Income

3. Items/Commodities of Trade

Sl. No.	Items	Items in Percentage	
		Indian	Foreign
1	Betelnut		
2	Synthetic Fabrics		
3	Household Utensils		
4	Meat		
5	Electronics		
6	Vegetables		
7	Others		

4. Value Betelnut of In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

5. Value of Synthetic Fabrics In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

6. Value of Household Utensils In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

7. Value of Electronics In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

8. Value of Vegetables In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

9. Value of Meat In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

10. Value of 'Others' In-coming and Out-going Items from Champhai/Saiha Market.

Sl. No.	Direction	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug	Sept-Oct	Nov-Dec
1	In-coming						
2	Out-going						

11. Vehicles Owned

Type	Heavy	Tempo	Light	Two Wheeler
No.				

12. Number and Type of House Owned

Type	R.C.C	Assam Type	Others
No.			

13. Number and Types of Luxuriants Owned

Type	Telephone	Gold Ornaments	Tape Recorder	Radio	V.C.P.
No.					

14. Number and Type of Gadgets Owned

Type	Fridge	Washing Machine	Electric Rice Cooker	Microwave Oven	Cooking Gas
No.					

PENDIX – C
MEASUREMENT OF DISTANCE (in Kms.)

	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20
D1	5	12	57	57	12	10	25	51	95	85	120	135	165	115	80	70	45	40	57	57
D2	12	10	45	45	17	25	37	60	95	82	120	132	160	110	75	62	40	37	65	67
D3	57	45	15	42	52	67	82	72	52	70	110	77	137	47	57	27	40	67	97	110
D4	55	42	42	22	60	62	82	100	127	110	150	157	182	130	100	72	72	45	65	92
D5	12	17	52	60	7	17	30	45	80	70	105	120	152	100	67	60	32	52	70	61
D6	10	25	67	62	17	5	15	50	90	82	115	132	162	115	80	75	47	52	62	52
D7	25	37	82	82	30	15	7	55	45	90	120	140	172	125	92	90	60	62	65	45
D8	57	60	72	100	45	50	55	15	40	37	65	85	117	72	45	67	32	100	115	105
D9	95	95	52	127	80	90	95	40	12	22	25	47	80	47	50	70	57	135	152	140
D10	85	82	70	110	70	82	90	37	22	7	42	52	82	35	15	45	40	192	142	135
D11	120	120	110	150	105	115	120	65	25	42	7	27	60	45	55	85	80	160	177	165
D12	135	132	77	157	120	132	140	85	47	52	27	20	32	32	60	87	92	172	192	185
D13	165	160	137	182	152	162	172	117	80	82	60	32	20	52	85	110	120	200	222	217
D14	115	110	47	130	100	115	125	72	47	35	45	32	52	15	35	57	70	147	172	167
D15	80	75	57	100	67	80	92	45	40	15	55	60	85	35	7	30	37	112	137	135
D16	70	62	27	72	60	75	90	67	70	45	85	87	110	57	30	15	32	95	120	127
D17	45	40	40	72	32	47	60	32	57	40	80	92	120	70	37	32	17	80	102	100
D18	40	37	67	45	52	52	62	100	135	192	160	172	200	147	112	95	80	7	30	60
D19	57	65	97	65	70	62	65	115	152	142	177	192	222	172	137	120	102	30	22	40
D20	37	67	110	92	61	52	45	105	140	135	165	185	217	167	135	127	100	60	40	20

POPULATION DISTANCE RATIO (P/d) IN HUNDREDS

	Pop	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	D20
D1	1706	34133	13653	2968	2994	13653	17066	6826	2968	1796	2007	1422	1264	1034	1484	2133	2438	3792	4266	2994	2994
D2	270	2167	2709	602	602	1548	1083	722	451	285	328	225	204	164	246	361	433	677	722	416	401
D3	501	872	1115	3346	1180	956	743	608	692	956	717	456	647	365	1056	872	1825	1254	743	514	450
D4	233	424	549	549	1037	389	373	282	233	183	212	155	148	127	179	233	322	322	518	359	252
D5	144	1155	825	275	240	1925	825	481	320	180	206	137	120	94	144	213	240	444	275	206	234
D6	121	1212	485	179	194	693	2425	808	242	134	147	105	91	74	105	151	161	255	231	194	231
D7	215	863	575	261	261	719	1439	2878	392	227	239	179	154	125	172	233	239	389	345	332	479
D8	155	270	259	214	155	345	310	282	1036	388	414	239	182	132	214	345	230	478	155	135	148
D9	264	278	278	504	207	331	294	278	662	2119	1177	1059	557	331	557	662	378	460	196	173	189
D10	484	570	587	692	440	692	587	538	1293	2155	6465	1141	923	597	1385	3232	1077	1212	252	340	359
D11	148	207	207	226	165	236	216	207	382	994	585	3316	904	414	552	452	292	310	155	140	150
D12	193	217	221	378	186	244	221	209	345	617	558	1066	1303	902	902	488	335	317	170	152	158
D13	349	211	218	254	191	229	214	202	297	436	423	582	1074	1746	665	410	317	291	174	156	160
D14	107	181	189	439	160	208	181	167	287	439	596	463	642	397	1391	596	363	298	141	121	124
D15	208	260	278	363	208	309	260	225	463	521	1391	379	347	245	596	2783	695	556	185	151	754
D16	323	462	517	1176	446	539	431	359	479	462	718	380	369	294	562	1078	2156	995	340	269	253
D17	299	667	749	749	413	922	631	499	922	521	749	374	324	249	428	799	922	1713	374	292	299
D18	209	524	559	310	466	399	399	335	209	755	109	131	121	104	142	186	220	262	2797	699	349
D19	448	786	689	459	689	640	717	689	389	293	314	252	232	201	259	326	373	437	1494	1992	1120
D20	308	541	457	280	333	501	587	685	293	220	228	186	66	141	184	228	241	308	514	771	1542

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