THE STRATEGY FOR INTEGRATED DEVELOPMENT

A Case Study of Manipur Valley

by

KANGUJAM MANGI SINGH

Dissertation submitted in partial fulfilment
of the requirements of the Degree of

MASTER OF PHILOSOPHY

Centre for the Study of Regional Development
School of Social Sciences
Jawaharlal Nehru University

NEW DELHI

1978

CENTRE FOR THE STUDY OF REGIONAL DEVELOPMENT

School of Social Sciences

Jawaharlal Nehru University

30 December 1978

We certify that the dissertation entitled THE STRATEGY FOR INTEGRATED DEVELOPMENT - A CASE STUDY OF MANIPUR VALLEY submitted by Shri KANGUJAM MANGI SINGH in partial fulfilment for the Degree of Philosophy (M.Phil) of the University is a bona fide work to the best of our knowledge and may be placed before examiners for their consideration.

Moonis Raza 5.1.79

(Prof. Moonis Raza)
Chairman

L.S.Bhat

(Prof. L.S.Bhat)
Supervisor

ACKNOWLEDGEMENTS

I express my deep sense of gratitude to Prof. L.S.Bhat for suggesting the topic and guiding me in coming out the final shape of this work. Without his help this type of study could not be completed, particularly for the State like Manipur where few literature is available besides facing the constraint of data.

I am also greatly indebted to Prof. Moonis Raza, Chairman of the Centre for giving valuable suggestions, criticisms and allowing me to use all the necessary facilities available in the University. I am indebted to my brother Shri Kangujam Indrajit Singh, who has not only supported finance during the period of my study but also supplied necessary data from time to time.

My thanks are also extended to the library staff of the Jawaharlal Nehru University, the School of Planning and Architecture and the Indian Statistical Institute for allowing me to use their valuable library facilities. Lastly, I express my indebtedness to all my colleagueswho have helped me in connection with this work.

K. Mangi Singh

KANGUJAM MANGI SINGH

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CHAPTER ONE

I N T R O D U C T I O N

Though the process of National Economic Development has brought about significant changes in the structure and overall economic development of India, the benefits of planning have not percolated down to the people living in different parts of the country under varied conditions of environment, resources, endowments and socio-cultural background. Some states like Punjab, Gujarat, Tamil Nadu etc. are at the top level of economic development whereas the states of Bihar, Orissa, Assam, Nagaland, Manipur, Tripura etc., are at the bottom of the scale. Within the country, states or districts, there is always a large gap of inter-state or intra state or intra-district economic disparity. The Planning Commission in its Fourth Five Year Plan has rightly pointed out that "certain sections in the country are developing at the cost of others and that certain section of the population, who already have some resources are prospering, while an overwhelming proportion of the population has generally remained outside the mainstream of economic progress".[1] For correcting these imbalances the Commission emphasised the need for district level planning so that the fruits of the State and national level planning may filter

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1. Sen, S. K. (1971), Planning Rural Growth Centres for Integrated Area Development - A case Study of Miryalguda Taluka, NICD, Hyderabad. P.3.

down to the lowest strata of the society. This necessitates the starting of developmental planning from the grass root where the problems of each village community can be taken into consideration. It is time to bring the rural areas which have been neglected for a long time, into the mainstream of the general economic growth.

Over the years even though agriculture and industries have been given importance, planning the benefits of industrial development have gone mainly to a few urban centres. The process of industrialisation in India is marked by influx of population from the rural areas on the one hand and urbanisation on the other. Integrated development of agriculture, industry and urbanisation is lacking.

The integrated area development strategy implies functional and spatial integration and aims at appropriate location of social and economic services over the physical space for the balanced development of the region. Here the idea of appropriate location is by definition selective. This is because each and every village cannot have all the essential functions. On the bais of the functions of different orders and specialisation, and area served by a settlement, the location theorists have already developed what is called a hierarchy of settlements. All functions of different orders, therefore need to be located in the most

appropriate places. Higher order settlements have their own hinterlands which include those of the lower settlements. The location of specific functions in a specific place will serve not only for the centre but also for its dependent territory. With the enlargement of economic and social activities, dependence of one settlement on the other increases and the settlements becomes an integral part of a system which can be designated as region. An understanding of functional relationship in space is essential for the formulation of a plan for regional development, particularly when new activities and functions are proposed to be located in the context of regional development.

The lowest level of planning has to be village but each village is not a viable unit to sustain each and every type of function if the village does not have the required population threshold. In such a case, villages can be grouped to make the requisite population threshold and after that the particular function can be located at a place which has the least distance. While deciding the location of social and economic services over space, many factors are taken into account, some of which are the level of general

development in the area with particular reference to consumption and income, demand and supply functions, distance and accessibility of those functions and necessary infrastructure, time and cost to procure such services and functions, attitude and preferences of the people, social structure of the people, leadership and institutions.

Selectivity enters in the process of location of functions and services at appropriate places. There exist a hierarchy of settlements based upon the number of functions performed by a settlement, type of functions, their level and specialisation and the area and population served by each settlement. As the order of functions rises, the hinterlands are enlarged. The linkages between the centre and its hinterlands determine the interaction and may need rebuilding, alteration and strengthening with changes in time, behaviour and values of life. The Central place theory seems to be ideal for delineation of viable system within the framework of a hierarchy and provide an important tool of regional analysis and planning.

The hierarchy of settlement is closely associated with the hierarchy of central functions which can be determined by considering individual centralfunctions seperately

and by distinguishing their component parts. A central functions is composed of many sub-functions and thus within a certain function, it is possible to identify different levels at which it is being performed e.g., education facilities may be available at the primary school level, high school level, college level and at the University level. Thus, it is quite possible to consturct a scale of functional hierarchy for all the functions considered. This scale of functional hierarchy can be interpreted in terms of relative importance. For example, high school is relatively important than the primary and middle school and similarly college is of the higher order than the high school. Thus, the quality of fujctions performed differs from place to place and it is this variability of the level of function which determine the centrality of settlements. The number of functions performed by a settlement determines the degree of centrality. A settlement performing a large number of functions will be of more important than a settlement with less number of the functions. Again even if the settlements are performing equal number of functions, there will be qualitative difference. Here the settlement having a set of higher order function will be more important than the settlement having the similar number of functions of the lower order.

Thus, the level of functional hierarchy is important in determining the centrality of hierarchy. As all the settlements are performing number of functions at different levels, the centrality of settlements can be determined by measuring the level and number of functions performed.

All the settlements of regions are not in the same level of social, economic and technological development. It is these differences which explains the differences in the levels and number of central functions. Central functions are, therefore, un-ubiquitous in nature and available only in a few settlements. Their availability in appropriate places helps in creating a hinterland or a chain reaction of development with far reaching effects and thereby increasing the realative importance of that place.

Thus in integrated planning at the district and lower levels, each settlement with its attributes becomes the unit of analysis and the concept of regional development implies that there is certain spatial regularity in the development process even though it may be distorted from the ideal pattern envisaged in the theoritical models of settlement hierarchy of Von Thunen, Christaller and Losch.

1.1. Studies in Integrated Rural Development and Related Fields - A Survey.

The Central place theory[2] dealing with settlement hierarchy has been widely used in countries like England, Denmark, Israel, Canada, France, Poland and Ghana for regional planning.[3] In England the development of metropolitan region, provision of shopping and other social facilities and the reorganisation of local government boundaries have been greatly influenced by such studies. In Denmark two-tier hierarchies have been used to serve the settlements with marketing facilities. In Israel, provision of social facilities are made on the basis of three-tier hierarchy of settlements in the Lachish region. In Canada, central place theory is used in identifying the inter-dependencies amongst places of different hierarchical order and proposals for investing such central functions as health, education and municipal government. In Ghana, efforts have been made to identify the role of towns as service centre of their importance in regional planning.

Application of central place and growth pole theory in India is of relatively recent origin. During the Fourth Five-Year Plan a pilot project on Growth Centres was conducted by the Ministry of Food and Agriculture in collaboration with the

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2. Christaller, W. (1966), The Central Places in Southern Germany. Prentice Hall, New Jersey.

3. Wanmali S. (1970), Regional Planning of Social Facilities. NICD, Hyderabad.

Ford Foundation.[4] The objective of the study was to identify potential growth centres so that the process of development is sustained and accelerated through the common interest and energetic support of the people. The experiences of growth centre studies in countries like Bulgaria, Poland, France, West Germany etc. have proved that growth centre policy takes advantage of concentration and outward propagation of development. Increase in agricultural production requires not only availability of agricultural inputs but also far more developed economic, social and physical infrastructure. In most of the villages, certain elements of infrastructure, agro-industries, motorable roads and vehicles, railheads, cooperative and credit institutions, schools, health centres and other activities are lacking. These are needed for providing alternative employment opportunities for the rural landless peoples. Growth Centre must be developed to retain educated young people and attract professional and service people to meet their demand.

Studies in the identification of growth centres and central places were conducted in 20 selected districts in the country as a part of this project. The Council for Social Development had selected two blocks - Samala block in Ludhiana district of Punjab and Shadnagar block in Mehboob Nagar district of Andhra Pradesh for pilot project studies. The main objective of the study was to provide social facilities in the rural areas through the hierarchical systems. The study used various socio-economic variables such as economic, communication, education,

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4. The Ford Foundation and the Council for Social Development, (1969), Preliminary Reports, Pilot Projects for Integrated Area Development. Ministry of Food, Agriculture, Community Development, New Delhi.

health, political, religious and recreation for the location of central places. Social facilities have to be provided in such central places.

Besides, several other agencies such as Nationalised Banks and the Rural Electricity Corporation in the country have conducted studies relating to integrated area development or rural growth centres.

National Institute of Rural Development (erstwhile National Institute of Community Development)[5], Hyderabad conducted a study for identification of Rural Growth Centres for Integrated Area Development in Miryalguda Taluka of Nalgonda district (A.P.). The objectives of this study were (1) to identify and rank central places of various orders (2) to delineate the complementary zones of these central places (3) to identify existing functional gaps in the study area and to make substantive recommendations for their removal and for more efficient functional integration and (4) to make projection in order to anticipate the future growth of the area and to make recommendation for its balanced future development.

Identification and ranking of settlements as central places was done on the basis of hirarchy of functions. This has been worked out through threshold values of population for different functions and it was found that the functions tended to cluster within three definite population size groups. The

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5. Sen, L.K. (1971), op. cit.

settlements were categorised into 14 levels of hierarchy on the basis of points scored by them. For each level of functional hierarchy, settlements were further categorised as totaly dependent, partialy dependent, intermediate, service centres and self-sufficient centres depending upon the percentage of functions dependent on other settlements. The study also examined the functional gap between the service centres and their respective dependent territories. Lastly, the study formulated a strategy for integrated area development at two stages (1) plan for corrective measures and (2) short-term perspective plan.

Thus the location of facilities and amenties were properly identified so that the gap between the developed and the under-developed parts of the region would be reduced.

A micro-level study of the Nagpur Metropolitan Region of Eastern Maharashtra was conducted by Wanmali.[6] The study was an application of central place theory based on hierarchy of settlements which have been found out by constructing a scale of functional hierarchy taking into account all the functions performed in the settlements. A weightage of numerical value was worked out for the functions and sub-functions based on their relative importance. After working out total scores of each settlement, 12 levels of hierarchy were identified. The study also found out the complementary regions of the service centres depending on the number of functions dependent. The service

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6. Wanmali, S. (1970), op. cit.

centres are the central places for providing facilities for future development and linking up the isolated rural areas with the urban areas.

Another study on micro-level planning was undertaken in Karnal district of Haryana by the Indian Statistical Institute.[7] The study attempted to formulate a spatial framework of development which would include plans for integrated development of land use and human settlements through the provision of social services and amenities, lay out of different types of roads, electricity and location of agricultural inputs, market and industries which are based on the primary products of the area. The study was carried out at two area levels - at the district level - and within that the Karnal tahsil has been chosen for a detailed study. The district level study was oriented to examine the spatial patterns of settlements, functions and their relative importance or rank and the hierarchic nature of the space relations for settlements of more than 2000 population.

In Karnal area, the study evaluated the spatial pattern of agricultural land use, population, settlements, economic activities, services and facilities and existing space relations. It identified the existing pattern of central places by examining the existing levels of functions of all settlements and spatial pattern of movement of people and their purpose. For measuring and identification of hierarchical pattern, composite index is constructed by using principal component analysis and identified 6 hierarchical levels of settlements on the basis of

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7. L.S. Bhat et. al. (1976), Micro-Level Planning - A Case Study of Karnal Area, K.B. Publications, New Delhi.

the gaps in the composite score.

In Manipur two micro-level planning studies have been conducted - one in the Imphal East Block and another in the Manipur West District. Micro-level planning for 16 villages of Imphal East Block of Manipur Central District was conducted by AVARD, New Delhi.[8] The project made a detailed study of the socio-economic condition of the area. Its emphasis is mainly given on the agricultural development after examining the detailed study of soil, rainfall, water potentiality etc. and planned for agricultural development by constructing irrigation projects.

The study also examined the existing pattern of facilities and amenities available in the area and suggest for their establishment at central places. It also examined the present pattern of the traditional small scale industries and give suggestion for their modernisation. It also explored the vast potentiality of the development of horticulture in the area. In fact, the study provides insight into the working of the economic system and draws the economic base-line against which all future developments would be appraised.

Another study on the 'integrated area development for Manipur West District'[9] was conducted by the NIRD, Hyderabad. It is a techno-economic survey for formulating an integrated area development plan with a 10 years' perspective for Nungba,

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8. Association of Voluntary Agencies for Rural Developments, (1976), Meitei Villages, Imphal East Block, Manipur, New Delhi.

9. Waheeduddin Khan and Ramesh, K.S. (1976), Integrated Area Development for West District, Manipur, National Institute of Rural Development, Hyderbad.

one of the sub-divisions of Manipur West District. The Study is conducted at two area levels - one at the District level and within the district, Mungba sub-division was undertaken for detailed study. Out of the 6 districts in Manipur, only Central District is the valley area and remaining 5 districts are hills where tribal people inhabited. This study is a model so that the experiences gained from it could be utilised in formulating development programmes for other hill areas of the State.

The objectives of the study were to make an integrated effort for an overall development of Mungba sub-division by introducing the latest technology in the field of agriculture, horticulture, animal husbandary, cooperation and small-scale industries and removing the primary bottlenecks such as lack of market, handle of surplus produce, lack of transport and communication facilities, storage etc. by building a sound and adequate infrastructure to maximise the production and incomes of the villages. Development of horticulture is intended to bring the much needed economic link between the valley plains and the hills.

The study examined carefully the existing settlement pattern and identified 17 service centres which are capable of generating and sustaining growth in the area on the basis of the intensity of interaction revealed by the pattern of movement of goods and people. After identifying the service centres, the requirements of various social facilities and services in the 17 First level clusters were estimated.

The study, however, points out that the plan for economic development of West District cannot be isolated from the rest of the State as the district depends to a large extent on the economy of the valley region for most of its requirements. The first step for the strategy of spatial integration would be to bring a functional integration among the components of the geographical area within the district. Secondly, the West District should be linked with the valley region. For this purpose, 8 areas have been demarcated in the West District which will be directly interacting with spatial economic units situated outside the district boundaries.

The present study deals with the problems of spatial integration of development at the micro-level using the valley region of Manipur as an illustration.

1.2 Objectives of the Study

(i) to understand the economy of Manipur in terms of the spatial organisation and association of different elements of the regional structures.

(ii) to identify the existing pattern of central places. The study involves an analysis of the existing levels of services and amenities and functions of all the settlements of the Manipur valley.

(iii) to rank the settlements on the basis of composite index.

Based on these objectives, the strategy for integrated development of Manipur valley within the larger economy of Manipur as well as North Eastern economy will be formulated at one below the district level.

1.2.1 Hypotheses to be Tested

In the light of the above stated objectives, we have proposed to test the following hypotheses :

(i) Dichotomy between the hill and the plain economies accentuates regional imbalances in development.

(ii) In-accessibility inhibits the initial pattern of growth of the regional economy in an integrated manner.

1.2.2 Data Base and Design of the Study

The study is designed at the village level within the general framework of the economy of Manipur. For this purpose geographical setting of Manipur is analysed with special reference to the physical structure, resource base, population and settlements, economic activities and patterns of the economy.* Xheaxxxa analysed For a detailed study of Manipur valley, the basic source of data at the village level is the District census hand book in which data on population and amenities and facilities such as education, medical, transport and communication and electrified villages are available. The data on banking institutions are directly collected from the institutions concerned for which all the institutions are confined only in the town areas and at the same time their number is also very few. Data on veterinary hospitals and dispensaries are directly collected from the Directorate of Veterinary and Animal Husbandry. For the data on towns, they are collected from the Municipal year book and town directory. Besides data

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* These are analysed in chapters two and three.

of the sub-divisional and district levels are made available from the State Statistical and District Statistical Hand Books published by the Statistical Department and the data relating to the North-Eastern Region are available in the "Basic Statistics of North-Eastern Region" published by the North Eastern Council Secretariat. Maps showing settlements are also traced from those available in the census office and Geological Survey of India.

1.2.3 Methodology

For determining the centrality of place, all the functions performed by the settlements in a region are taken into consideration. In the present study the functions considered, are, education, medical and health, banks, credit societies, verterinary institutions, electricity and post and telegraph facilities. The centrality of settlement is based on the centrality of settlement which is a function of (a) the number of different types of services offered, and (b) the level at which they are offered. But every settlement is not performing all the functions in the same proportion. Considering the individual central functions separately and distinguishing their component parts, it is possible to determine the hierarchy of central functions which is composed of many sub-functions within the function. Thus, a scale of functions can be constructed on this basis for all the functions leading to the formulation of a hierarchy of functions in terms of the relative importance of functions and their spatial arrangements. Hence,

centrality becomes as a matter of relative importance.

It is not justifiable to give equal weightage to all the functions and sub-functions as they are qualitatively different. However, there is no statistical method or graded scale to give appropriate weightage. But there the weights to different functions and sub-functions are given according to their distribution among all the settlements on the assumption that lesser the number, higher is the importance in terms of centrality and therefore, greater the weightage. This procedure is more free from subjectivity or arbitrariness. The formula can be represented in the following form :

$$W_i = \frac{N}{F_i} \quad \text{and} \quad C_j = \sum_{i=1}^{k} W_i X_{ij}$$

Where,

F_i = No. of settlements having the functions/ sub-functions.

N = Total number of settlements

W_i = Weightage to the ith sub-function

K = Total number of sub-functions under a given function

C_j = Composite value for that function for jth settlement.

X_{ij} = Value of the ith sub-function in jth settlement.

A composite index can be constructed with the help of this weightage method for every settlement and from these

composite indices for all the settlements, ranking of settlements is worked out. Those ranks of settlements are presented in the form of both tabulation as well as mapping in chapter Four.

With the background and objectives presented above, the present study is attempted at three levels.

First, Manipur can be divided into two natural regions viz., the hills and the valley, because of the differences in the geographical conditions, levels of economic development have a wide gap between the economies of the hill and the plain areas. The study attempts at the economic integration between the hill and the plain economies so as to minimise the economic disparities.

Secondly, detailed study is attempted at the village level. Because of the difficulty in compilation of the data for the hill region and homogeneity of the valley region the study is confined to the valley region only.

Lastly, Manipur being one of the constitutent units of the north-eastern region of India which has geographical similarities the study is made in the context of the north-eastern region as well.

1.3 Chapterisation Scheme

Having discussed the importance of the integrated development and also the objectives of our study in chapter one, we will go to the study of the geographical set up of the area under study in chapter Two. Chapter Three will be dealt with the resource base of the economy of Manipur as a whole. In Chapter Four the Spatial organisation of Manipur Valley - a detailed

study area is presented. In Chapter Five the Spatial integration of the economy of Manipur in relation to the North Eastern Region is analysed. Lastly, Chapter Six is devoted for summary and conclusion of the study.

CHAPTER TWO

MANIPUR IN ITS GEOGRAPHICAL SETTING

2.1 Physical Setting

The beautiful mountainous State of Manipur famous for her dances, handicrafts and salubrious climate is an isolated hill country in the north-eastern corner of India having a distinct entity. It is almost rectangular in shape with a precious valley plain surrounded by ranges of hills forming the major parts of the area. The tiny valley situated at an altitude of nearly 785 m. above sea level spreads over an area of nearly 1843 sq. km. which is only 8.24 per cent of the total area where nearly 65 per cent of the total population are housed and the remaining 20513 sq. km. of the state's border, 352 km. form international border with Burma. The border hills run north-south parallel folds with altitudes varying from 3000 feet to 10,000 feet above sea level. It extends from 93.03°E to 94.78°E and 23.83°N to 25.68°N and is bounded in the north by Nagaland, in the east by Burma, in the south partly by Mizoram and the Chin hills of Burma and in the west by the Cachar district of Assam. The total geographical area of Manipur is 22,356 sq. km. which is about 0.68 per cent of India

and the total population according to 1971 census was 10,72,753 which is 0.19% of the total population of India occupying 20th position among the states of India(Fig.no.1).

2.2 Administrative Divisions:

Manipur was an independent kingdom before it was annexed to India by the British who latter annexed in 1891 and since than till independence, it remained as a native state. After independence, it was integrated with the Indian Union on Oct, 15, 1949 as a part C state after which it was elevated to the status of Union Territory. On Dec.21, 1972 with the North Eastern Areas (Re-organisation) Act, Manipur attained statehood within the Indian Union. With a total geographical area of 22,356 sq.km. Manipur is one of the smallest states of the country. In terms of population Manipur ranks 19th closely followed by Meghalaya, Nagaland and Sikam and Sikim, Tripura and Nagaland in respect to size.

For administrative convenience the state of Manipur has been divided into five districts on 14.11.1969 viz., Manipur North District, Manipur South District, Manipur West District, Manipur East District and Manipur Central District. Again another district i.e., Tengnoupal District was carved

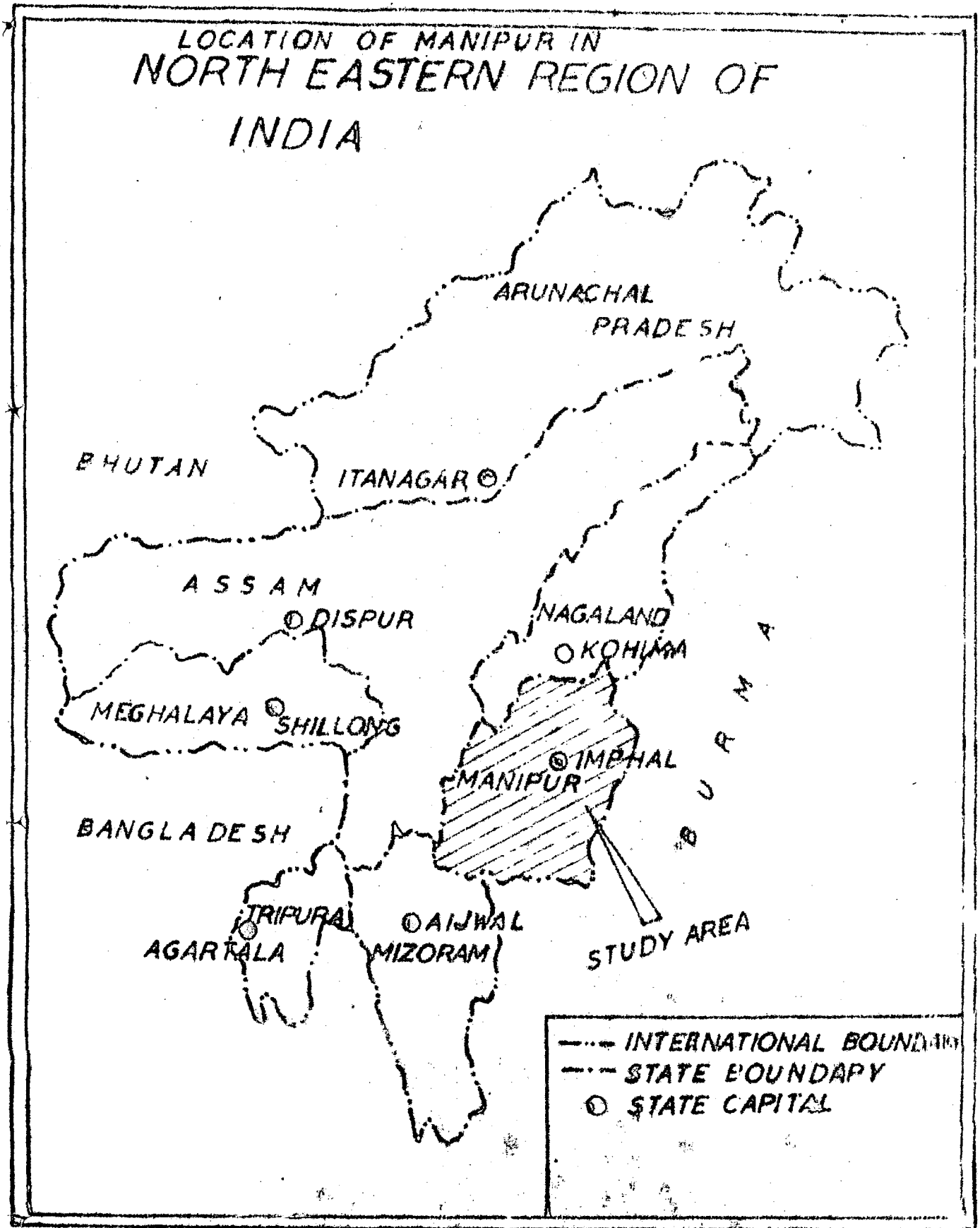
LOCATION OF MANIPUR IN
NORTH EASTERN REGION OF
INDIA
ARUNACHAL
PRADESH
BHUTAN
ITANAGAR
ASSAM
DISPUR
NAGALAND
KOHIMA
MEGHALAYA
SHILLONG
IMPHAL
MANIPUR
BURMA
BANGLADESH
TRIPURA
AGARTALA
AIJWAL
MIZORAM
STUDY AREA
INTERNATIONAL BOUNDARY
STATE BOUNDARY
STATE CAPITAL

FIG. NO. 1

out on 13th May 1974 from the Central District and at present the state has six districts. These districts are further sub-divided into 25 sub-divisions (Fig. no. 2). All other five districts except Manipur Central District, are hill districts. The population, area, density of population, number of villages and percentage of schedule tribe and schedule caste population in the six districts are presented in table -I below :

TABLE - I

Area and Population of the Districts of Manipur

Districts	Area Sq.Km	Total popu.	Popu. Density	% of S.T.	% of S.C.	Number of Villages Inhabited	Un-inhabited
Central	2230	724537	325	2.9	2.2	556	24
North	3417	104176	30	79.4	0.1	404	4
South	4581	98114	21	93.7	0.3	362	4
East	4409	62229	14	96.3	Negli.	216	4
West	4344	44975	10	97.8	Negli.	184	-
Tengnoupal	3376	38723	11	89.1	0.4	217	8
Total	22356	1072753	48	31.2	1.4	1949	44

Source : Government of Manipur,(1976), Manipur At a Glance, Department of Statistics.

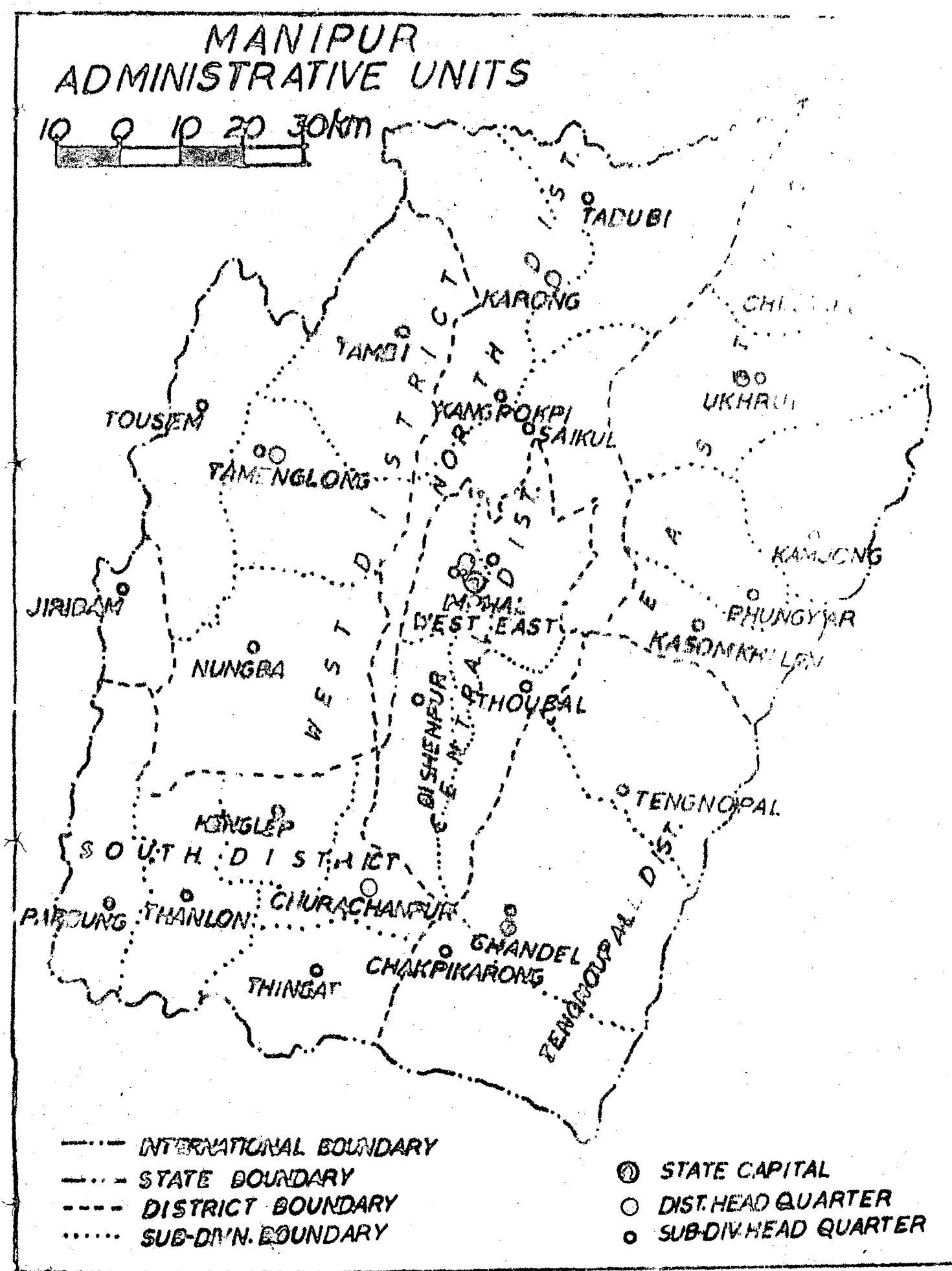
MANIPUR
ADMINISTRATIVE UNITS
10 0 10 20 30KM
TADUBI
KARONG
TAMEI
TOUSEM
YANGPOKPI
SAIKUL
TAMENGLONG
UKHRUL
KAMJONG
JIRIDAM
PHUNGYAR
KASOMKHULEN
NUNGBA
MOIRANG
IMPHAL WEST
IMPHAL EAST
THOUBAL
BISHENPUR
KONGLEP
SOUTH DISTRICT
TENGNOUPAL
PAREBUNG
THANLON
CHURACHANDPUR
GNANDEL
CHAKPIKARONG
THINGAT
INTERNATIONAL BOUNDARY
STATE BOUNDARY
DISTRICT BOUNDARY
SUB-DIV'N. BOUNDARY
STATE CAPITAL
DIST. HEAD QUARTER
SUB-DIV. HEAD QUARTER

FIG NO. 2

Table I clearly shows that Central District has the smallest area but in terms of population and density it is the highest. Population density is high with 325 persons per sq.km. as against 48 for the state; and as for other districts, it is far below the figure of the central district. The Central District occupies only 10 per cent of the total area where 67 per cent of the total population are living. The number of inhabited villages is the highest in the C-entral District (556) and in West District it is the lowest (184) one striking feature of the inter-district comparision is that except the Central District, all other five districts are inhabited by the Scheduled Tribes. In the Central District only 2.9 per cent are tribal people whereas in the remaining 5 districts their percentages varies from 79.4 to 97.8. The tribal people are quite different from the rest of the State's population and for centuries they have been living in the hills and have remained isolated from the mainstream of the state's social and economic life. They are economically more backward and depend for their livelihood mainly on forests and shifting cultivation or a primitive form of settled cultivation. They have very little industrial activities even at household level (Appendix - I). Their strong attachment for their own

culture and traditions has made them less responsive to the changing societies. This demographic contrast between the Central District which constitutes valley and other districts which constitute hills is a distinct sign of wide variations in their levels of social and economic development. This is so because the valley is fertile and most suited for cultivation and economic activity whereas the hills by their geographical location not suitable for economic activities and basic social facilities are not adequate. Under such circumstances economic backwardness is the natural outcome leading to a wide gap in the economic development between hills and plain.

2.3 Relief and Drainage System:

Among the geologists, opinions are divided about the nature, forms and origin of the geological structure of Manipur. According to one School of Thought, the hill ranges of Manipur are the extension of the Great Himalayas and they are comparatively young geological formation. This is proved by the fact that as an extension of the Himalayas of which the ranges of Manipur are the off shoots stretching from roughly north-south parallel fold with attitudes varying from 2500 feet (762 m) to nearly 10,000 feet (3048 m) above sea level.

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According to another school of thought "the hill ranges of Manipur have no connection whatever with the Himalayas which terminates geographically in the south east at the curve of the Brahmaputra, far away from the frontier of the district (now State); they are a continuation of the Patkai, the Barail and the Arakan Yoma ranges which form geographically a part of the Burmese mountain system. Be that as it may, a reference to the map will show that there is no break in the great chain linking the mighty Himalayas with the hill ranges of Manipur, the great bend of the Brahmaputra notwithstanding. In the ultimate analysis, there seems to be no irreconcilable clash between the two views".[1]

"The general aspect of the hills ranges is that of irregular serrated ridges, occasionally rising into conical peaks and flattened cliffs of Bare rocks".[2] The topography in general is very rugged intersecting the ridges by deep drainage lines which force their way to the valley through curves and coils. The peaks are very high sometimes it

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1. Census of India, 1961, District Census Handbook, Manipur, pp 3-4.

2. Brown R: Statistical Account of Manipur (Calcutta, Superintendent of Govt.printing 1874).p-5

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reaches an attitude of 10,000 feet in the north near Mao Police Station. Most of these ranges are covered with dense forests and thick bamboo jungle.

There are many hill ranges and high peaks. Some of the most important among them are given below:[3]

Ranges in the East: Saramati, Somrat, Kausom, Mupitel or Mapethe.

Ranges in the West: Mungjaibong, Kalanaga, Chakkaa Nungba, Koupun (a spur from the Laimatol) and Kopru Laimatol.

Ranges in the North: The Nanbo Spurs, Thumion-Mayang-Khong, Laisom, Sirohifare.

Ranges in the South: Naobi.

The important peaks are:

1. Tenipur (Mao & Sadar Hills) 9824' (2994.36 m)
2. Koubru (Mao & Sadar Hills) 8702' (2651.54 m)
3. Iso (Mao & Sadar Hills) 8070' (2459.74 M)
4. Khayangbung (Ukhrul) 9295' (2833.12 M)
5. Sirui (Ukrul) 8425' (2567.94 M)
6. Kachootung (Ukhrul) 8195' (2497.84 m)
7. Laikot (Tamenglong) 9290' (2831.59 m)
8. Tampata (Tamenglong) 8412' (2563.98 m)

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3. Census of India, 1961: op.cit.p-4

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In the heart of these ridges and peaks, there is a tiny and precious valley with an oval shape and irregular feature stretching about 36 miles (57.52 kms.) from north to south and about 20 miles (32.19 kms.) from east to west. The valley stretches upto the foothills where the slope abruply changes and the valley slopes from north to south. In the northern part it rises above 2750 feet (838.2 m.) above sea level and slightly goes down to 2600 feet (782.48 m) above the sea level in the south. Small hills like Chingmeirong Langthaban, Waithou, Lengathel etc. also raised up their heads here and there from the plains. Again small hills like Karong, Thanga, Ithing, Sendra etc. are projecting above the water of Loktak Lake.

All the rivers draining through the region have their origin in the hills to the north and the north-east of it. Among the rivers, the most important is the Imphal River which passes through Imphal, the State-capital. Before the introduction of modern transport and communication, it played a very important role of water ways between the capital and various parts of the valley. The other important rivers are the Iril, the Thoubal, the Nambul and the Nambol. During the dry winter season, all the rivers are almost looked like a small stream but in the rainy season they carry large volume of water and sometimes caused flood and damage to large area of paddy fields.

- -

The Iril river originates from the hills about 15 miles (24.14 kms.) east of Maram and the Thoubal in the hills near Ukhrul. These are the important tributaries of the Imphal and the two rivers combined with the Imphal at Lilong about 6 miles from Imphal and at Mayang Imphal 14 miles from Imphal respectively. Thus, after making a combined, it flows towards Nugnu in the extreme south of the valley. The Khuga river which originates from the hills of the Churachandpur District to the south of the valley combines the Imphal river at Ithai to the South of the Loktak lake. There are other two important rivers flowing into the valley. One is the Nambul which has its origin from the hills to the north-west of Imphal and pass through the heart of Imphal town parallel to the Imphal river. The other one is Nambol which originates from the north west of the valley. Both these rivers flow into the Loktak Lake from where again the overflow emerges as a seperate stream under the name "Kortak". This Kortak again joins the United Course of the Imphal - Iril Thoubal to form one big river called 'Turel Achouba' (means big river) or the Manipur river. The Manipur river does not fall into the Loktak Lake as its bed is lower than the water level of the lake, rather it drains out the excess water from the lake. Thus, the Manipur river flowing down to the extreme south pass through the hills cutting a deep gorge and flows into the Ningthee river in upper Burma and finally into the Chindwin river of Burma.

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Apart from the valley river system, there are some other important river which flow into the hill areas of the state and neighbouring territories of Burma and cachar district of Assam. The most important and biggest of all is the Barak river which rises from the northern range about 16 kms. east of Mao. Diverting its course from the source, it cut accross the Imphal-Dimapur road at Karong, 40 miles to the north of Imphal. It passes through both the cachar district of Assam and Tipaimukh sub-division of Manipur South District and ultimately falls into the old bed of the Brahmaputra near Bhairab Bazar.

The important tributaries of Barak are Jiri, Makru, Irang etc. The Jiri river rises in the Barail range and flows southward. The Makru river flows east of the Makru range. It flows nearly parallel to the Jiri river. The Irang is the longest tributary of the Barak which has its source from the high hills to the north-west of the valley and flows into the Barak at a point about 20 miles north of Tipaimukh. This river is joined by numerous small streams of which the Leimatak and the Lyii are the most important.

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Manipur has a number of beautiful natural lakes. Of which Loktak is the most important and the biggest even in the whole north eastern region of India. It has carried out the main drainage basin of the State and situated about 18 miles to the south-west of Imphal. During the dry season it covers an area of about 25 sq. miles but in the rainy season when it is fed by the water of the Nambul and the Nambol, it increases its size to another 15 sq. miles measuring about 6 miles in length and 5 miles in breath. It is a broad, shallow expanse of water covered with plenty of vegetables, weeds and water-hyacinths. In the south-western portion of the lake there are a number of hilly islets whihh rise steeply above the surface. The largest of these islets is Thanga, the other being Ithing and Karang. At the foot of these islet hillocks there are a number of villages inhabited by people whose main occupation is fishing in the Loktak. It is also the largest single source of fish supply in the state. Besides, many edible plants are also grown in it.

The other relatively small lakes which are spread over the valley, especially in the southern part of the state, are the Ikop, the Furum and the Waithou. These lakes serve as fisheries. These lakes are not so big and depth as in the case of Laktak lake. Through the process of time, the lakes are silted up and some parts of the lakes are also being reclaimed for cultivation on account of the increasing pressure of population on land.

2.4 Climate:

Climatic condition of a place is greatly influenced by the geographical situation in which the place is situated. Here Manipur is also not exception. The important factors which influence the climate of Manipur are location, altitude, topography, direction of the prevailing wind and seasonal system. The topography of Manipur is highly mountainous with deep narrow valley.

In general the temperature throughout the year is very pleasing and enjoyable. In the hill areas, it is much colder than the central plains. The temperature varies from 0°C to 40°C, the lowest being in January and the highest temperature from May to June. The rainy season commences from June and continues upto September. The winter or cold season on the other hand lasts from December to January. March and October are the most pleasant months.

2.5 Soil:

The soils are mostly clay to clayey loam. But in Ukhrul areas soils are of igneous types and contain quarts, sandstone, limestone and black clays. Brine wells are found in Ukhrul. Near the Burma border soils are sandy loam and at places laterite soils are also available. The fertile soil in the valley is suitable for paddy cultivation whereas the slopes of the hills are best suited to horticulture e.g. growing pineapples, papayas and orangoe.

It is the physical structure of the region which determines the nature and potentiality of resource base, population and settlement structure and the type of the economy. In Manipur, since almost all the part of the regions is hilly, agriculture is limited largely to the valley plain. The valley plain is also the area of population concentration as agriculture is the only means of livelihood at present. For this reason, even though the valley plain constitutes only 8 per cent of the total area of Manipur, 65 per cent of the total population is concentrated in it. The physical structure and concentration of land suitable for agriculture and human settlements are conducive for uneven development of the region and this tends to accentuate the disparity between the Hills and the Plains. Integrated development of physical and human resources of Manipur thus presents a challenge to the social scientists and planners.

2.6 Resources

The State being a hilly region, it has plenty of forest resources. Most of the forest resources are not fully exploited, there is ample scopes for the establishment of forest based industries like paper industry, pine factory, etc. Again in the hills jhuming is practised. This has caused soil erosion and destruction of trees. This practice can be replaced by terrace cultivation. Horticulture which has enough scope in the hills is not introduced on modern lines.

Regarding mineral resources for lack of investigation the State does not have known mineral resources and generally

believed poor in mineral resources. However, the recent investigations made by the geological survey of India in three districts have revealed the occurences of some mineral resources.

The valley is fertile and most suited for agriculture. The yield is comparable with all India average. But considering the climate and fertility of the soil, there is enough scope for increasing productivity. Area under double cropping is very negligible. By introducing good irrigation system double cropping can be introduced in large scale and thereby increase agricultural production.

In 1971 workers constituted 35 per cent of the total population of which 71 per cent were engaged in the agricultural sector and only 29 per cent in the non-agricultural sector. Central District has the lowest workers in agriculture only 58 per cent whereas in other hill districts it is 84 per cent to 90 per cent. Of the non-agricultural workers 38 per cent were engaged in manufacturing, processing, servicing and repairs; and 12 per cent in trade and commerce. Construction, transport and communication, services account for about 9 per cent and other services 41 per cent of the total non-agricultural workers. There is no large scale industry in Manipur and the only industry which is highly developed is handloom industry which dominates the household industry where the women are employed the largest number.

State income of Manipur was Rs.9177.09 lakhs in 1975-76 at current prices as against Rs.8211.9 lakhs in 1974-75 and Rs. 7395.9 in 1973-74. The corresponding per capita

income was Rs.740.2 in 1975-76, Rs. 683.8 in 1974-75 and Rs. 637 in 1973-74.[4] Agriculture contributes the largest share in State income - 62.26 per cent in 1975-76 and followed by other services (8.78 per cent), Trade, storage, hostels and pastures (8.20 per cent) and public services (6.54 per cent), contribution from manufacturing industries is nil. Thus, the level of industrial development is very backward.

To understand the larger economic background of Manipur it requires a thorough study of resource base of the economy. This analysis is presented in the following chapter.

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[4] Government of Manipur, Economic Review (1976-77), Department of Statistics, Imphal, p.14.

CHAPTER THREE

STRUCTURE AND PATTERN OF THE ECONOMY

In this chapter important elements of the regional structure contributing to the economy of Manipur are considered. Those include :

1. Forest Resources
2. Mineral Resources
3. Agriculture
4. Human Resources
5. Population and Settlements
6. Industry
7. Transport and Communication
8. Occupational Structure
9. State Income and sectoral Distributions

Physical structure plays a very important role in shaping the economy particularly in the hilly state like Manipur. It is the physical structure that often lends variety to the resource base- forest, mineral, agricultural etc. and exploitation of these resources largely depends upon its physical features. Here detailed studies of the above mentioned resources are made in relation to the Manipur's economy.

3.1.1 Forest Resources

In the second chapter it has already been mentioned that 92 per cent of Manipur is hilly and under per-humid climatic conditions, it has a vast area of forests covering of 15154.94 sq.kms. or 68 per cent of the total area of the state. This is much above the all India average of 20 per cent. The forest area is classed as under:

Class of forests	Area under forest in 1976(sq.km.)	P.C.to the total forest area.
1. Reserved Forest	1370	9.12
2. Protected Forest	4170	27.66
3. Unclassified Forest	9614	63.42
TOTAL	15154	100.00

Sources: Department of Forest, Government of Manipur: Forest policy of Manipur p-13.

The total forest area can be divided by vegetation as given below:

	Area (sq.Km.)	P.C.to total forest area.
A. Tree Forests	11,739.95	77.46
B. Bamboos	3,268.43	21.56
C. Green Blanks.	146.57	00.98
Total.	15,154.94	100.00

The tree forests of 'A' above are further distributed as follows:

	Area	P.C.to total of 'A'
Pine Forests	2442.77	20.80
Wet temperature Forests.	1451.01	12.35
Wet Hill Forests.	6590.59	56.13
Semi-evergreen Forests.	644.89	5.49
Teak and Gurjar Forests.	610.69	5.20
Total.	11739.95	99.97

Sources: Department of Forest, Government of Manipur; Ibid p-2.

However, inspite of its large area under forests and vast resources, due to the lack of proper exploitations, the contribution of forests to the state domestic product is very small as compared to other neighbouring states of Tripura and Nagaland. This is clear from the following figure:

GROSS REVENUE IN RS. LAKH (1965-1974)

Year	1965	1966	1967	1968	1969
Manipur	4.23	3.80	4.39	4.59	5.34
Nagaland	9.23	12.00	7.69	7.47	15.18
Tripura	14.40	12.56	15.88	17.88	19.37

Year	1970	1971	1972	1973	1974
Manipur	4.11	5.53	9.24	7.69	14.55
Nagaland	8.90	21.91	22.97	32.85	24.91
Tripura	22.94	45.68	31.80	39.48	40.56

Sources: Department of Forest, Government of Manipur
Ibid p-6.

Thus Manipur is very much lagging behind regarding the contribution of forests to the total revenue compared to Nagaland and Tripura whose revenue from forests are much larger. Considering the extent of area under forests, Manipur's area is much larger. The area under forest and revenue per sq.km. of the three states are given below:

STATE	AREA IN SQ.KM.	REVENUE IN RS. LAKH	REVENUE PER SQ.KM. (RS).
Manipur	15154	14.55	96
Nagaland	2870	24.91	868
Tripura	6300	40.56	644

Sources: Department of Forest, Government of Manipur
Ibid p-6.

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There are many reasons for the low revenue, among which the most important are very slow progress on legal classification of forest, low investment on forest exploitation, ad-hoc fixation of royalty on forest produce from unclassified forests, extremely under-employment of staff etc. The process of legal classification of forest is so slow that even after 30 years of the merger of the State into the Indian Union, only 1370 sq.km. of the total of 15154 sq.km has been brought under reserved forests.

3.1.2 Division of Forest

Forests are spread over the entire state and it can be divided into four geographical regions depending on the elevation and rainfall. They are (1) Forest overlooking the Manipur Valley, (2) Jiri-Barak Drainage Forest, (3) Ukhrul Pine Forest, and (4) Burma Border Forest.

(1) Forest Over-looking the Manipur Valley: These are the forests which are situated and scattered all over the hills of Manipur valley in altitude varying from 2600' to 8000' above sea level. Oak is very important in low altitude and mixed evergreen forests in high altitudes. Most of the isolated hillocks and some of the foot hills are covered with Coppice forests of Oak and chest nut which are useful as firewood and electric posts.

(2) Barak-Drainage Forests: These tropical moist semi-evergreen and evergreen forests are concentrated in west-district, central district and south district where the Barak and its tributaries viz., the Jiri, the Tuivai, the Irang, the Leimatak, the Makru and their side streams flow in narrow belts of the hill-ranges covering an area of about 5,800 sq.km and have very rich bamboo forests in about 2590 sq.km. area and tree forest in about 13,00 sq.km. About 13 species of bamboos are grown, of which the Muli type, extremely suitable for paper manufacturing is the most common covering 25 per cent of the western forests. They are known to hold an existing stock of 4.2 million tonnes and annual out-turn of 7 lakhs tonnes. On this basis the 5th plan has proposed for the establishment of one paper mill at Chandigarh in Jiriban sub-division. The installed capacity of Mill is 66,000 tonnes per year of 200 tonnes per day on the basis of 330 working days. The installed capacity is to be attained within three years of operation. It will create employment to 1,532 peoples of all categories besides indirect employment to many engaged in the extraction of raw materials. Unluckily, since there is no paper Mill in Manipur, the raw materials are still supplied for the paper mill in Calcutta.

Many species of timber are also available, most important of which are Cham, Uahar, Bonsum, Champa, Hollock, Wang and Gondroi. Again dalchini and canes are also available in considerable quantities.

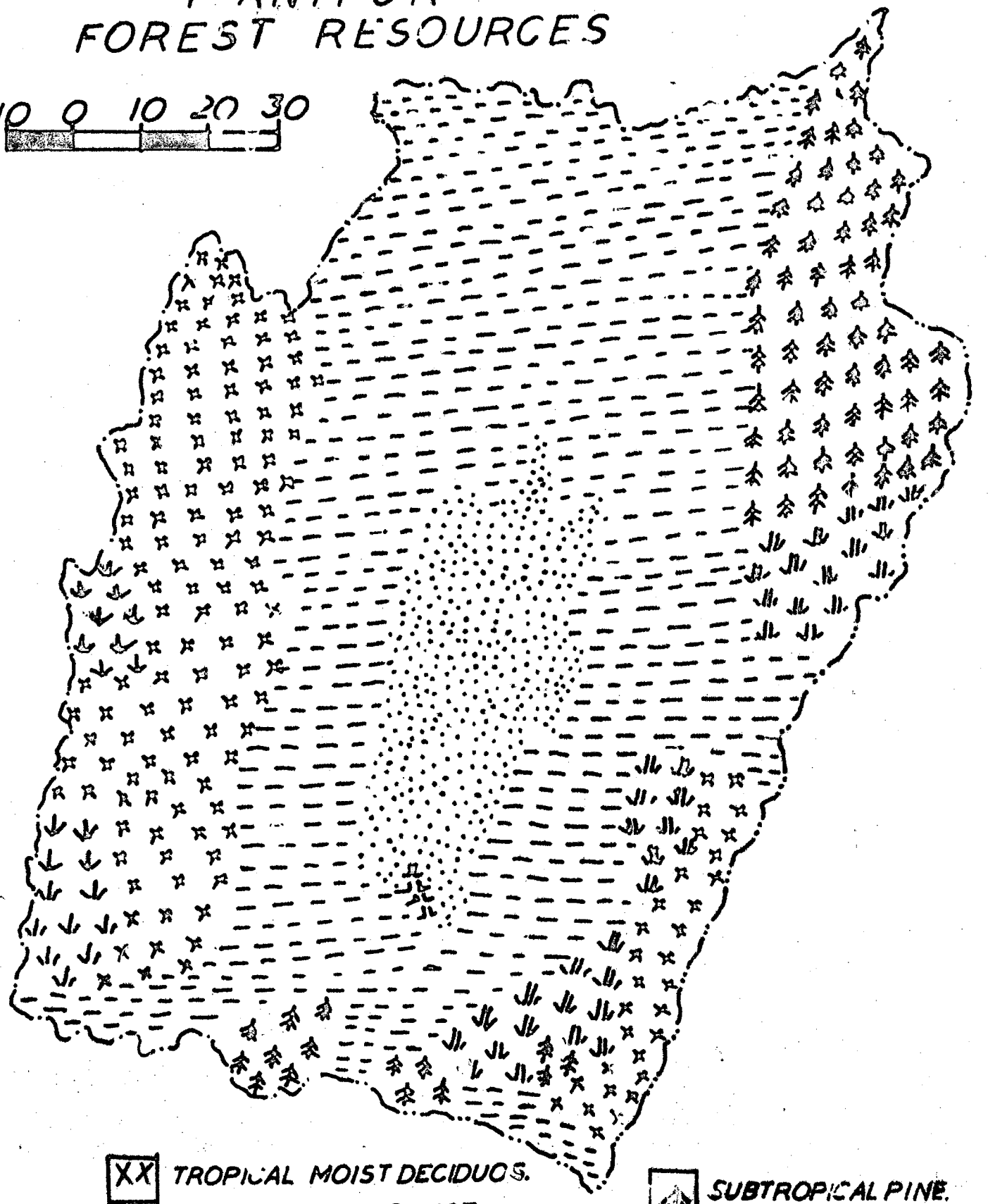
(3) Ukhrul Pine Forests: These forests are available in the Manipur East District at an altitude varying from 4000' to 8000' extending an area of more than 1400 sq.km. The important forest resources are pine, oak and mixed evergreen forests.

(4) Burma Border Forests: These forests are in the extreme east along the international border with Burma covering an area of about 900 sq.km. The important forest products are teak, garjon, khou and evergreen forest including bamboo.

Thus the important forest resources of Manipur are timber, fuel and round wood as major products and animals, cane and bamboo, grass, incense and perfume as minor products as also cinemon and orchids. In 1974-75 they produced 14.6, 170.3 and 45.3 thousand cubic metres of timber, fuel and round wood respectively. (see fig no.3).

MANIPUR
FOREST RESOURCES

10 0 10 20 30



XX TROPICAL MOIST DECIDUOS.

== SUBTROPICAL FOREST.

TROPICAL MOIST DECIDUOUS WITH SECONDARY GROWTH.

TROPICAL SEMI EVERGREEN PREDOMINANTLY BAMBOO.

SUBTROPICAL PINE.

ARABLE LAND.

SWAMPS.

FIG. NC. 3

Cinamon is another forest product which can profitably be exploited. It has a wide market in foreign also. "The commercial variety, which sells at a price of Rs.50 to 60 per kg. is the 'Cinnamon Zeylanium' popularly known as the Singapore variety. These trees are not quite common in Manipur but the other variety, Cinnamonum tamala (Manipur) grows very widely. Locally this variety sells at Rs.1.50 to Rs.2 per kg. It is reported that in Calcutta this variety sells at Rs.30 to Rs.35 per kg. The marketable product is the bark and leaves".[1]

By its nature of varied climate and ecological condition the forests are also rich in orchids of many species grown in plenty over the hills. Among these "mention may be made of the Seroi Lily (Lelium macklenae) in the Siroi Hills, Lilium napalensis (popular all over the world), Irish Bakerli (the only species in the world); Vanda Coerulea (the only blue orchid in the world); Dendrobium Wardianum Album (one of the rarest orchids in the world); Cypripedium Spicerianum (one of the rarest species in the world)".[2] Thus proper culture will earn a good foreign exchange.

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1. Industrial Development Bank of India; Industrial Potential Survey, Manipur. Reports of A Study Team. p-26.

2. Ibid. p-26.

However so far no systematic attempts have been made for marketing these valuable orchids abroad and for earning foreign exchange.

3.2. MINERAL RESOURCES:

"Manipur is a frontier state in more than the conventional geographical sense. It is a frontier also in the special sense in which the term is sometimes used i.e., an area whose development potential has not been fully exploited, or which has not yet attained a level of development warrented by its known potentiality; or an area whose development potentiality has not been fully assessed".3 In fact the knowledge about the geological structure of the whole Manipur is not yet thouroughly known and whatever information was available till recent times was mainly from some reconnoitary traverses undertaken earlier. This is because of the lack of proper communication facilities, poor accessibility and other environmental hasards. Moreover it is geographically situated in a strategically most sensitive areas. However the G.S.I. has undertaken systematic geological study in the three districts of Manipur namely,

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3. Khan & Ramesh, 1976: Integrated Area Development Plan for West District, Manipur, p. 3-4.

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Manipur East District, Manipur South District and Tengnoupal District and found considerable amount of some minerals. They also recommended the possible industries which can be set up with the available mineral resources. The G.S.I. in their recent study has reported the occurrences of copper, nichel, coal (lignite), chromite and asbestos. Besides limestone, brine from salt springs and beg iron are also reported found. Some of the important mineral resources are given below:

Limestone: The geological Survey of India in their study reported the availability of a substantial quantity of high grade limestone in different places of the Manipur East District viz., Ukhrul areas, Hungdung, Mata, Konggai and Lambui. The limestone contains very low magnesia (less than 1%) and is suitable for manufacture of cement. Only in Ukhrul areas the total deposit of limestone has been worked out at 5.79 million tonnes at a depth of 105 metres, 0.26 million tonnes at Konggoi about 18 km. south east of Ukhrul and 1.88 million tonnes at Hungdung. The total deposit of limestone in this area can sustain a cement plant of modest

capacity of 300 tonnes a day for about 45 years. The G.S.I. has also reported the availability of limestone in the Disang group of rocks between pallel and Chakpikarong. These limestone bands are found (1) between 32/4 and 32/6 milestone on the Imphal-Moreh road east of Pallel, (2) East of Toupokpi, and (3) at Chakpi-Karong. The thickness of the gray, massive limestone band is 5 m. at Chakpikarong, 30 m. near Toupokpi and 196 m. on Imphal-Moreh road.

Asbestos: In the Tengnoupal District, thin uneconomic veins of antigorite and chrysolite asbestos have been reported from the massive serpentinite rocks near Moreh, Nepali Basti and Kwatha. In the Manipur East District, a small quantity of asbestos is available in the eastern part of the district.

Chromite: The G.S.I.has located two small deposits of chromite a little north of Sirohi peak containing partly metallurgical grade ore. For the India as a whole this ore is very limited. The G.S.I. in their report mentioned that the occurrences are important indicators of possibility of locating larger

TABLE - II

MAJOR MINERALS AND MINERAL BASED INDUSTRIES IN EAST, TEMENGLONG AND SOUTH DISTRICTS

I. EAST DISTRICT:

Deposits	Reserve	Quality	Industry
Ukhrul Limestone	5.79 m. tonnes.	cement grade.	suitable for cement establishment of a 300 tonne per day.
Sangdung	2.14 m. tonnes.	cement grade.	Plant is under active consideration.

II. TEMENGLONG DISTRICT:

Nepali Basti	To be ascertained	Chromite	May be suitable for use in metallurgy as refractory material.
Nampesh, Kwatha and Noreh Areas	To be ascertained	Nickel 4000 parts per m. in the soil (0.9% nickel).	After proper beneficiation may find use in metallurgy.

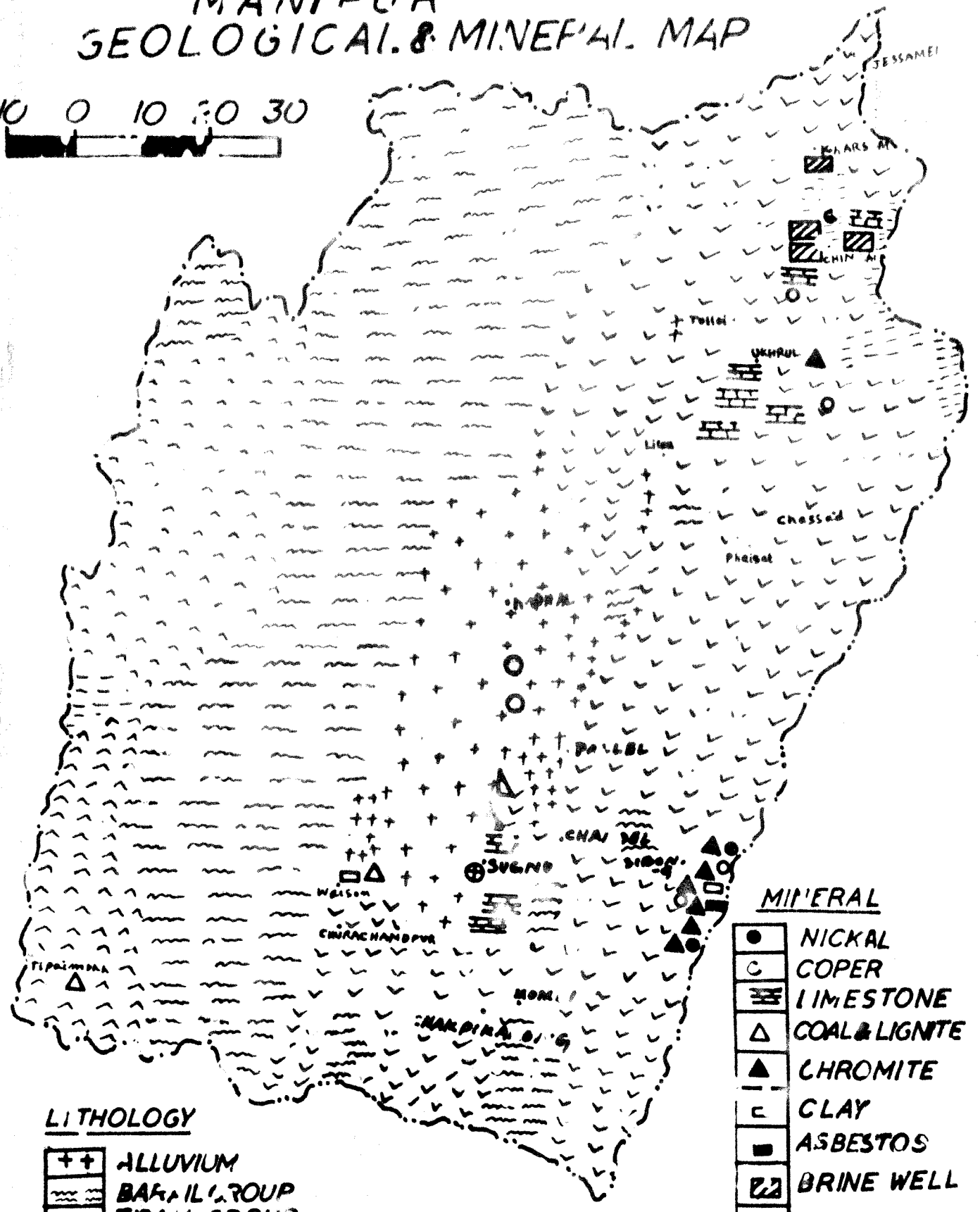
III. SOUTH DISTRICT:

Deposit	Reserve	Quality	Industry
Kongvai	2.57 m. tonnes.	Plastic	Suitable for use in pottery.
Kongvai	12,262 m. tonnes (down to 25 m)	Lignite.	May find use in the proposed cement plant near Ukhrul.

Source: Geological Survey of India: Know Your District, Tengnoupal District, Manipur East District and Manipur South District. 125th Anniversity celebration 1851-1976.

MANIPUR
GEOLOGICAL & MINERAL MAP

10 0 10 20 30



SOURCE: GEOLOGICAL SURVEY OF INDIA 1973 & 76.

FIG. NO. 4

deposits in future. A small quantity of chromite is also available near Nepali Basti of Tengnoupal District covering an area of about 90 sq.km. and maximum thickness of 0.3 m.

Copper: The G.S.I. has also revealed the occurrences of copper in the Tengnoupal district of the State. Nickel bearing copper sulphite, chalcopyrite, chalcocite and malachite are found at Bungao and Kangal Thana. Occurrences of malachite azurite and magnetite has been reported from the serpentinite rock on Sadamching hill about 5.6 km. north of Kwatha village. Small quantity of copper is also available at Ningfi, Kwatha and Ramine.

Nickel: Nickel associated with the serpentinite rocks has been occurred at Kangpesh and Kwatha areas. In their geochemical and other methods, the G.S.I. has found that metallic nickel was dispersed in the soil in fairely high concentration and in their quantitative estimates, the percentage of nickel varied upto 0.9 per cent. Soil samples from the Moreh area containing weathered serpentinite rock were found to contain 0.24 to 0.9 per cent nickel.

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Lignite: The availability of lignite has been reported near Kongvai village, Tureloo valley and Manipur South district. The deposits have been studied by considerable amount of drilling and a reserve of 12,262 million tonnes has been proved in this area. The lignite can be used in the manufacture of cement in the cement plant proposed near Ukhrul. (See map no.4).

3.2 AGRICULTURE:

In the resource base, agricultural resources is the most important and studied a little in detail. Agriculture is the back-bone of the economy of Manipur and 71 per cent of the labour force depends on agriculture for their livelihood. Its share of contribution to the state's domestic product was 50 per cent in 1973-74. Cultivation is almost mono-cropped with rice accounting for 90 per cent of agricultural produce and 86 per cent of the total cultivated area and thus covered the largest area of cultivable land. It is the stapple food of the State and is grown through the hills and dales of the state. Agriculture, particularly rice cultivation occupies

such a very high dominant position in the state that its contribution to the State Domestic product varies sharply from year to year depending upon the capricious rainfall on which the success or failure of crops, mainly rice depends. The state income fluctuates with the increase or decrease of the agricultural production. The phenomenon of the fluctuation of state income depending upon the success or failure of the state's agriculture is a distinguishing feature of no upward trend. The next important food-grain is Maize which covers only 6 per cent of the gross cropped area and grows mostly in the hills. Pulses, tobacco, potato, chillies and vegetables are grown throughout while sugarcane in the valley, citrus fruits in the hills are important cash crops.

3.3.1 Operational Holdings

Cultivation on small sized holdings is the dominant feature. The findings of the NSS, 26th Round (1971-72) 'State Sample' clearly reveals that the number of households having operational holding of 10 acres and above is negligible. In the valley about 10 per cent of rural households had no operational

holdings and that the operational holdings were all below 20 acres. In the hills 7 per cent of the households does not possess land and that all the operational holding size of 1.25 acres to 7.49 acres constitutes 66 per cent of the operational land in the valley and 88 per cent in the hills. Land available for cultivation is only 8 per cent of the reported area and it has remained more or less stationary during the last two decades. The per capita land available in 1971-72 was around 0.6 hectare only. Table-III shows the operational holding in both the valley and hills.

TABLE - III

ESTIMATED HOUSEHOLDS AND AREA OPERATED IN PERCENTAGE BY SIZE OF OPERATIONAL HOLDINGS

Size of household operational holding (acre)	P.C. Households in Valley	Hills	P.C. of area operated in Valley	Hills
Operating no land	9.77	7.44	0.00	0.00
0.01 - 0.49	10.16	5.37	1.12	0.34
0.50 - 0.99	6.27	6.48	2.41	1.78
1.00 - 1.24	0.81	4.95	0.40	1.99
1.25 - 2.49	31.91	27.18	24.73	20.09
2.50 - 4.99	28.57	35.02	44.24	44.48

Size of household operational holding (acre)	P.C. Household in Valley	Hills	P.C. of area operated in Valley	Hills
5.00 - 7.49	7.49	11.20	19.91	23.60
7.50 - 9.99	2.15	1.65	7.43	5.00
10.00 -12.49	0.28	0.71	1.42	2.72
12.50 -14.99	0.10	-	0.61	-
15.00 -19.99	0.10	-	0.73	-
20.00 and above	0.00	-	0.00	-
All classes.	100.00	100.00	100.00	100.00

Source: Statistics Department, Govt. of Manipur
Economic Review, 1976-77 p.5.

3.3.2 Land Utilisation:

It can rightly be said that there has not been actual planning for agricultural development in Manipur and only very recently the Government of Manipur has started planning for agricultural development. This is clearly proved by the fact that there is so far no systematic land utilisation data and large and medium irrigation projects have not been constructed. Whatever some land utilisation data available is only for

valley area. Only the valley area of Manipur Central District constituting 1/10th of the total geographical area in the reporting area for which land utilisation statistics were available till 1963-64. No systematic data for land utilisation were available for the last several years as there is no system for updating land records. Recently Revenue Department has furnished data of land utilisation for 1973-74 which together with those of earlier years for the valley are given in table No.IV.a. The latest land utilisation data for 1976 of the valley region of the Manipur Central District constituting the 4 sub-divisions has been furnished by the statistics department. This is separately given in table No.IV.b.

During 1952 to 1955 there was no change in the reporting area. But there was a slight decrease in uncultivated land from 25 per cent in 1952 to 21 per cent in 1955 and increase in the net sown area from 59 per cent to 63 per cent in the same year. No change was recorded in forest and not available for cultivation'. During the period, no double cropping was introduced and therefore, gross cropped area was equalled to net sown area. In 1963-64 the reporting

area equalled to net sown area and increased the reporting area a little from 140 thousand hectares in 1952 to 144 thousand hectares in 1960-61. The area under net sown area remained more or less the same as it was in 1955-56 but area under not available for cultivation was a little increased. At this time double cropping was marginally introduced only by 2.92 per cent of the total reporting area. In 1963-64 the same trend contined more or less the same as it was in 1960-61.

Data for 1971 and 1972 relates for the whole Manipur both hills and plain area (ad hoc estimates). Only Manipur Central District excluding its Jiribam sub-division makes the plain area and the remaining 5 districts constitute hill region where cultivation is not suitable. That is the reason why area under "forest and not available for cultivation"(27 and 65 per cent) are very high and area under net sown area is as small as only 6 per cent to the total area. In 1973-74 again which refers only to the valley region where the reporting area was increased from 145 thousand hectares in 1963 to 151 thousand hectares. The area under forests and 'not available for cultivation' suddenly decreased but acreage under net sown area increased to 73.93 per cent from 64.35 per cent in 1963-64 but area sown more than once was only 3.10per cent.

TABLE - IV A

LAND UTILISATION STATISTICS (in 000 hectares)

	MANIPUR VALLEY*					MANIPUR STATE **	
	1952-53	1955-56	1960-61	1963-64	1973-74	1971-72	1972-73
1. Reporting Area	140	140	144	145	151	2211	2211
2. Forests.	8(5.72)	8(5.72)	8(5.86)	8(5.51)	0.5(0.33)	602(27.23)	602(27.23)
3. Area not available for cultivation.	15 (10.58)	15 (10.58)	19 (13.47)	19 (14.35)	10 (65.27)	1445 (65.33)	1445 (65.33)
4. Uncultivated land excluding fallow land.	31 (22.16)	26 (20.59)	25 (17.15)	24 (16.66)	25 (16.77)	24 (1.09)	24 (1.09)
5. Fallow land	4(2.79)	-	0.2 (0.14)	0.2 (0.14)	4 (2.71)	Negli	Negli.
6. Net Area Sown	82 (58.65)	88 (63.05)	92 (63.75)	94 (64.35)	112 (73.93)	140 (6.33)	140 (6.33)
7. Area sown more than once.	Nil	Nil	4 (2.92)	5 (3.23)	5 (3.10)	7 (5.00)	22 (15.71)

Sources: * Statistics Department, Government of Manipur: Economic Review 1975-76 p.16

** North Eastern Council Secretariat, Shillong: Basic Statistics of North Eastern Region 1977-78

Figures in bracket are in percentages.

TABLE - IV b

LAND UTILISATION STATISTICS OF MANIPUR VALLEY BY SUB-DIVISION WISE. - 1976

	Imphal-West sub-division	Imphal-East sub-division	Bishenpur sub-division	Thoubal sub-division.	Total for the valley
1. Reporting area for land utilisation statistics.	45.3	22.1	35.0	33.6	136.0
2. Forest.	-	-	0.8 (2.28)	-	0.8 (0.58)
3. Area not available for cultivation.	6.8 (15.01)	3.9 (17.64)	4.9 (14.00)	8.2 (24.40)	23.8 (17.50)
(a) Land put to non-agriculture use.	6.8 (15.01)	3.9 (17.64)	4.7 (13.42)	6.3 (18.75)	21.7 (15.95)
(b) Barren & uncultivated land.	-	-	0.2 (0.50)	1.9 (5.65)	2.1 (1.54)

	Imphal-West sub-division	Imphal-East sub-division	Bishenpur sub-division	Thoubal sub-division.	Total for the valley
4. Other uncultivated land excluding fallow land.	12.9 (28.47)	4.6 (20.81)	7.8 (22.28)	12.4 (36.90)	37.7 (27.72)
(a) Permanent pasture.	1.1 (2.42)	0.6 (3.61)	1.2 (3.42)	-	3.1 (2.27)
(b) Land under miscellaneous.	-	-	1.2 (3.42)	-	1.2 (0.88)
(c) Culturable waste land.	11.8 (26.04)	3.8 (17.19)	5.4 (15.42)	12.4 (36.90)	33.4 (24.55)
5. Fallow land	-	-	1.5 (4.28)	-	1.5 (1.10)
6. Net sown area.	25.8 (56.95)	13.6 (61.53)	20.0 (57.14)	13.0 (38.69)	72.4 (53.23)
7. Area sown more than once.	-	-	1.6 (4.44)	-	1.6 (1.87)
8. Gross cropped area.	25.8 (56.95)	13.6 (61.53)	21.6 (61.71)	13.0 (38.69)	74.0 (54.41)

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The net area sown in the valley went on increasing gradually from 82 thousand hectares in 1952 to 112 thousand hectares in 1973-74. Upto 1963-64 the area not available for cultivation gradually increased but it went down in 1973-74. Thus with the increase in population, the area under cultivation went on increasing. Without encroaching on the pastures lands and current fallows which are essential for the live-stocks, there is enough scope for increasing the area under cultivation by reclaiming lands which are swampy and water logged in the valley and to this extent, the pressure on land will be reduced and change in crop pattern possible. The area under double cropping is still very negligible which can be increased by introducing irrigation system. Coming to the land utilisation statistics of the 4 sub-divisions of the Manipur Control District (Table-IV b) which constitutes the detailed study area, it clearly shows that the area under forest is very marginal only 0.58 per cent of the total valley area in the Bishenpur sub-division. In the other three sub-divisions there is no forest area. The statistics shows that the only resources which Manipur

valley possess is the fertile land where most of the state's requirements of food are grown. The hilly regions are not suitable for cultivation and most of its requirement of food are imported from the valley. On the other hand the valley region does not have any forest and mineral resources. These resources are available only in the hilly areas which so far are not fully exploited and surveyed.

Imphal East sub-division has the highest area under net sown area (61.53 per cent) followed by Bishenpur (57.14 per cent) and Imphal West (56.95 per cent). Thoubal sub-division has the least (38.69 per cent) as against 53.23 per cent of the total valley area. Area under double cropping is totally negligible (only 1 per cent of the total valley in Bishenpur sub-division leaving the other three sub-divisions without double cropping). Under such a condition of very limited land resources with less diversified cropping pattern and slow rate of industrial development on the one hand and with no large and medium scale industries except for some small scale industries and high rate of population on the other, heavy pressure on land is the natural outcome. However, there is enough scope for increasing area

under cultivation by reclaiming from area not available for cultivation (18 per cent) and bringing land under double and diversified cropping with assured irrigation facilities.

So far the area brought under double cropping in the Manipur is very negligible only about 3 percent in the valley in 1973-74. Thus there is enough scope for the introduction of double and diversified cropping pattern by assuring adequate water supply through irrigation. But so far in Manipur there is no big and medium irrigation projects and therefore it is essential that increased irrigation facilities should be made available to the farmers. Only then more area can be brought under double and diversified cropping. It is however, possible to suggest a few crops such as sugarcane, tobacco, potato, vegetables, oilseeds especially mustard and some rabi pulses such as gram and pesa. The cotton cultivation which was once very popular in the state has been neglected in the past. Recently the Government of Manipur has initiated action for encouraging cotton cultivation with a view to supply the raw materials to the spinning mill at Lgetang Khunou. "The anticipated production for

TABLE- V

CROPPING PATTERN (Area in '000 hectares).

	1971-72	1972-73	1973-74	1974-75	1975-76
Rice	135.8 (82.82)	146.6 (83.72)	169.8 (86.63)	176.5 (84.69)	177.2 (86.22)
Wheat	2.7 (1.64)	0.3 (0.17)	0.1 (0.05)	0.4 (0.19)	0.5 (0.24)
Maize	6.6 (4.02)	14.0 (7.99)	9.3 (4.74)	12.6 (6.04)	10.9 (5.30)
Pulses	5.5 (3.35)	4.6 (2.62)	7.5 (3.82)	6.6 (3.16)	6.0 (2.91)
Sesamum	2.47 (1.50)	1.5 (0.85)	1.6 (0.81)	2.1 (1.00)	1.8 (0.87)
Rape & Mustard.	2.7 (1.64)	2.5 (1.42)	2.0 (1.02)	3.1 (1.48)	2.5 (1.21)
Sugar(cane)	1.2 (0.73)	1.2 (0.68)	1.1 (0.56)	1.5 (0.71)	2.4 (1.16)
Ptotato	1.8 (1.09)	1.3 (0.74)	2.3 (1.17)	2.1 (1.00)	1.7 (0.82)
Dry Chillies	5.2 (3.17)	3.1 (1.77)	2.3 (1.17)	3.5 (1.67)	2.5 (1.21)
TOTAL	163.97 (100.00)	175.10 (100.00)	196.00 (100.00)	208.40 (100.00)	205.5 (100.0)

Figures in brackets indicate percentages.

Source: Deptt. of Statistics, Govt. of Manipur, Economic Review, 1976 p.45.

TABLE - VI

YIELDS IN KGS. PER HECTARE

	1971-72	1972-73	1973-74	1974-75	1975-76
Rice	1168	1038	1405	1557	1560
Wheat	1556	667	1000	1250	1434
Maize	2591	1571	2925	1770	2165
Pulses	338	478	458	392	399
Sesamum	476	482	490	482	482
Rape & Mustard.	469	412	547	386	396
Sugarcane	37692	38213	40398	38370	38370
Potato	5058	4788	3236	4185	4185
Dry Chillies	637	634	615	606	606

Source: Statistics Department, Govt. of Manipur:
Economic Review 1976-77. p-45

1976-77 is 2000 hectares with a production of 500 bales and the target for 1977-78 is to cover 2200 hecates into a production of 550 bales".4 With the additional area made available for cultivation and the introduction of double cropping it should be possible to shift from a mono-corpping of paddy to a more diversified crop patterns.

3.3.3 Horticulture

By its varied nature of climate and altitudes, Manipur is best suited for the development of horticulture. The soils are loamy and fertile and have assured water supply. Certain temperate fruits such as mango, papaya, pine-apple, peach, oranges and vegetables are best suited for their cultivation and thus the lands which are unexploited could be brought under fruit cultivation. "As there is not much local demand and existing produce cannot be sent outside the territory due to difficult and expensive transport cost and the perishable nature of crops, horticulture has not been an attractive line with Manipur farmers. The natural advantages of soil and climate for horticultural

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4. Government of Manipur, Secretariat Planning Department, Draft Annual Plan 1976.p-5.

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crops are not exploited and food crops are grown where fruits might thrive better".[5] The only way to solve the problem and development of horticulture depends upon the well developed transport and marketing system. The territory is specially suited for citrus fruits which grown well at altitudes upto 3000 ft. Oranges are being grown but the orchards are not maintained properly. Proper selection of stock has not been made resulting in low production and poor quality. Steps should be taken to improve the existing orchards through pruning, manuring, disease control etc. and the rejuvenation techniques should be demonstrated by the Department of Agriculture".[6] Pine-apple, a well known fruit of Manipur and also abundantly grown has vast potentialities. It can be grown on all types of lands both terraced and slopes upto an altitude of 4000 hectares.

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5. Government of Manipur, Secretariat Planning Deptt. 1976. Draft Annual Plan p-5.

6. National Council of Applied Economic Research (1961): Techno-Economic Survey of Manipur. New Delhi p.26

3.3.4 Irrigation

From the cropping pattern table it is clear that rice cultivation occupies 86 per cent of the total cultivated area and because of the absence of irrigational facilities the rice is a mono-crop. Area under double cropping is almost negligible. Thus for increasing agricultural production by introducing double cropping and diversification of crops, an essential pre-requisite is assured irrigational facilities in adequate quantity and in time. The Government of Manipur has now planned some major and medium irrigation projects, some of which have already started the work of construction.

"The State has about 2,50,000 acres under cultivation in the valley. The Loktak Lift Irrigation Scheme, a bye product of the Loktak Hydro-Electrict project will feed about 60,000 acres of the total cultivable area. It is estimated that surface water flowing down the main rivers of the State will be of the order of 1.3 m.acre ft. which if harnessed properly will be more than sufficient to serve the purpose of irrigating other valley areas"7. "The 5th plan sets out proposals

for a number of new schemes, apart from intensifying investigation and research works. The target is to cover an area of over 45,000 hectares under irrigation at the end of the plan. Total potential of the schemes proposed is of the order of about 77,500 hectares when completed in all respects. A total outlay of Rs.1026.00 lakhs is proposed. Scheme wise outlay with target is given below".8 (Table-VII).

Adequate demonstration has been made by the Agricultural Department for the use of improved seeds and application of fertilisers and through these demonstrations the farmers have now realised the importance of their use. But the only problem is poverty and unmeasured water. When all the proposed projects are completed most of the requirement of irrigational facilities would be fulfilled and by the time a new era in the agricultural development of Manipur will be ushured. This will ultimately have a far reaching effect in all other sectors of the economy and thereby a situation will emerge for an upward movement of the economy.

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7. Government of Manipur, Secretariat Planning Department: Fifth Five Year Plan 1974-79 p-49.
8. Ibid pp-49-50.

TABLE - VII

OUTLAY AND TARGETS

	Total (Rs.in lakhs)	Irrigation potential '000 Hect.)	Outlay in 5th Plan (Rs.in Lakhs	Irrigation in 5th Plan '000 Hec.)
1. Thoubal Multipurpose.	540	40.00	200.00	800
2. SingdaDam	171	3.00	171.00	3.00
3. Khoupum Dam	60	1.00	60.00	1.00
4. Barrage at Iram Siphaion Imphal river.	100	4.00	100.00	4.00
5. Barrage at Khuga	70	3.00	70.00	3.00
6. Barrage at Wabgai	50	2.50	50.00	2.50
7. Loktak Lift Irrigation Scheme.	462	24.30	360.00	24.30
8. Investigation.	-	-	15.00	-
Total	1862	77.50	1026.00	45.80

Source: Govt.of Manipur, Secretariat Planning Department: Fifth Five Year Plan 1974-79. p.50

3.4 Human Resources

The rate of population growth in Manipur (37.53 per cent) is much higher than the all India figure of 24.66 per cent. This rapid rate of population growth give a heavy pressure on land, agriculture being the main occupation. Even though the growth rate of population is high, the percentage of literacy is as high as 32.9 per cent in 1971 as against the average of 29.3 per cent for all India. In 1975 there were 21 colleges with an enrolment of 11795 students. In 1969 there were two technical institutes with an enrolment of 306 students, 8 weaving instutes and 12 arts and crafts training centres. Therefore, there is no dearth of skilled and semi-skilled labour force in Manipur. Handloom industry is one of the most prosperous industries where particularly women-folk known for their skill in weaving are absorbed the largest. Employment problem in Manipur of both educated and uneducated are increasing in their dimensions. In 1976 there were 24,284 persons on the live register of employment exchange.

Entrepreneurial skill is lacking among the Manipuris. Manufacturing activity is also very few in number. Most of the trading activities including handlooms are controlled by the outsiders. The financial institutions can supply the finance but the necessary managerial and enterepreneurial talent will have to be developed within itself. The entrepreneurial skill can be developed by opening vocational guidance bureau and vocational training institutions. The availability of manpower should be properly exploited for the development needs of the state through proper education and guidance.

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3.5 POPULATION AND SETTLEMENTS:

The total population of Manipur in 1971 census was 10.73 lakhs composed of diverse ethnic, linguistic, cultural and religious groups. Of the total population 57 per cent are the Meeteis, 6.61 per cent the Muslims, 31.18 per cent scheduled tribe, 1.52 per cent scheduled castes and the rest are the Nepalies, the Bengalies, the Jains, the Sikhs, the Budhists etc. The scheduled tribes are classified into 29 tribes which are broadly grouped into two - the Nagas and the Kukis. Most of the tribal people are settledx in the hills and because of their hilly regions economic activities are not best suited. Thus they are economically and socially more backward. The Nagas are comparatively hard working and settled in compact villages in the north-east areas bordering Nagaland. They practice terraced cultivation and resort to Jhuming only to supplement their income. Kukis on the other hand spread out in the hills bordering Burma and Churachandpur District. Jhuming cultivation is their way of life and therefore they are nomadic tribes in search of Jhum land. As such their economic conditions are much worse than their counterpart the Nagas.

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3.3.1 Density of Population

The overall density of population is 48 per sq.km. as against the all India average of 167. But as about 2/3rds of the population is concentrated in the plains accounting for less than 1/10th of the area, the average density gives a misleading picture. In the valley, the density of population is 380 per sq. km. as compared to 18 for the hills. In the hills the density of population is as low as 10 in Manipur West district and 11 in Tengnonpal District. This top sided distribution of population is a clear indication of wide gap in the eccnomic development between the hills and plain economy.

3.3.2 Urban Population

The population of Manipur is distributed in 8 towns and 1949 rural settlements. The towns are Imphal, Kakching, Moirang, Thoubal, Bishenpur, Nambol, Lamlai and Churachandpur. Of the total 8 towns, 7 are concentrated in Manipur Central District and only the last one is the district headquarter of Manipur South District. The total urban population was 1,41,492 which represents 13 per cent of the total

population. Distribution of urban population is also very highly imbalanced with 94 per cent of the total urban population being in Manipur Central District and only 6 per cent in Manipur South District. Distribution of urban population is therefore very uneven with four districts having no town until 1971 census. Further, Imphal is the only town which has population above 1 lakh and other 7 towns have less than 10,000 population. Thus Imphal is the only class I town and has attained the status of a city. The others are 3 class V and 3 class VI towns. This reflects upon the imbalance in the growth of an urban hierarchy.

3.3.3 Rural Population

The population of Manipur is predominantly rural. In the last census of 1971 rural areas consisting of 1949 settlements forms 99.83 per cent areas of the state and 87 per cent of the total population. Of the rural settlements, 1448 settlements had population less than 500; 241 settlements between 500 to 1000; 173 settlements between 1000-2000; 79 settlements between 2000 to 5000 and 8 settlements 5000 and above. Distribution of rural settlements in different size of population is shown in the following table-VIII.

TABLE- VII

NUMBER OF SETTLEMENTS ACCORDING TO DIFFERENT SIZE CLASSES

Rural Population	Manipur North District	Manipur South District	Manipur East District	Manipur West District	Manipur Central District	Tengnopal District	Total
Less than 500	349 (86.38)	320 (88.39)	187 (86.57)	165 (89.67)	224 (39.57)	203 (93.57)	1448 (74.29)
500 - 1000	36 (8.91)	32 (0.83)	22 (10.18)	17 (9.23)	121 (21.37)	13 (5.99)	241 (12.36)
1000 - 2000	15 (3.71)	9 (2.48)	6 (2.77)	2 (1.08)	141 (24.91)	-	173 (8.87)
2000 - 5000	4 (0.99)	1 (0.27)	1 (0.46)	- (	72 (12.72)	1 (0.46)	79 (4.05)
5000 - 10,000	-	-	-	-	8 (1.41)	-	8 (0.41)
Total	404	362	216	184	566	217	1949

(Figures in bracket indicates percentages)

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3.6.1 ECONOMIC ACTIVITIES- INDUSTRY

Geographical isolation of Manipur and non-availability of sufficient power together with transportation problem have been the main factors for industrial backwardness of the state. Transport poses a big problem. The state has no railways and the land communication connecting Mainpur with the rest of India is the Dimapur-Imphal Road (National Highway No.39) with a railhead at Dimapur at a distance of 215 Km. from Imphal. But recently, with the opening of the new second life line i.e., the New Cachar Road - 234 Km. with another railhead at Cachar District of Assam has opennad a new scope for the economic exploitation of the vast natural resources of the West District of Manipur which have for centuries remained unexploited because of the transport and communication bottlenecks. So far the State has no big and medium industries, both the name. Even the small scale industries are smaller in scale compared to the All India Standard, they are hardly distinguishable from the cottage industries. The most important industrial activity is handloom weaving. Besides, there are a few printing presses, automatic servicing and repairing units, tyre retreading units, Saw mills and

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and a factory for manufacturing hume pipes. Thus even though 30 years of planning have been completed, the state has remained one of the most backward regions in India and all the districts are classed as industrially backward districts. This resulted in over-pressure on land and rise in unemployment. The State's forest and mineral resources are practically un-utilised. Abundant natural resources like bamboos of the order of annual yield of 6.8 lakh tonnes suitable for manufacture of paper, pinewood trees having annual yield of 25,000 tonnes, Oak forest resources extending over one lakh acres suitable for tasar silk industry and wood for timber plywood, match industry etc. are available. Besides these, mineral resources like limestone of the order of 6.4 million tonnes suitable for manufacturing cement and positive indications of the presence of lignite, nickel & copper are reported. A large number of agro-based industries can flourish on products like orange, pineapples, maiga etc.

In 1973, there were 116 registered factories under Factories Act 1948, of which 40 units were listed in the sick list, and 76 units comprising of

20 flour mills, 10 dal mills, 17 oil mills, 10 saw mills, 5 units for repair of motor vehicles, 4 printing presses and 10 others were functioning. The total number of people engaged in these industries was 1435 and the working days on an average were 288 in the year. The total capital invested in these factories amounted to only Rs.110.13 lakhs of which fixed and working capital were Rs.51.99 lakhs and Rs.58.14 lakhs respectively. The gross value of inputs was Rs.81.07 lakhs and that of gross value of outputs was Rs.109.52 lakhs amounting to the total added by manufacture of Rs.28.45 lakhs.

Table IX shows the industrial growth in Manipur (organised Sector) from 1961 to 1974. It gives information on the number of registered factories and the capital invested. The data on persons employed and the trend of industrial growth are also given. Upto 1970 the number of factories were showing a rapit increase but from 1970 it showed a sudden decrease from 200 units (reporting) to 111 units and then recovered very slowly. Inspite of its decreasing trends in addition to new industrial units, it showed an increasing trend in the productive capital, persons employed and value added by manufacture.

TABLE-IX

INDUSTRIAL GROWTH IN MANIPUR (A.S.I.)

Items.	1961	1966	1969	1970	1971	1973	1974P
1. Factories							
i. Covered	55	79	138	205	113	116	118
ii. Reporting	54	66	122	200	111	113	115
2. Productive Capital							
i. Fixed (Rs.'000)	628	944	2336	2762	4051	5199	5578
ii. Working (do)	72	93	968	1828	5520	5814	2895
Total (do)	700	1037	3304	4590	9571	11013	8473
3. Persons Employed							
i. Workers (Nos)	98	129	573	644	873	894	1118
ii. Others (Nos)	50	52	129	317	411	541	352
Total (Nos.)	148	181	702	961	1284	1435	1470

Items	1961	1966	1969	1970	1971	1973	1974P
4. Salaries, Wages & Benefits (Rs.'000)	65	108	1476	1973	2181	3122	3116
5. Value of Inputs (Rs.'000)	662	1191	2442	3500	5082	8107	5985
6. Value of outputs (Rs.'000)	742	1518	3960	5146	7180	10952	8404
7. Value added by manufacture (Rs.'000)	80	327	1518	1646	2098	2845	2419

Source: Statistics Deptt. Govt.of Manipur, Economic Review.p.76-77

* Annual Survey of Industries

P stands for provisional.

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In 1973-74 again the Directorate of Industries, Government of Manipur conducted a census of the small scale industries with 1972 as a reference year for data collection in which 425 industrial units were found operating. In these 485 industrial units total number of persons engaged was 3409 with an investment of Rs.90 lakhs in fixed capital, the gross value of output of these units was Rs.115.99 lakhs in 1970, Rs.212.51 lakhs in 1971 and Rs.332.23 lakhs in 1972. The census gives information by district wise which is given in appendix XXI. The table gives a clear picture of the industrial development in the 6 districts of Manipur of which except Central District (valley region), the other 5 districts constituting the hilly region have very few industries indicating that hilly region are very much lagged behind in industrial development. Of the total number of 485 units only in Central District 415 units have been concentrated. This gives a clear picture of the lop-sided industrial development between hills and plain and ultimately in the economic development. Among the industries carpentry (180 units), ready-made garments (60 units), Iron and steel products (27 units) and Agricultural implements and machinery (17 units) are important and also employed the largest number of people.

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One very important characteristic of the small scale industries is that all the industrial units have large excess capacity which in most cases ranges from 50 to 90 per cent (Assembling and Manufacturing cycle and Rickshaw). This is mainly due to the power shortage, inadequate transport and communication system, smallness of market etc. It requires a serious thought for the fuller exploitation of the existing industrial units for the rapid economic development of the state.

3.8.2 PROSPECTS OF LARGE AND MEDIUM SCALE INDUSTRIES:

Manipur has enough scope for the establishment of large and medium scale industries like forest-based, Agricultural based, mineral-based etc. depending on its forest, agricultural and mineral resources which have for a number of years remained unexploited for one or more reasons. Salient features of some important industries are given below:

(1) Cement factory: The Geological Survey of India has already surveyed the three districts of Manipur namely East District, South and Tengnoupal Districts. In the survey, the G.S.I. has discovered large deposits

of lime stone (7.93 million tonnes) in Ukhrul proper and Humdung areas of the Manipur East District. Based on this survey a cement plant of 300 tonnes capacity per day has been proposed by the NEDC Ltd., New Delhi in collaboration with NIDC Ltd., New Delhi. Now the feasibility project report of the cement factory is under consideration by both the corporation. The National Metallurgical Laboratory, Jamshedpur had tested the limestone samples available in Ukhrul and found favourable result for the manufacture of cement. In the Fifth Five Year Plan a sum of Rs.70 lakhs has been sanctioned for the cement Industry to be established at Ukhrul.

(2) Paper mill: While discussing the forestry resources of Manipur, the availability of large quantity of bamboo in the Jiribam sub-division of Manipur has been discussed. The area under bamboo in the Jirri-Barrak drainage is estimated at 2,590 sq.km. On the basis of a per hectare growing stock of 9 tonnes and a life cycle of 6 years, the above area can produce 3,88,500 tonnes of bamboo annually. "A 500 tonnes daily capacity mill working for 330 days a year would need 4,12,500 tonnes of raw materials. Alongwith other

hardwood pulpable species, this much of raw materials could be easily found" ? Based on this availability of vast bamboo resources, pulp and paper mill of 150-200 tonnes per day capacity is proposed at Chandighat in Jirribam sub-division of Manipur central District. The NIDC has already prepared the project report at an estimated cost of Rs.6 crores. A provision of Rs.75 lakhs has been earmarked in the Fifth Plan. In 1974-75 the Planning Commission, Govt. of India has allotted a sum of Rs.1 lakh for site development.

(3) Insulated paper mill: One insulated paper mill of 25 tonnes per day capacity based on pine available in the northern part of Manipur and the East District has been approved by the NIDC to be situated at Karong. The Regional Research Laboratory, Jorhat has completed laboratory test. A provision of Rs.140 lakhs has been alloted for this industry in the State's 5th Plan and provision of Rs.5 lakh has been made for the year 1977-78 to meet expenses on site, acquisition of land and other preliminary expenses.

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9. Industrial Development Bank of India: Industrial Potential Survey: Manipur, Bombay p.26.

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(4) Spinning mill at Loitangkhunou: Handloom industry is one of the most developed and largest industry in Manipur. But because of the import of all the required yarn from outside, it suffers a lot. The annual consumption of yarn by the handloom industry is estimated at 27,105 bales of 400 lbs. each which is brought from outside the State at a very high price because of transport charges. In order to augment the internal supply, the state government has taken up a cotton Spinning Mill Project with 25,250 spindles at Loitang Khunou village, about 17 km. from Imphal at an estimated cost of Rs.238 lakhs but now it has been raised to Rs.556 lakhs. It will produce 8350 bales of cotton yarn of 400 lbs. annually and can give direct employment to about 835 persons, both skilled and unskilled. The Government has simultaneously taken up the scheme of long staple cotton plantation in the hills. In 1973-74, the area under cotton cultivation was 1500 acres and gave employment to about 1500 persons. Construction work of this industry has already been started.

(5) Sugar and Distillary plant at Thoubal: On the basis of the availability of large sugar cane in Manipur, a Sugar Factory of 12500 tonnes crushing capacity at a cost of Rs.3 crores has been proposed. The necessary work relating to the preparation of project has been entrusted to National Sugar Institute, Kanpur for Sugar Factory. The Fifth plan provision for this industry was Rs.50 lakhs and provision of Rs.25,000 has been sanctioned for the year 1977-78 for the development and other preliminary expenses.

A distillary plant with 1000/2000 gallonge per day capacity at a cost of Rs.2 lakhs was also proposed to be attached to the Khandsari Sugar Factory already started functioning with 60 tonnes crushing capacity a day with a total cost of Rs.17 lakhs.

(6) Starch Factory: Rice is the staple food of Manipur. Next to rice, maize is the largest grown food and produces 25,000 tonnes of maize annually which is exported to outside Manipur. On the basis of the availability of maize, it is proposed to establish a ~~mx~~ medium sized starch - cum- corn flakes unit of 60 tonnes

per day capacity. "The plant is expected to produce the following items.[10]

Items	Annual capacity
Starch (Maize)	4000 tonnes.
Liquid Glucose	4000 tonnes.
Maize Germ	2000 tonnes.
Gluten	2400 tonnes.
Husk Fine and Coarse, Bran etc.	3000 tonnes.

The cost of the project is estimated at Rs.44 lakhs of which the foreign exchange component would be about Rs.28 lakhs. In the States Fifth Plan a sum of Rs.15 lakhs has been provided and Rs. 1 lakh for the year 1977-78 to meet the expenses of other preliminary works.

(7) Dehydration Plant: Climatic and soil conditions in the valley region are favourable for the cultivation of peas. About 400 hectares are reported under cultivation of peas and has been estimated at 4000 tonnes. "A dehy-dration plant for processing 1000 tonnes per annum capacity is considered to be an

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10. IDBI - Ibid p-36

economic size. The capital cost of such plant is estimated at about Rs.70 lakhs of which foreign exchange component is about Rs.30 lakhs".[15] If this plant is established the present area under cultivation of peas can further be extended. The demand for dehydrated vegetable so far is not sufficient within the state and the country but the prospect for foreign demand is very high. Therefore, there is enough scope for earning foreign exchange.

(8) Handloom Industry: Manipur is known to the outside for her dance and artistic handloom products. We may rightly say that every Manipuri woman irrespective of caste, creed or rank is a born weaver and every home in Manipur a weaving unit. This industry is the most important of all existing industries providing employment to about 2.5 lakhs people. It is also one of the oldest cottage industries with a heory past and is not only an economic proposition but also a part and parcel of the culture and tradition of the people. Though small state, it occupies 5th position in India regarding number. There are more than 2.8 lakhs

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15. IDBI. Ibid p.36

looms in the state out of which only about 60,000 are fitted with fly-shuttle looms and majority of them are loin looms concentrating mainly in the hilly regions. The industry is considered more or less just like the home industry and the woman folk normally spend their time on the handloom after completing their household work. It produces goods worth of Rs.60 lakhs of which 30 per cent goes outside. The main markets are Shillong, Gauhati, Calcutta, Delhi and Bombay. The Govt.of Manipur opemned sales emporia at important centres like Calcutta, Delhi and Bombay.

However, this aged-old and the most important industry has been facing a number of problems. Of which mention may be made of the shyness of capital, non-availability of yarn ~~regularly~~ at the reasonable rates, marketing problems of the finished products, slow adoption of the new improved appliances etc. As there is no spinning mill in the state, the handloom industry in Manipur entirely depends on raw materials yarn from all over India and mainly from South India. Moreover, the yarn market is in the hands of middlemen who generally exploit the poor weavers. This is one of the

reasons why Manipur handloom clothes find it difficult to compete in outside market. At the same time, the marketing of the finished products is also more or less in the hands of these unscruputous private traders who generally compel the weavers to produce cheaper quality sub-standard goods at low cost and sell at high rates. This ultimately brought a bad name to Manipur Handloom industry. However, with the establishment of the spinning mill which is now under construction, the problem of yarn will be solved in the near future.

Thus Manipur has a great scope for the establishment of large and medium scale industries which so far not exists. Thus the establishment of forest-based, agro-based and mineral-based industries will lead to the construction of well developed net-work system of transport and communication throughout the hills and plains. The development of transport and communication net-work in the hilly region brings the most desired exploitation of potential resources and gives a ready hand for easy means of earning income. This will ultimately lead to the integration of hill and plain economy. By the time Manipur's economy will turn into a new era of break-through and quickly catch up with the

pace of economic development which other states of India have already achieved.

From the above analysis of the resource structure it is quite clear that all the natural resources like forestry mineral etc. are available only in the hill areas. In the plain areas there is no forest resources and investigation of mineral resources is not done. But plain areas are the most fertile areas in which with the mono cropping the whole population of Manipur- both in the hill and the plains are depended. If proper attention is paid by introducing assured irrigation system there is enough scope for double and diversified cropping. The state is also rich in water resources which could be utilised both for irrigation as well as for electricity.

Because of its fertile land and advantage of being plain area in the heart of the hill ranges, the plain is the most densty populated area where economic activities are easily carried on. Industrial activities are carried on in the plain area particularly in and around Imphal area. Thus the dichotomy between the hill and the plain area is not only due to geographical configuration but in the nature of the resource base, levels of economic activities and potentials.

3.7.1 TRANSPORT AND COMMUNICATION:

The development of modern society depends much on the efficiency and well developed transport and communication system. If agriculture and industry are regarded as the body and bones of the economy, transport and communication constitute its nerves. In fact modern economy cannot exist without an efficient system of transport. The development of agriculture, industry, mining etc. are very much interrelated with the well developed transport system. In rural areas, people are steeped in ignorance, superstition, casteism, prejudices, false customs and traditions. These are responsible for hindering labour moving from one occupation to another and in general, for preventing rapid economic progress. It is the development of transport and communication which can break all these century old taboos by supplying new ideas and helps in the diffusion of knowledge. They help to break up caste restrictions and other barriers to rapid economic development. Development of transport open up the remote regions and resources for production. Regions may have abundant agricultural, forest and mineral resources but they may not be developed if they continue to be remote and inaccessible. By linking the

backward regions with the relatively more advanced region, transport development helps in the better and fuller utilisation of resources. Manipur being one of the most backward states is not an exception.

In the light of this discussion it is pertinent to examine how far transport and communication system plays its role in the context of the economic development of Manipur.

The land locked and mostly hilly state of Manipur is generally poor in communication facilities. A large part of the state is still inaccessible. The state does not have any railways and waterways. The undulating terrain, the non-availability of skilled labour, costly surfacing and bridge materials are some of the important problems confronting the rapid expansion and development of roads. The high cost of transportation hampers the rapid economic exploitation of the potential resources of t the state. Thus this small but strategically important state is not well integrated with other parts of the country mainly due to the long felt need of proper communication system within the State and connection to the neighbouring States.

The only land communication between Manipur and the rest of the country is the Imphal - Dimapur Road which connects Imphal with the rest of India having a railhead at a distance of 215 km. from Imphal. This road which passess through the hilly tracts of Nagaland and Manipur is liable to interruption off and on during the rainy season, a period in which air transport service (Calcutta to Imphal) is also likely to be interrupted. However, with the openning of the New Cachar Road on 11th June,1973, the State has a second life line. This road also being passed through the terrains, is not free from the interruption during the rainy season.

Road communication in the state is not satisfactory. This is more specially in the hill region. Imphal, the state capital is not well connected by road with some of the important hill areas and hill regions. The villages are not connected with motorable roads. In rural areas bullock carts are the only means of communication. Thus there is a lack of proper communication system within the state and the rest of the country. The result is that imported articles cost more when they reach the consuming points, while local products fetch much less than they

should to the products. Restriction of transport service during night time and the one way trade movement because of little exports form the state added to the already high cost of transportation. The needs of proper administration, particularly maintenance of law and order in this very sensitive border State calls for the importance of better transport system.

The openning of the second life line, the 224 km. long Imphal - Jiribam Road known as New Cachar Road has reduced the transport bottlenecks to a great extent by transporting essential goods like food articles, iron, cement etc. from another railhead at silchar. This road passes through the fertile valley of Imphal West, Sadar Hills, Nungba and Jiribam sub-division. These regions have potential fertile agricultural land and forest resources. Of the total area of 19,257 acres in Jiribam, homstead, and paddy fields account for 8374 acres, horticultural farms accounts for 120 acres and khas land a accounts for 10,763 acres. More than 80 per cent of the Khas land consists of small hillocks unsuitable for agriculture but extremely suitable for horticulture. Various kinds of fruit like pine-apple, bananas, Jackfruits, papayas, Oranges, lemons, coconuts etc. grow in plenty. Indeed Jiribam can be developed as one of the best orchid farm in the state.

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The openning of the New Cachar Road also opened an important means of the exploitation of the vast potential forest resources of the Western Forest Division of Manipur with its head office at Jiribam. It covers the Western part of Mungbe, Jiribam, Tipaimukh and a part of the Jiri-Barak drainage forest - a region covering the most extensive and sizeable forest area of Manipur. Various kinds of timber like teak (Chingau), Champa (Lieheo), Mukai (Shal), Phoiba Hoinesana (Uningthou), Schima Wallichie (Ushoi), Simal (Tera) etc. are available in plenty. Among the minor forest products, cane, cinnamon, betal leaves, agar and orchids are important. Rubber plantations also occur here and schemes for future rubber plantation in Manipur should form integral part of land use planning in the forest areas.

The state had 960 kms. of road on 31.3.1956 and it was increased to 1,705 in 1961 of which only 588 kms. were surfaced. The expenditure on road communications were Rs.0.8, Rs.1.9, Rs.4.00 and 10.9 crores in the first, second, third and fourth plans. With these expenditures on road, the average road length in the state is 12km. per 100 sq.kms. of area out of which only 4.5 kms. were surfaced. This was raised to 15.7 kms. in 1976. Of this 8.2 kms. road length was surfaced. This is below the all India average of 40 km. per 100 sq.km.

of area.

While drawing up the 5th Plan, "it was hoped that major progress would be achieved in connecting all districts and sub-divisional head quarters with the capital and that the road portions of the creation of the infrastructure for the development of Manipur completed by the beginning of the 7th Plan". [12]

The Draft Annual Plan further pointed out that "the plan ceiling as well as annual allotments during 1974-77 have been low and therefore at the present rate of progress it is unlikely that the linking up of all districts and sub-divisional head quarters with the capital by all weather roads will be completed before the end of the 6th Plan, while the roads portion of infrastructure itself will be completed only during 7th plan". [13] Out of 1949 villages in the state, only 815 villages have so far been connected with jeepable fair weather roads by the end of the 4th plan. Of the 6 districts in the state only 3 districts have been connected even by a metalled road by the end of 2nd year

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12. Government of Manipur, Secretariat Planning Department, 1976: Draft Annual Plan. p-165.

13. Ibid: p-166

TABLE - X

ROAD LENGTH IN MANIPUR AND PLAN PROPOSALS FOR 1978-79(in Km)

Category of Road.	Length as on 31.3.1976			Proposals for 1978-79		
	Surfaced	Unsurfaced.	Total	Surfaced	Unsurfaced	Total
National Highway	209	-	209	209	-	209
State Highway	450	30	480	472	8	480
Major District Roads	270	220	490	390	100	490
Other Districts Roads	70	160	230	140	120	260
Village Roads.	280	1260	1540	370	1290	1660
Border Roads.	565	-	565	565	-	565

Source: NCAER (1977) Provisional Report: The North Eastern Regional Transport Survey. New Delhi- p.175

of the 5th plan "Besides, out of 25 sub-divisions, two sub-divisions were not yet connected by any road and 6 sub-division are connected only with a jeepable kutcha fair-weather road. Many health centres, police stations, Block Head quarters in the hills have not been connected by any road so far. The efficiency of the administration and maintenance of the law and order in this sensitive Boarder state depend on the construction of essential minimum net work of important roads. Even generation of resources and building a viable economics will depend almost entirely on a good system connecting different parts of the state. Otherwise transportation of agricultural and forest products and exploitation of minerals cannot be carried out".[14] Thus lack of proper system of transport and communication mainly responsible for wide gap in the levels of economic development between the hill and the plain economics. The Transport and Communication systems are the nerves through which the spread effects of development between the different parts are transmitted. Until and unless all these nerves

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14. Ibid p-166

are active and sensitive, the initial patterns of development are frozen into the particular spot and dichotomy between the hill and plain economies will remain and perhaps accentuate. Thus for economic integration and narrowing the gap between the two economies not only the sub-divisional and district head quarters should be linked up, but the areas which have potential for development should also be provided with necessary transport and communication system.

3.7.2 Power

One of the most important factor for industrial backwardness in Manipur is non-availability of adequate power. The State at present does not have known deposits of coal and oil for generating energy. Hydel power is the only source of power for solving the acute shortage of power. Fortunately the state is endowed with rich power potential which awaits exploitation. The per capita consumption of power is pitifully as low as 11 kw. as against 26 in Assam.

The present supply of power is met from 3 main power stations viz., Imphal Diesel power station, Leimakhong Diesel power station & Liemakhong Hydro Electric Station and 6 other small diesel- based genera-

ting centres at Thoubal, Jiribam, Moreh, Moirang, Ukhrul and Mao. But the supply of power is much less than the demand for power. This has resulted in pending of 3000 applications for domestic supply and 300 applicants for small industrial units in 1968-69.

The present power problem can only be solved after the completion of the Loktak Hydro Electric Project which is now under construction. It will generate 105 MW which can meet not only the demand of Manipur but will also supply power to the neighbouring state of Nagaland. It is a multipurpose Hydro-electric project located about 45 Km. south of Imphal and it will irrigate vast areas and bring marshy land under cultivation through proper drainage. The project will give facility for lift irrigation to 24,000 hectares of land in Bishenpur, Churachandpur and Imphal west sub-divisions and serve to reclaim another 17,000 hectares of cultivable land. Power from this project was originally expected to be available by the middle of 1975 but because of some difficulties in the construction work the project is yet to be completed. Thus the prospects for industrial development depend very largely on the availability of power.

3.8 Occupational Structure

The total population of the State is distributed into workers and non-workers in the ratio of 35 : 65. Out of the working population, cultivators forms 67 per cent, household industry 9.34 per cent and trade and commerce 3.54 per cent. Percentage of people engaged in other industrial categories is insignificant. Thus the economy of Manipur is predominantly agricultural in as much as 70.65 per cent of the workers are engaged in agriculture. Next to agriculture, household industry is the largest industry where most of the people mainly women folk are absorbed. The percentage of women working in the household industry is 22.91 which is much higher than the percentage of men which is only 2.40. In the valley region 58 per cent are agricultural workers and 42 per cent are non-agricultural workers as against the 84 per cent to 90 per cent of agricultural workers in the hill regions. This clearly indicates that plain economy is more diversified than their counterparts in the hills.

The percentage of people engaged in non-agricultural activities is 29.4 of which 38 per cent are engaged in manufacturing, processing, servicing and repairs; and 12 per cent in trade & commerce. Construction, transport and communication services

account for about 9 per cent and other services 41 per cent of the non-agricultural workers. In industry female workers are much more than the male workers. The reason is that household industry particularly handloom industry is the most developed industry in Manipur where only female are working.

3.9 STATE INCOME AND SECTORAL DISTRIBUTION:

The Statistics Department has made a quick estimate of the SDP for the year 1975-76 which give a figure of Rs.2497 lakhs at constant prices (1960-61) and per capita income of Rs.201. In 1974-75 the corresponding estimates were Rs.2357 lakhs and Rs.196 showing an increase of 6 per cent and 3 per cent respectively.

In 1975-76 the domestic product at current prices was Rs.9178 lakhs with a per capita income of Rs.740 and corresponding figures for 1974-75 were Rs.8212 lakhs and Rs.684 respectively. The per capita income for all India in 1975-76 was Rs.1005 in 1974 it was Rs.989. At current prices, the increase in State Domestic product of Manipur in 1975-76 over 1974-75 was 12 per cent against a rise of 11 per cent

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in 1974-75 over 1973-74. The per capita income has increased by 8 per cent during 1975-76 and 7 per cent during 1974-75. The estimates of State Domestic product and per capita income for the year from 1960-61 to 1975 -76 at current prices and at 1960-61 prices are given in the following table-IX (see p-93).

SECTORAL DISTRIBUTION OF STATE DOMESTIC PRODUCT:

The contribution of the different sectors of the economy to the SDP can be seen from table-X (see p-78). The tables gives a clear picture of the highly imbalanced economy of Manipur where agriculture is the single largest sector contributing 62 per cent of the total state income followed by Trade, Storage, Hostels and Resturants (8.2 per cent), public services (6.54 per cent) and small-scale manufacturing (4.14 per cent). The fate of the increasing trend of state income solely depends upon the success or failure of agriculture which is in fact quite uncertain.

The economy is less diversified. Industrial development is so backward that there is no single large-

TABLE - XI

STATE DOMESTIC PRODUCT OF MANIPUR, 1960-61 to 1975-76

Year	At current prices		At 1960-61 prices	
	Net SDP (Rs. in lakhs)	Per capita Income (Rs)	Net SDP (Rs. in lakhs)	Per capita Income (Rs.)
1960-61	1187.4	154.2	1187.4	154.2
1965-66	2415.1	267.7	1446.9	160.4
1970-71	4192.8	397.0	1825.7	172.9
1971-72P	4869.2	446.7	1928.1	176.9
1972-73P	5830.2	518.2	1805.5	160.5
1973-74P	7395.9	637.0	2228.4	191.9
1974-75P	8211.9	683.8	2356.5	196.2
1975-76Q	9177.9	740.2	2497.3	201.4

Source: Government of Manipur, Department of Statistics, Economic Review 1976-77 p-14.

TABLE - XII

DISTRIBUTION OF STATE DOMESTIC PRODUCT BY INDUSTRIAL ORIGIN IN 1975-76 (at current prices)

Industry	Contribution in 1975-76 Rs.in Lakhs	P.C.
Agriculture including livestock	5714.3	62.26
Forestry and lodgging	75.1	0.82
Fishing	70.3	0.76
Mining & Quarrying	1.3	0.01
Large Scale Manufacturing	-	-
Small Scale Manufacturing	380.0	4.14
Construction	186.3	2.03
Electricity, Gas & Water supply	35.0	0.38
Transport & Communication	152.9	1.67
Trade, Storage, Hotels and Resturants.	753.0	8.20
Banking & Insurance	41.0	0.45
Real Estate & Ownership of dwellings.	363.2	3.96
Public Services.	600.0	6.54
Other Services.	805.5	8.78
Total Net State Domestic product	9177.9	100.00
Per Capita income(Rs.)	740.2	

scale industry and as such no contribution at all from this sector uptill now. Small scale industies contribute only 4 per cent, construction 2 per cent, electricity, gas and water supply less than 1 per cent. Transport and communication is not adequately developed. It's share to state income was only 1.67 per cent. Similarly development of financial institutions like banking and institutions is insufficient which contributes only 0.45 per cent. Their development is highly essential for the diversification of the economy. Thus the backward economic condition of the state can be summarised in the following way.[15]

(i) 36 per cent of the population are workers and 71 per cent of the total number of workers are engaged in agricultural activities;

(ii) 90 per cent of the State's population as on 31.3.1971 were industrially backward.

(iii) Considering a minimum per capita monthly expenditure of Rs.50 as consumption level just above the poverty line for Manipur, 85 per cent of the total population are below the pov-erty line.

(iv) The state is in the whirepool of a stagnant economy without any industrial development and economic prosperity for quite a long time since independence.

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[15] 0. Statistics Deptt. Government of Manipur: Economic Review 1975-76. p.30

CHAPTER - FOUR

SPATIAL ORGANISATION OF THE ECONOMY- A case Study of Manipur Valley.

4.1 POPULATION AND SETTLEMENT PATTERNS (STRUCTURAL AND SPATIAL)

The Manipur valley forms the Manipur Central District comprising of five sub-divisions - Imphal East sub-division, Imphal West sub-division, Thoubal sub-division, Bishenpur sub-division and Jirriban sub-division. Of the total five sub-divisions the first four sub-divisions forms the Manipur valley region in the heart of the state surrounded by ranges of hills. The valley has an area of 1843 sq.kms representing 8.24 per cent of the State's total of 22356 sq.kms and where 65.31 per cent of the State's population are concentrated with a density of 380 persons per sq.km as against 18 for the hills and 48 for the state.

In 1971 census the number of towns were 8 of which 7 were concentrated in the Manipur valley alone and only Churachandpur town is in the Manipur South District. The urban population in the valley was 1,32,786 which is 18.95 per cent of the valley as against 13 per cent of the State. This valley region is the most urbanised region in the state while the four hill districts are the least urbanised.

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There are 1949 villages in the state of which 463 villages are in the Manipur valley representing 28.62 per cent of the State's total. As already mentioned earlier, out of the six districts in the state except Manipur Central District, the remaining five districts are hilly. Human settlements are of small sizes and scattered. Whereas the valley region is the most fertile and best suited place for human settlements and therefore, there are many large sized villages. There are 8 large villages with population over 5000 where 8.94 per cent of the valley's rural population are concentrated. These large sized villages together with 72 villages of 2000 to 5000 population represent 17.28 per cent of the total number of villages in the valley and they have 46.17 per cent of the rural population. It is this size of population which plays a very crucial role in determining the nodal centre for providing services and amenities. Table XIII and fig.no. 5 clearly show the picture of rural and urban settlements and their concentration of population in different sizes of population. Nearly 83 per cent of the total rural settlements are of less than 2000 population size in which 54 per cent of the

is concentrated. The stability of rural settlements and population is the inherrent characteristic of rural landscape. A large number of settlements do not have essential amenities and facilities even at the minimum level. This calls for the necessity of selecting settlements in the most convenient central places for providing services and facilities.

Secondly, there are a large number of intermediary villages with population between 1000 to 3000 and therefore, very difficult to select settlements which can represent nodal centres for providing amenities and facilities. This problem can be solved by analysing the location and functioning of urban centres in the area. Here accessibility plays a very great influence in deciding the location of various services and facilities.

TABLE - XIII

MANIPUR VALLEY- URBAN AND RURAL SETTLEMENTS

Settlement size.	No.of villages.	P.C.to total villages.	Population	P.C.to total population.
RURAL :				
Less than 200	42	9.07	4,785	0.84
200 - 499	99	19.44	31,257	5.52
500 - 999	113	24.41	80,454	14.81
1000 -1999	138	29.81	1,87,784	33.10
2000 -4999	72	15.55	2,12,352	37.43
5000 -and above	8	1.73	50,697	8.94
Total Rural	463	100.00	5,67,329	100.00

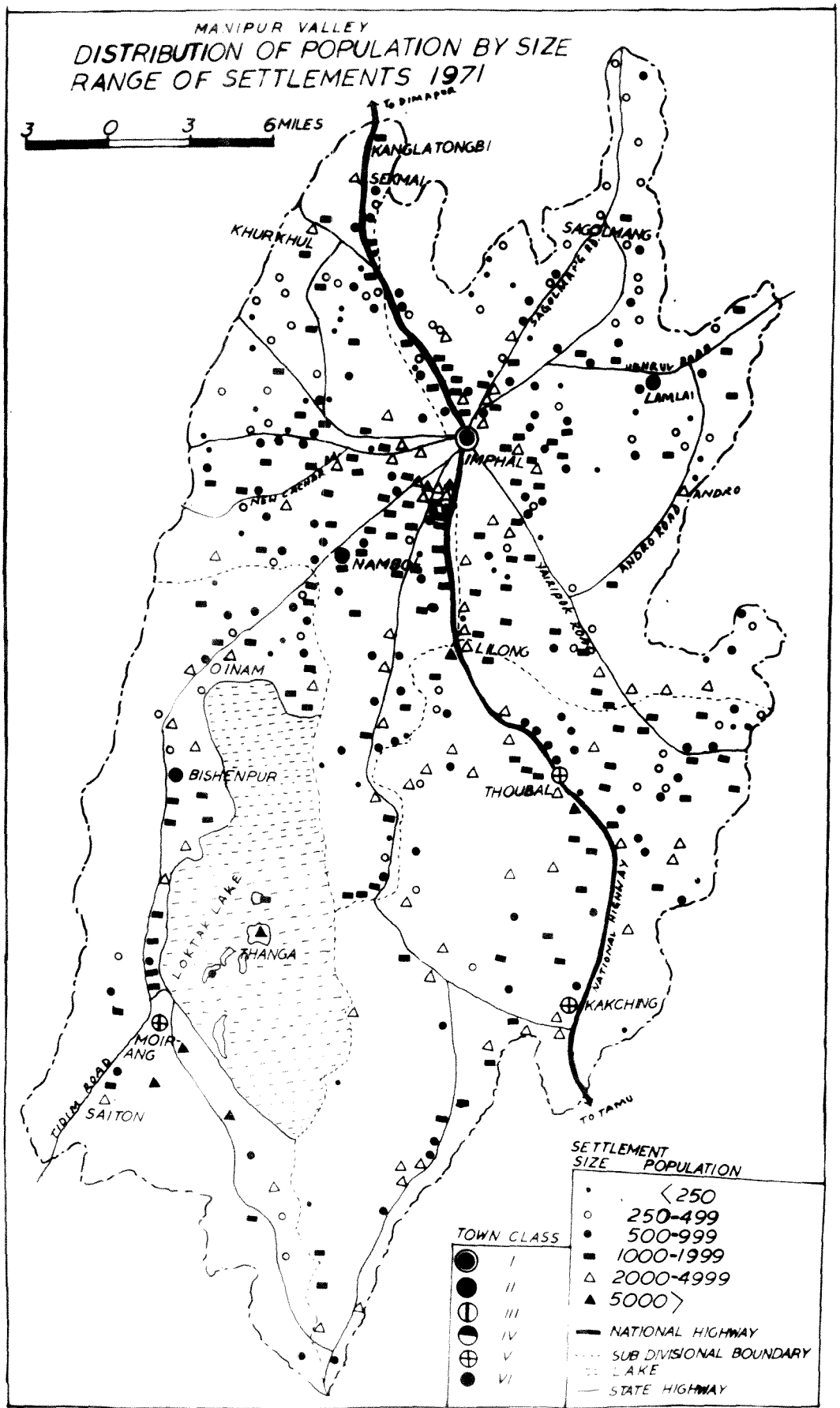
MANIPUR VALLEY
DISTRIBUTION OF POPULATION BY SIZE
RANGE OF SETTLEMENTS 1971
3 0 3 6 MILES
KANGLATONGBI
SEKMAI
KHURKHUL
SAGOLMANG
LAMLAI
IMPHAL
NAMBOL
LILONG
OINAM
BISHENPUR
THOUBAL
LOKTAK LAKE
THANGA
KAKCHING
MOIRANG
SAITON
TIDIM ROAD
TO TAMU
ANDRO
ANDRO ROAD
NATIONAL HIGHWAY
TOWN CLASS
I
II
III
IV
V
VI
SETTLEMENT SIZE POPULATION
〈250
250-499
500-999
1000-1999
2000-4999
5000〉
NATIONAL HIGHWAY
SUB DIVISIONAL BOUNDARY
LAKE
STATE HIGHWAY

FIG NO.5

Settlement size.	No.of towns.	P.C.to total towns.	Population	P.C.to total urban population.
URBAN:				
2000 - 4999	3	42.86	9,749	7.21
5000 -10,000	3	42.86	22,671	17.21
10,000 and above	1	14.28	100,366	75.58
Total urban	7	100.00	1,32,786	100.00
Total (Urban+ Rural)	470	100.00	7,00,115	100.00

There are a large number of villages which do not have amenities and facilities even at the minimum level or with only primary schools sticking to their agricultural lands. This is because of the fact that social facilities are always have a tendency to cluster in places where they are more accessible. Thus the accessibility and linkage pattern play a very important role in selecting settlements for nodal centres for which analysis of central functions and centrality of settlements are relevant.

4.2 THE BASIS OF NODALITY- FACILITIES AND AMENITIES AND THEIR DISTRIBUTIONS:

Centrality of settlement depends upon the number and level of functions performed by the settlement.

- 13 -

However for selecting the variables for the centrality of functions, "there is no full proof method. Any mathematical or statistical procedure used for this purpose has to be rooted in some theory and the assumptions of the technique should be logically and empirically valid. It is this theory behind the technique that virtually dictates the selection of variables".[1] For the present study, availability of secondary data is a constraint apart from the choice of amenities and facilities according to the felt need of the people. In this exercise an attempt is made to use the available data from 1971 census* together with the sources from the publications of the statistics department and other official sources.

"The concept of centrality when applied to a predominantly rural area has to take note of among other things, the population size of the place. This often serves as a proxy variable for many existing and

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* The author had to compile the data from the records available in the census department, Manipur. The District Census Hand Book of Manipur is yet to be published.

1. Bhat L.S.(1976) Micro Level Planning- A case study of Karnal Area, Haryana-India-p.45.

potential functions. This is because larger the population, greater is the present demand for services and functions and greater is the pull of the place to attract them over time".[2] The variables which are selected for the present study are (1) Education, (2) health (3) Post & telegraph (4) Banks (5) Credit Societies (6) Veterinary institutions and (7) Electricity. Study of their pattern of distributions can throw light on how the amenities and facilities are distributed among different size of population in the geographical space.

4.3 PATTERN OF DISTRIBUTION OF SERVICES AND FACILITIES.

4.3.1 EDUCATIONAL FACILITIES:

Educational facilities include primary school, middle school, high school and colleges.(See figure number 6).

Primary Schools: The distribution of primary s schools in the Manipur valley is nearly ubiquitous. Thus out of the 470 settlements including 7 towns 413 settlements (88%) possess this facility. The smallest villages Khalairenkabi (Imphal West) with a population

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2. Ibid p.45.

of only 25 has got one primary school. Most of the large villages have more than one primary schools. Big villages like Kumbi and Kha-Thimungei (Bishenpur sub-division) have 8 primary schools. It is also quite clear from the frequency distribution of primary schools that villages above the size of 100 population have at least one primary school. The pattern of distribution of primary schools in villages of different population sizes is given in table No. XIV. This shows that in villages with population between 400 to 1500, where 50 per cent of the primary schools are concentrated.

Middle Schools: Distribution of middle school facilities is less ubiquitous than the primary schools. Out of the total of 470 settlements, only 111 settlements (24%) have this facility and it occure at the size of 400 population and above. Here one middle school serves about 4 villages. The smallest village Nambol Makha (Bishenpur sub-division) with a population of only 89 has got this facility. Table XIV also gives their pattern of percentage distribution where 78 per cent of the middle schools are concentrated betweeen the population size of 400 to 3000. Almost all the large villages have at least one middle school. Thus over

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population of 800 their distribution is quite even.

TABLE - XIV

EDUCATIONAL FACILITY IN MANIPUR VALLEY

Settlement size.	Total No. of settlement.	No.of settlement having			
		College	High School.	Middle Schools.	Primary Schools.
Over 3000	42	9(81.81)	(20(40.82)	23(20.72)	40(9.69)
1500-3000	86	2(18.19)	15(30.61)	32(28.83)	85(20.58)
800-1500	128	-	13(26.53)	35(31.53)	120(29.06)
400- 800	113	-	1(2.04)	15(13.51)	96(23.24)
200- 400	59	-	-	3(2.70)	46(11.14)
100- 200	25	-	-	3(2.70)	21(5.08)
less than 100	17	-	-	-	5(1.21)
Total	470	11(100.00) (2.34)	49(100.00) (10.43)	111(100.00) (23.62)	413(100.00) (87.37)

Figures in brackets indicate percentages.

High Schools: There are 49 settlements having high school facilities i.e. only 10.43 per cent of the total settlements have this facility. Their distribution is highly uneven necessitating the choice of central places for future location of these facilities. This is

so because as the level of function becomes higher, one village is not sufficient to maintain the function of the higher order and therefore a number of villages has to be grouped together for its maintenance provided the size of the population of the village is not enough for its maintenance. Here 1 high school serves about 10 villages. Only 20 out of 42 large villages above 3000 population have got this facility and between 1500 to 3000 population only 15 out of 86 villages have this facility. But their concentration is the highest (48%) above 3000 population and 31 per cent in between 1500-3000 population. This facility begins to occur in settlements of 800 population and above. All the 7 towns have this facility with the highest concentration of 24 only in Imphal Town followed by 5 in Thoubal, 2 each in Bishenpur and Kambol and one each in the remaining towns. The reasons for the highest concentration of high school in Imphal is that the town besides being the state capital, it is the combined head-quarters of Manipur central district, Imphal West & Imphal East sub-divisions. Besides, the place is highly accessible and transport and communication systems are highly well developed.

Therefore, it has the greatest advantage of establishing educational institutions in and around Imphal Town. It is also the most densely populated area. All the schools, colleges and head offices are concentrated here.

Colleges: In Manipur, college is at the apex of the educational Hierarchy. Recently however, one Jawaharlal Nehru Post Graduate Centre has been opened at Canchipur about 8 kms from the Imphal Town. Regarding its distribution, in certain pockets mainly in town areas it is highly concentrated. Out of the 11 colleges in the study area, 4 are concentrated in Imphal Town and one each in the remaining 5 towns except Lamlai Town where there is no college. There are only two rural settlements having college one at Tekyel and another at Sangaiprou Mamang.

4.3.2 MEDICAL FACILITIES:

The pattern of the distribution of medical facilities both spatially and by population is highly uneven as compared to the educational facilities. Only 16 settlements (3.4%) of the total have health centre, 21 settlements (4.47%) have dispensary and

- -

4 settlements (0.85%) have hospital facilities. Thus even the health facilities at the lowest level are available only in 41 settlements i.e. 7.72 per cent of the total of 470 settlements. This shows that most of the villages lack this facility. Of the 42 large villages only 7 villages possess health centre facility and 6 out of 86 villages of 1500 to 3000 population. Below 1500 population their distribution is almost negligible. Table No. XV shows their pattern of distribution.

TABLE - XV

MEDICAL FACILITY IN MANIPUR VALLEY*

Settlements	Total No. of settlements.	No. of settlements with		
		Hospital	Dispensary	MCW/FC/HC
Over 3000	42	3(75.00)	9(42.86)	7(43.75)
1500- 3000	86	1(25.00)	5(23.81)	6(37.50)
800- 1500	128	-	6(28.57)	1(6.25)
400- 800	119	-	1(4.76)	2(12.50)
200- 400	59	-	-	-
100- 200	25	-	-	-
less than 100	17	-	-	-
Total	470	4(100.00) (0.85)	21(100.00) (4.47)	16(100.00) (3.40)

* Figures in brackets indicate percentage distribution of each facility.

About 44 per cent of health centre facilities are concentrated in 7 villages of 3000 population and 38 per cent in villages of 1500 to 3000 population. Below 400 population this facility is not available at all. Table XV clearly depicts the picture of high concentration in favour of large villages.

Dispensaries: There are only 21 settlements having dispensary facility i.e. only 4.47 per cent of the total number of settlements(470) have this facility. Their pattern of distribution is highly uneven with high concentration in large size settlements. Forty three per cent of this facility is concentrated in villages with population over 3000, 24 per cent in between 1500 to 3000 and 29 per cent in between 800 to 1500 population. Out of the total settlement of 119 with population 400 to 800, there is only 1 dispensary and below which there is no such facility.

Hospitals: Hospitals are at the apex of the medical facility and their pattern of distribution is also highly uneven in favour of town. Out of the 470 settlements, only 4 settlements have this

facility i.e. less than 1 per cent of the settlements has this facility. There are 7 hospitals in the Manipur valley of which 4 are concentrated in Imphal Town only and one in Moirang Town.

From the analysis of the table No.XV and figure number 6, it is quite clear that most of the villages are deprived off medical facilities and therefore selection of appropriate locations calls for integrated development of various levels of facilities.

4.3.3 POSTAL FACILITIES

The postal facility includes post & telegraph offices, post offices with phones and branch post offices (fig.no.6). The pattern of distribution of branch post offices begins to show up in villages of 200 population and above upto the population size of 1500. In this size range of population they are more or less evenly distributed. Their pattern of distribution is given in table number XVI which gives the picture that out of 470 settlements only 97 i.e. 21 per cent have the facility of Branch Post Office showing that large number of villages are deprived off

TABLE - XVI

POSTAL FACILITIES

Settlement size	Total No.of Settlement.	Number of settlements having		
		T.O.	P.O.with phone	B.P.O.
Over 3000	42	6(75.00)	6(75.00)	25(25.77)
1500 -3000	86	1(25.00)	1(25.00)	28(28.87)
800 -1500	128	-	-	23(23.71)
400 - 800	113	-	-	12(12.37)
200 - 400	59	-	-	6(6.19)
100 - 200	25	-	-	1(1.03)
less than 100	17	-	-	2(2.06)
Total.	470	7(100.00)	7(100.00)	97(100.00

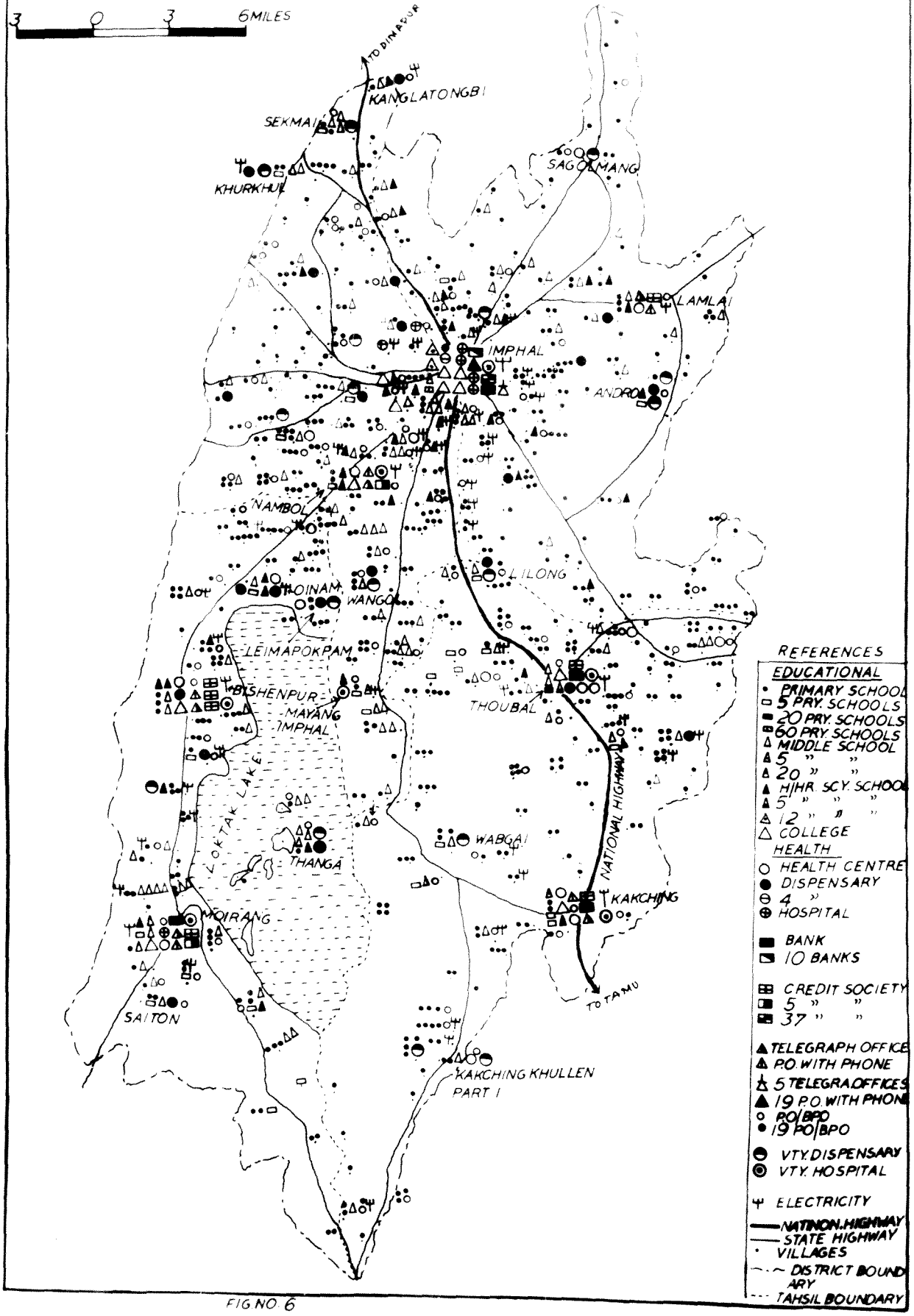
this facility. Fifty five per cent of this facility is concentrated in villages of 1500 and above, 24 per cent in between 600 to 1500. The distribution of post offices with phone and telegraph offices shows that all the rural settlements do not have these facilities which are available only in the towns.

4.3.4 BANKS AND CREDIT FACILITIES

The distribution of banks and credit facilities are confined only in the seven towns leaving not a single such institutions in the rural areas (fig No.6). Among the towns also, there is highly uneven distribution of banks and credit institutions in that Imphal Town has the highest concentration. Eleven out of 14 banks and 37 out of 54 credit societies are concentrated in Imphal Town. The other three towns viz., Kakching, Moirang and Thoubal have one bank each and other three do not have this facility. Regarding credit societies next to Imphal, Moirang follows with 6 credit societies, 5 in Nambol, 3 in Bishenpur and other three one in each settlement.

MANIPUR VALLEY

LOCATIONAL PATTERN OF SERVICES & FACILITIES



REFERENCES

EDUCATIONAL
- PRIMARY SCHOOL
- 5 PRY. SCHOOLS
- 20 PRY. SCHOOLS
- 60 PRY. SCHOOLS
- MIDDLE SCHOOL
- 5 " "
- 20 " "
- H/HR SCY. SCHOOL
- 5 " " "
- 12 " " "
- COLLEGE

HEALTH
- HEALTH CENTRE
- DISPENSARY
- 4 "
- HOSPITAL

- BANK
- 10 BANKS

- CREDIT SOCIETY
- 5 " "
- 37 " "

- TELEGRAPH OFFICE
- P.O. WITH PHONE
- 5 TELEGRA OFFICES
- 19 P.O. WITH PHONE
- PO/BPO
- 19 PO/BPO

- VTY. DISPENSARY
- VTY. HOSPITAL

- ELECTRICITY
- NATIONAL HIGHWAY
- STATE HIGHWAY
- VILLAGES
- DISTRICT BOUNDARY
- TAHSIL BOUNDARY

FIG NO 6

- -

Table XVII also gives their percentage distribution where of the total of 470 settlements only 7 i.e., 1.49 per cent have credit facility and 0.85 have banking facility. Thus there is a great need for their distribution in the rural areas.

TABLE - XVII

BANKS AND CREDIT SOCIETIES

Settlement size.	No.of settlements	No.of settlements with	
		Banks	Credit Societies
Over -3000	42	4	6
1500 -3000	86	-	1
800 -1500	112	-	-
400 - 800	113	-	-
200 - 400	39	-	-
100 - 200	25	-	-
less than 100	17	-	-
TOTAL	470	4	7

Table 4.3.5 VETERINARY HOSPITALS AND DISPENSARIES

There are 7 settlements having veterinary hospitals and 19 settlements with veterinary dispensaries. Of the total of 7 hospitals, 6 are distributed

over the 6 towns and one in rural settlement. Of the 19 settlements having veterinary dispensaries 8 are distributed in settlements of above 3000 population. Their distribution in settlements of different population size are given in table XVIII. It is seen that in settlements of less than 400 population there is no such facility (Fig.No.6).

TABLE - XVIII

VETERINARY HOSPITALS AND DISPENSARIES

Settlement size.	No.of settlement	No.of settlements with veterinary	
		Hospital	Dispensary
Over 3000	42	7	8
1500-3000	86	-	3
800-1500	128	-	5
400- 800	113	-	3
200- 400	59	-	-
100- 200	25	-	-
less than 100	17	-	-
Total	470	7	19

TABLE - XIX

ELECTRICITY FACILITIES

Settlement size.	No.of settlements	No.of settlements with electricity.
Over - 3000	42	24(29.27)
1500 - 3000	86	27(32.93)
800 - 1500	128	20(24.39)
400 - 800	113	8(9.76)
200 - 400	59	1(1.22)
100 - 200	25	2(2.44)
Less than 100	17	-
Total	470	82(100.00)

4.3.6 ELECTRICITY FACILITIES

Table XIX clearly shows how the electricity facilities are distributed in different size of settlements. A large number of settlements do not have electricity; only 82 settlements i.e.,(17.44%) have electricity facility (Fig.No.6). For modernising villages and development of Small Scale Industries, electricity facilities should reach the villages.

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TABLE - XX

VARIATION IN THE AVAILABILITY OF DIFFERENT TYPES OF SERVICES AND FACILITIES

Size of settlements	Total No. of settlements.	Settlements according to the number of function Total number of functions.							
		7	6	5	4	3	2	1	Nil
Over 3000	42	4(100)	8(100)	-	6(40)	8(30)	18(18)	4(1)	-
1500-3000	86	-	-	2(100)	6(40)	6(22)	31(31)	41(15)	-
800-1500	128	-	-	-	1(7)	9(32)	31(31)	83(30)	4(10)
400- 800	113	-	-	-	1(7)	4(15)	13(13)	85(30)	10(26)
200- 400	59	-	-	-	-	-	7(7)	40(14)	12(30)
100- 200	25	-	-	-	1(7)	-	1(1)	19(7)	4(10)
Less than 100	27	-	-	-	-	-	-	8(3)	9(23)
Total	470	4(100)	4(100)	2(100)	15(100)	28(100)	101(100)	280(100)	39(100)
	(100.00)	(1)	(0.43)	(0.43)	(3)	(6)	(21)	(60)	(8)

Figures in brackets give percentages of each facility.

Functions considered are Education, Medical, Postal, Banks, Credits, Veterinary and Electricity.

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Analysis of the clustering and variation of functions in individual settlements brings out the fact that 59 per cent of the settlements have only one function, 21.49 per cent with two functions, 5.74 per cent with 3 functions & 3.20 per cent with 4 functions. There are only 2 settlements each with 6 & 5 functions and 4 settlements with all the seven functions. All the settlements with 7 and 6 functions are the towns. Out of the 2 settlement with 5 functions, one of them is a town and another one is a rural settlement. Thus from table XX it is quite clear that all the villages have only one or two functions at the lower level but very few settlements (8.94%) have 3 to 4 functions.

Now, coming to the distribution of functions by population size, out of the 280 settlements having only one function, 60 settlements are in the size range of 400 to 1500 population and the rest are distributed among small sized settlements. For settlements having 2 functions, out of the 101 settlements 61.38 per cent are concentrated in settlements between the population size of 800 to 3000, 17.82 per cent above 3000 population and 12.87 per cent between 400 to 800 population. Only

7.92 per cent are distributed below 400 population. Of the settlements with 3 functions, consentration is the highest (33.33%) in middle size settlements between 800-1500 population followed by 39.62 per cent in settlements over 3000 population and 22.22 per cent in between 1500 to 3000 population. There is no settlement below 400 population with 3 functions. Coming to the settlements with 4 functions, out of the 15 settlements, 80 per cent are concentrated in settlements above 1500 population. There is only one settlement each in population size of 800-1500 and 400-800 with 4 functions. Only 2 settlements have 5 functions in population between 1500-to 3000. Thus from table XX it is quite clear that a large number of settlements do not have all the functions and 39 villages (8.30%) do not have even a single function. Most of the villages have only 1 or 2 functions at the lower level. Therefore, selection of settlement for nodal centre for providing amenities and facilities becomes necessary. In the absence of these amenities and facilities, rural areas will remain backward and the problems of rural areas will continue for ever which might lead to a widening

gap between the rural and urban areas. This will ultimately lead to threatening of the socio-political stability of the society.

4.4 CLUSTERING OF CENTRAL FUNCTIONS.

The above discussion throws light on how the central functions are clustered in different sizes of settlements.

The services and facilities such as education (at college and high school level), post & telegraphs, hospitals, credit societies, banks, veterinary hospitals are available only in urban settlements. Facilities like high schools, dispensaries, Branch Post Offices begin to show up at settlements above the size of 1500.

The settlements of the size less than 200 seems to possess hardly any of the facilities and services except some primary schools.

In between the large and the small settlements there are a number of settlements where most of the rural population is concentrated. These are the settlements whose size varies from 1000 to 3000 population where clustering of services and facilities does not show any pattern of centrality. Even in a large number of lage settlements middle schools, high schools,

dispensaries and post offices are rarely clustered. A close look into the maps (Fig.Nos.5 & 6) clearly shows that these are the settlements which have poor accessibility. This proves the second hypothesis that inaccessibility inhibits the initial pattern of growth of the regional economy in an integrated manner.

The pattern of clustering of services and facilities among the settlements shows that none of the rural settlements possesses all the functions except 4 & 2 towns. There are only 2 towns with 6 functions and 2 settlements with 5 functions of which one is a town and other is a rural settlement. There are 2 rural settlements which have 5 functions in the population size of 1500 to 3000. Out of the 7 urban settlements 4 have all the 7 functions and 2 have 6 functions. There are 15 rural settlements which have 4 functions of which 6 have population above 3000 and 6 in the 1500-3000 as presented in table number XX.

4.5 COMPOSITE RANKING AND HIERARCHY OF SETTLEMENTS

The quality and type of facilities, amenities and economic activities vary among settlements of similar size and between different size classes. As

such there is the inherent limitation to the measurement of the overall importance/centrality of a place due to combined effect of several attributes contained in them. Yet in practice, it becomes necessary to identify places according to their overall importance judged directly by flows of commodities, goods and services. Where data are not available there could be indirect measurements based on appropriate techniques of working composite scores by assigning weightages to different facilities and amenities etc.

"The hierarchy of settlements in an area is a product of their centrality which in turn is the quality and quantity of the various functions performed by a settlement. Data both on a qualitative and quantitative basis, showing both (a) the number of different types of functions offered and (b) the level at which they are offered are necessary for determining the hierarchy of places. In keeping with the data base and with the nature of the area being studied, a simple weighting technique is preferred for the measurement of centrality and the hierarchy of places."3 The

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3. Sundaram K.V. - Urban and Regional Planning in India p.377.

measurement of centrality and identification of the hierarchical pattern of settlements, if any, necessitates in the final analysis, the construction of a composite index on the basis of the chosen indicators here the seven broad indicators. The hierarchy of settlements is closely related to the hierarchy of central functions which is determined by considering individual central function seperately and by distinguishing their component parts. A central function is composed of many sub-functions and thus, within a particular central function it is possible to identify different levels at which it is being performed. For example, functionally, the educational service is being performed in Manipur valley at the primary school, high school and college level. Thus it is of more relevance to construct a scale of functional hierarchy which in turn can be interpreted in terms of the relative importance of function. A high school is relatively more important than a primary school and college is of higher importance than the high school. Hence, the higher the level of the functional hierarchy, the higher would be the centrality of the place performing that function. Further, the number of central functions

also affect the importance of central functions. For example a settlement with a number of services has a wider complementary region as compared with a settlement with only a few of them. If both the settlements have identical number of functions, then the level of functional hierarchy dominates the whole issue. Thus the question of centrality becomes a matter of relative importance.

Weightages of Central Functions.

Since central function is not homogeneous in nature any study of these functions considers their levels of difference in different settlements. Thus assigning of equal weightage to all the functions is not justifiable. "Unfortunately there is no statistical method or a graded scale by which different levels of a given facility (e.g.medical facility) can be assigned appropriate weightage. It is therefore, desirable to evolve a procedure for giving weightages to various levels that minimises the arbitrariness or subjectivity. The weight to different sub-divisions is assigned according to their distribution among all the settlements on the basis of the principle that greater the scarcity, greater the importance in

terms of centrality and therefore, higher the weightage. The formula can be written as follows:

$$Wi = \frac{N}{Fi} \quad \text{and} \quad Cj = \sum_{i=1}^{K} Wi \times ij$$

Fi = No.of settlements having the functions/ sub-facilities.

N = Total number of settlements.

Wi = Weightage to the ith sub-function.

K = Total number of sub-functions under a given function.

cj = Composite value for that functions for jth settlements.

xij = Value of the ith sub-function in jth settlement.

The method is different from normalising a series by dividing it by its mean though in a special case where no settlement has more than one unit of the sub-function, the weights of the two methods would be identical. We have evolved this method because we believe that if more than one unit gets located at a place it does not make it really ubiquitous. It simply enhances the centrality of that place making the hinterland more dependent on the central place. Hence its weight does not get effected".[4] The weights for the variables are given in the following table.

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4. Bhat L.S.(1976)- Micro-Level Planning. A case study of Karnal Area, Haryana-India p.6.

TABLE - XXI

WEIGHTED SCORES FOR THE VALUES

Total number of settlements in Manipur valley-470
(including 7 urban centres) 482

Services & Facilities.	No. of settlement where they occur.	Weightage
A. EDUCATIONAL		
I. Primary School	412	1.14
II. Middle School	111	4.23
III. High/Secondary School.	99	9.59
IV. College.	8	58.75
B. MEDICAL		
I. HC/New/PC	16	29.38
II. Dispensary.	21	22.38
III. Hospital	4	117.50
C. POST & TELEGRAPH		
I. PO/B.P.O.	97	4.85
II. PO with telephone	7	67.14
III. T.O.	7	67.14
D. BANKS	4	117.50

Services & Facilities.	No. of settlement where they occur.	Weightage
E. CREDIT SOCIETY.	7	67.14
F. VETERINARY		
I. Veterinary Dispensary	19	24.74
II. Veterinary Hospital	7	67.14
G. ELECTRICITY.	83	5.66

On the basis of these weightages, the centrality of settlements in the Manipur valley has been worked out. The major functions, sub-functions and their weightages are given in the above table. From these weightages 6 hierarchical levels of settlements are constructed which are given below:

TABLE - XXII

Levels of hierarchy.	Centrality Ranges.	No. of settlements	Population
I.	6300 and above	1	above 100000 (100,366)
II.	590 - 1050	5	3296-8611
III.	100 - 300	6	1703-8346

- -

Levels of hierarchy.	Centrality scores.	No.of settlements	Population
IV.	50 - 100	6	467-4170
V.	30 - 50	16	515-4933
VI.	12 - 30	57	413-6029
VII.	5 - 12	115	136-7782
VIII.	0 - 5	254	1-4083
Total		470	

TABLE - XXIII

CENTRALITY SCORES OF IMPORTANT SETTLEMENTS

Settlements	Centrality scores.	Population
First Level Hierarchy		
1. Imphal	6799.72	100,366
Second Level Hierarchy		
1. Moirang	1018.08	8,378
2. Nambol	691.90	3,296
3. Thoubal	644.10	5,682
4. Bishenpur	583.47	4,234
5. Kakching.	583.25	8,611

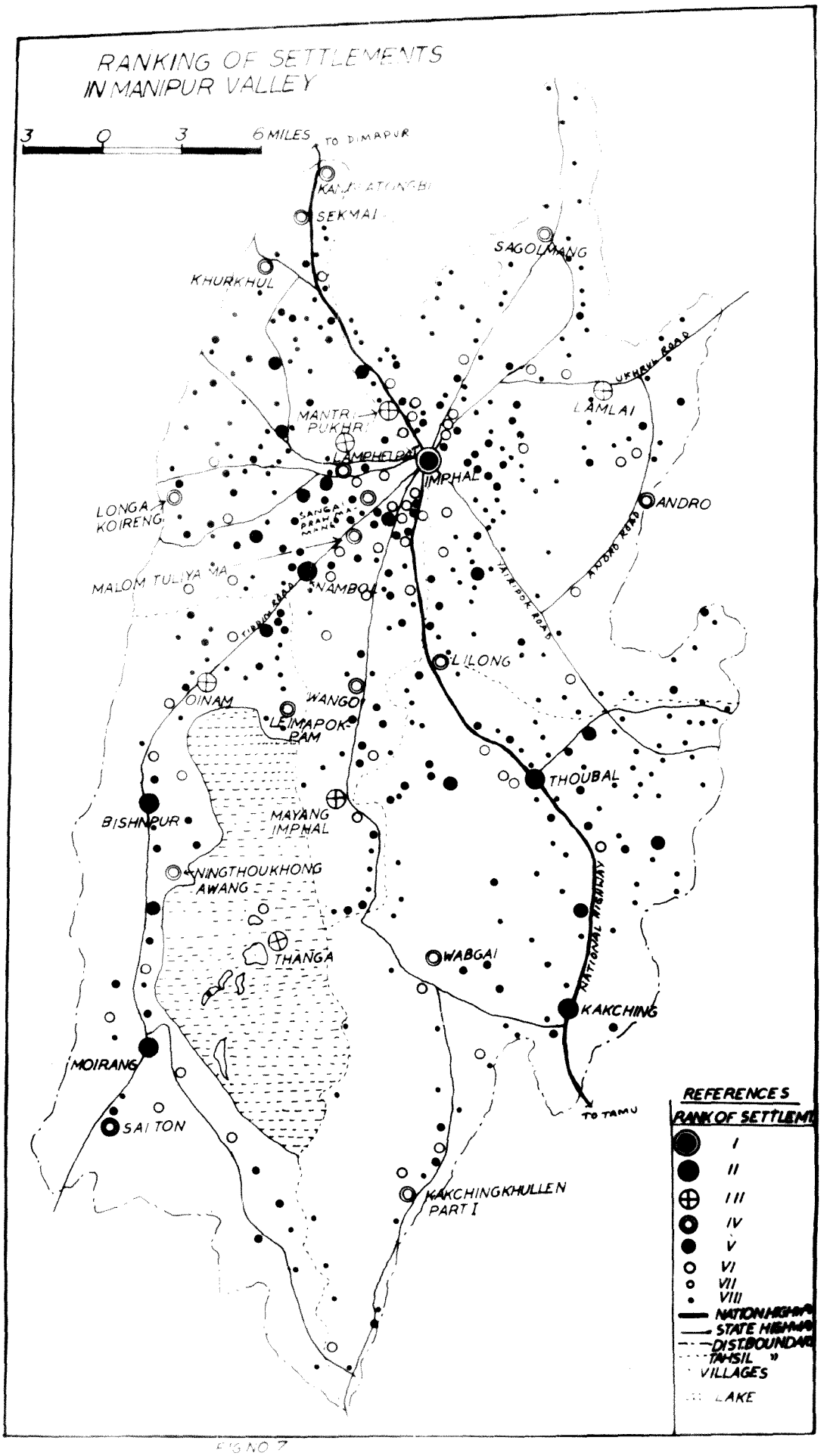
Settlements	Centrality scores	Population
Third Level Hierarchy		
1. Lamlai	285.55	2,219
2. Mantripukhri	187.99	1,703
3. Lalphelpat	174.92	8,445
4. Thanga	124.78	6,346
5. Mayang Imphal	115.23	4,933
6. Oinam	108.91	3,323
Fourth Level Hierarchy		
1. Wangoi	99.74	2,429
2. Khurukhul	98.61	2,259
3. Andro	96.25	4,170
4. Leimapokpam	92.61	3,531
5. Lilong	87.80	3,941
6. Takyel	81.98	1,590
7. Sangaiprow Mamang	81.65	1,889
8. Sekmai	80.68	4,038
9. Malom Tuliyaima	78.47	1,771
10. Wabgai	72.48	3,677
11. Kangla Tongbi	72.43	1,103

Settlements	Centrality scores.	Population
12. Kakching Khullen Part I.	71.14	2,648
13. Saiton	70.06	2,886
14. Ningthoukong Awang.	67.10	3,044
15. Sagolmang	60.12	467
16. Longa Koiring	52.90	516

4.6 SETTLEMENT CLASSIFICATION

The above table No.XXII depicts a clear picture of the salient features of the arrangement of settlements into 8 classes based on the gaps in the composite scores (Fig.No.7). The frequency distribution of settlements also brings out the underlying patterns of relationship between population size of the settlements and the composite scores.

IMPHAL: Imphal Town emerges out as the first ranking settlement and the functional gap which is given by the difference in composite score


RANKING OF SETTLEMENTS
IN MANIPUR VALLEY
3 0 3 6 MILES
TO DIMAPUR
SEKMAI
KHURKHUL
SAGOLMANG
UKHRUL ROAD
LAMLAI
MANTRIPUKHRI
LAMPHELPAT
IMPHAL
LONGA KOIRENG
ANDRO
ANDRO ROAD
MALOM TULIYA MA
NAMBOL
TAMENGLONG ROAD
LILONG
OINAM
WANGOI
LEIMAPOKPAM
THOUBAL
BISHNUPUR
MAYANG IMPHAL
WINGTHOUKHONG AWANG
THANGA
WABGAI
NATIONAL HIGHWAY
KAKCHING
MOIRANG
SAITON
TO TAMU
KAKCHINGKHULLEN PART I
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I
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III
IV
V
VI
VII
VIII
NATION HIGHW
STATE HIGHW
DISTBOUNDAR
TAHSIL "
VILLAGES
LAKE

FIG NO 7

between Imphal Town and the second order settlement is very large. The reason is due to the fact that Imphal is the state capital of Manipur state and also the district headquarters of Manipur Central District. It is also the combined sub-divisional headquarters of Imphal East and Imphal West. Its population is more than one lakh and is the most densely populated area in the whole Manipur. Trade and Commerce is highly developed compared to other towns of the state.

It performs all the seven functions considered in the present study. All the educational, medical and banking facilities are highly concentrated only in Imphal Town. It has 60 primary schools, 20 middle schools, 24 high/higher secondary schools, 4 colleges, 37 non-agricultural credit societies, 4 hospitals and one veterinary hospital. From the point of view of transport and communication, it is the most advantageous place and being the state capital all the transport routes converge making the place an important regional economic centre.

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Second Level Hierarchy.

There are 5 settlements in the second ranking hierarchy. All these 5 settlements are towns situated on the national and state highways. Three towns performed all the 7 functions and 2 towns perform 6 functions. Of the 5 settlements under this category Moirang emerges as the highest order next to Imphal Town. It is a class V town situated 45 km from Imphal on the state highway. Moirang has been a famous for tourist place due to presence of Loktak Lake, the greatest lake in the whole north-eastern region. Moirang has 5 high schools, 1 college, 1 hospital, 1 bank and post & telegraph office. Besides it has 6 credit societies. Because of all these facilities it has been raised to such a higher ranking order.

NAMBOL: It is a class VI town situated on the Tiddim Road, the state highway, 14 km from Imphal. It performs 6 functions. It has 2 high schools, 1 college, 1 health centre, post & telegraph office, 5 credit societies and 1 veterinery hospital. With these facilities Nambol emerges as the 3rd ranking order. Next to Imphal and Moirang, it has the

largest number of credit societies.

THOUBAL AND KAKCHING: They are situated on the same line of the National Highway number 39 at a distance 22 kms and 45 kms from Imphal respectively. They are the big marketing centres in the Southern part of the state. Both the towns performmt all the 7 functions. Among other towns except Imphal, Thoubal has the largest number of primary schools totalling 20 and 5 high schools. It has 1 college, 2 health centres, 1 dispensary, post & telegraph offices, 1 bank, 1 credit society and 1 veterinary hospital. Thoubal is the district headquarter of the Thoubal sub-division in which Kakching Town is also included. Thus all the offices of the sub-division are concentrated over there. Likewise, Kakching Town is also an important marketing centre dealing mainly with agricultural and fishing products. But compared to other towns, the number of facilities ~~it has~~ is very less. It has 12 primary schools, 5 middle schools, 1 high school, 1 college, 2 health centre, post & telegraph office, 1 bank, 1 veterinary hospital. It has only 1 credit society. In medical facilities also it does not

have even a dispensary. Only two health centres cater the needs of the area. The number of high school is also only one. Thus inspite of its large population (next to Imphal Town) Kakching ranks lower in hierarchy among the 2nd order centres.

BISHENPUR: It is situated 25 kms from Imphal on the Tiddim Road, the state highway in the South-Western part of the state. It is a class VI town with primary activity as the dominant economic activity. It has 2 high schools, 1 college, 1 health centre, post & telegraph office, 3 credit societies and 1 veterinery hospital. It does not have a hospital and bank. With these functions it occupies the second level in the hierarchic scale.

Third Level Hierarchy.

In the third hierarchical level there are 6 settlements of which Lamlai is a class VI town and the remaining 5 are all rural settlements. Lamlai is situated on the major district road of U Ukhrul 16 km from Imphal in the eastern part of the state. It is one of the smallest among the 7 towns

and therefore, the facilities available in this town are also relatively very few. It has only 3 primary schools, 1 middle school, 1 high school, 1 health centre, post and telegraph office, and 1 credit society. It does not have college, dispensary & hospital, no bank and veterinary hospital. Thus it cannot be raised upto the second ranking order but among the rural settlements it emerges out as the top one.

MANTRIPUKHRI: Among the rural settlements Mantripukhri has come out as the highest ranking order. It is situated 5 kms from Imphal on the National Highway number 39. It performs 4 functions with 1 primary school, 1 middle school, 1 dispensary, 1 T.B.hospital, post office and also electrified. It stands higher rank in order because of the presence of 1 T.B.hospital otherwise it would not have come up in such a high level hierarchy. This is a peculiar case and the problem of choice of central functions based on secondary data alone has serious limitations. One has to enquire into the felt needs of the population and the area by local enquiry.

LAMPHELPAT: Lamphelpat has a population of 3545 and yet it has only two functions. It is situated about 2 kms from Imphal. It ranks comparatively higher in hierarchical scale because of the occurrence of the general hospital, the only hospital in the State. All the office headquarters of the Districts and important offices are concentrated here. In fact it has become one of the most important administrative centre.

THANGA: It is an extensive island in the Loktak Lake in the southern extreme of the central district with a population of 8346 and situated about 60 kms from Imphal. The nearest town is Moirang which is 17 kms. The main activities of the settlement is fishing. It performs 4 functions with 1 primary school, 3 middle schools, 1 high school, 1 B.P.O., 1 veterinery dispensary and 1 dispensary. With all these facilities it has got 124.76 score and ranks 3rd among the settlements in the third level of hierarchy.

MAYANG IMPHAL: It is a small marketing centre 22 kms. from Imphal. It is linked to Imphal

by bus service and roads connecting with Imphal are all weather roads. It performs 4 functions with 6 primary schools, 5 middle schools, 1 high school, 1 B.P.O., 1 veterinary hospital and also electrified. The main activities are agriculture and fishing.

OINAM: It has a population of 3323 in the Bishenpur sub-division on the line of Tiddim Road, the state highway. It performs 3 functions with 5 primary schools, 1 middle school, 2 dispensaries and electricity is provided.

Fourth Level Hierarchy.

There are 16 settlements in the 4th hierarchical order whose population varies from 467 to 4170 but only two settlements namely Sagolmang(467) and Longa Koiring (516) belong to small settlements and other 14 settlements range in their population from 1103 to 4170. There is a sudden distortion in the hierarchy of settlements in that Imphal emerges as an unique case and in the 2nd and 3rd hierarchies there are 6 settlements each. All the 6 settlements

in the 2nd order belong to towns and out of this 6 settlements in the 3rd order only 1 is a town and remaining 5 are rural settlements.

For the selection of nodal points to provide amenities and facilities, the 3rd and 4th order settlements seem to be important. They are spatially distributed over the geographical space. Of the 16 settlements, 8 are in the Imphal West sub-division, 2 in the Imphal East sub-division, 3 each in the Thoubal and Bishenpur sub-division. Most of these settlements are linked to important towns and market centres by the national highway and major district roads. Their characteristics are briefly described.

WANGOI: It is a small market centre with a population of 2429 situated on the main road of Imphal-Mayang Imphal at a distance of 17 kms from Imphal Town. Among the 4th order hierarchy, it has come out as the highest in the ranking. It performs 4 functions with 4 primary schools, 1 middle schools, 1 dispensary, 1 B.P.O. and 1 veterinary dispensary.

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KHURKHUL: It is situated 18 kms. from Imphal and linked to all-weather roads. It has a population of 2259 and performs 4 functions with 7 primary schools, 2 middle schools, 1 dispensary, 1 veterinary dispensary and it is provided with electricity. It is an important centre in the northern part of the Central District.

ANDRO: It is an important centre situated 16 kms from the Thoubal town and having population of 4170. It performs 4 functions namely 5 primary schools, 1 high school, 1 dispensary, 1 B.P.O. & 1 veterinary dispensary.

LEIMAPOKPAM: It is situated in the Bishenpur sub-division 4 kms from Nambol town. It has a population of 3531 and performs 3 functions with 2 primary schools, 1 high school, 1 family planning centre, 1 dispensary and 1 veterinary dispensary.

LILONG: It is situated along the National Highway No.39 about 10 kms from Imphal. It has a population of 3941 and performs 4 functions with 6 primary schools, 1 middle school, 1 dispensary, 1 Branch Post Office & 1 veterinary dispensary. It

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is an important marketing centre and has the advantage of proximity to Imphal connected by the good transport & communication system.

TAKYEL: It is situated only 4 kms. from Imphal and as such it has not emerged as an important centre. It performs only 2 functions with 4 primary schools, 1 high school, 1 college and 1 Branch Post Office. Because of the presence of one college it acquires the status of 4th level in the hierarchic scale.

SANGAIPROU MAMANG: It is situated 5 kms. from Imphal. It is also not an important centre. It performs 3 functions with 3 primary schools, 1 middle school, 1 college and has electricity connection. It is linked to Imphal by all weather roads.

SEKMAI: It is an important marketing centre with a population of 4038 situated along the National Highway No.39 about 16 kms from Imphal. It performs 4 functions with 7 primary schools, 3 middle schools, 1 Branch Post Office, 1 veterinary hospital and also electrified.

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NALOM TULIYAIMA: situated 7 kms. from Imphal on the state highway (Tiddim Road) near the Imphal airfield. It has population of 1771 and performs 4 functions with 2 primary schools, 1 high school, 1 dispensary and one Branch Post Office.

WABOAI: It is an important marketing centre with a population of 3677 situated 7 kms from the Kakching connected &/Imphal by good transport and communication system. It has 8 primary schools, 1 high school and 1 veterinary dispensary.

KANGLA TONGBI: It is situated 25 kms from Imphal along the Imphal-Dimapur road (National Highway) and is an important small marketing centre dominated by the Nepali. It has population of 1103 and performs 4 functions with 1 primary school, 1 middle school, 1 high school, 1 dispensary, 1 Branch Post office and has electricity.

KAKCHING KHULLEN PART I: It is in the Thoubal sub-division situated 17 kms. from Kakching Town. It is a large village with population of 2648 and performs 5 functions with 2 primary schools, 1 middle

school, 1 Family planning centre, 1 veterinary dispensary and has electricity. It is connected to Kakching Town by major district road.

NINGTHOUKHONG AWANG: situated 6 kms from the Bishenpur Town along the state highway (Tiddim Road). It is a big village with population of 3044 performing 4 functions with 6 primary schools, 1 dispensary, 1 Branch Post Office and electricity connection.

SAGOLMANG: situated in the Imphal East sub-division along the major district road of Imphal Ukhrul Road 18 kms. from Lamlai Town. It is a small market centre with a population of only 467 performing 4 functions with 1 primary school, 1 Family planning centre, 1 B.P.O. and 1 veterinary dispensary.

LONGA KOIRENG: situated 14 kms. from Imphal. It is a small village having a population of only 516 and performing only 2 functions with 1 primary school and 1 dispensary. Because of the presence of 1 dispensary, its rank is in 4th hierarchical order.

CHAPTER FIVE

SPATIAL INTEGRATION OF THE ECONOMY OF MANIPUR WITHIN THE ECONOMIC DEVELOPMENT FRAMEWORK OF THE NORTH EASTERN REGION - SOME ISSUES.

Having identified the hierarchy of settlements in the previous chapter, we have attempted to put the work in its proper perspective by looking into the broader economy of the North-East region. Manipur by itself is an administrative entity. Moreover, the problems of development of this area cannot be seperated from those of the north-eastern region as a whole.

A number of constraints come to operate upon the exploitation of full potential of the resources of Manipur due to its being a part of the north-eastern region having broadly similar features. Secondly, as the north-east by itself is a backward and hitherto neglected area as far as economic development is concerned, looking Manipur alone and following a strategy of development without taking into account any cause some very different types of imbalances in the development of this region. Hence for any strategy of integrated development in Manipur, the other north-eastern states cannot be treated in isolation. With this perspective in view, an attempt is made here to study the problems and prospects with particular emphasis on the levels of industrilisation and urbanisation of the region.

Situated in the extreme north-east of India, the region is composed of different ethnographic characters. The density

of population is widely differ from 16 persons per sq. km. in Mizoram to 186 in Assam. This wide variation in density of population is a clear indication of the differences in economic development among the component states. In fact, except Assam, the other states are much smaller in size and also inhabited by the tribal peoples. Mizoram, Nagaland, Meghalya and Arunachal Pradesh are completely tribal. In Manipur, except central district in the other 5 districts, the tribal population is above 75 per cent.

The main occupation of the people is agriculture. Agriculture and allied activities from the largest sector in which more than 77 per cent of the working free is absorbed and they contribute about 60 per cent to the net domestic product of the region. Rice is the main crop of the region and the yield per hectare was 1002 kg as against 1061 for all India in 1974. Manipur has the highest yield of 1557 kg. But compared to the soil and rainfall, there is enough scope for the development of agriculture. Modern practices like multiple cropping, water management and fertiliser use have not yet gained currency. There is also the practice of jhuming in the hills, which has to be tackled comprehensively. Lack of adequate minor irrigation facilities and slow progress in rural electrification act as a great hindrance in the way to rapid expansion of double and multiple cropping.

The region is very rich in water potential. But due to the lack of exploitation, the power generation is very low and, therefore, per capital consumption of power varies from

negligible quantity in Arunachal Pradesh to 25 k.w. in Meghalaya and Assam as against the all India figure of 100 k.w. The north-eastern region is bestowed with large potential of hydro-electric power. "If all the major hydel electric power generation projects could be taken up for construction, the supply of energy from these projects would be one of the largest and cheapest in the country. There is a potential for the development of over 12000 mw of hydro-electric power in the north eastern region of this potential only 75 mw has so far been exploited and work has been taken in hand for another 280 mw"[1] The potential for the development of hydro-power itself is not uniformly distributed and hence the need for an overall consideration for the North-Eastern Region.

The other major infrastructural facility which requires to be considerably developed in an integrated manner relates to transport and communications. Of the 8 political units, only Assam, Nagaland and Tripura have railways and others are not connected by railways with the rest of the country. Therefore, much remains to be done to expand the railways within the region to connect the hitherto unconnected states and the interior areas. Here again the states/regions which cannot be provided with railways should have other modes of transport in a manner in which the net-work of transport integrate different parts of the region.

Moreover, the states of the region are not well connected each other even by the roads. The region has still only 23.6 kms road length per 100 sq. km. as against the all

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1. Assam Tribune 21.1.1977.

India figure of 34.4. In Arunachal Pradesh and Mizoram the road length are only 5.6 and 6.8 kms. per 100 sq. kms respectively. Not only the present road length is inadequate, but the quality of roads is quite sub-standard and they are also very narrow. It is the development of power, transport and communication that should increasingly possible to develop industries based on mineral and forest resources of the region. Needless to say that such a strategy for industrialisation based on locally available raw materials, infrastructure have to be spatially integrated.

The region is one of the most industrially backward area in the country. Of the region, Assam is the most urbanised and industrialised states in the whole north eastern region as most of the mineral resources are concentrated in the State. This is proved by the fact that out of the 18 major and medium industries (including 10 under construction), 13 are concentrated only in Assam. Arunachal Pradesh, Mizoram and Tripura do not have such industries. Keeping in view these imbalances in development, an attempt is made in this chapter to analyse the pattern of industrialisation and urbanisation in the region. Such an analysis helps us to understand those aspects of spatial organisation of economic development which affect the present and future spatial patterns of the economy of Manipur. Since a detailed study of the North-Eastern region is beyond the scope of this exercise this analysis relies on the work conducted earlier by other scholars. In the study of "Trends, Process and Characteristics

of urbanisation of the North-Eastern Region of India" , Kaya Deb has brought out the pattern of urbanisation in the north-eastern region and analysed in the following para.

5.1 Patterns of Urbanisation and industrialisation in the North Eastern Region - Patterns of Emergence of Nodal Centres/Areas

The economic integration of Manipur is not complete without studying the present pattern of urbanisation and industrial development in the north-eastern region. Some nodal points have to be selected through which the whole net work of economic integration for fuller exploitation of the locally available resources can be made use of. For this purpose an attempt is made in the following paragraphs to study the levels of urbanisation as it is related to industrial development in the North Eastern Region.

The process of economic development does not take place at the same time everywhere. As such, some regions emerge as core regions characterised by high potential for further economic growth. In her study of Trends, Processes and Characteristics of Urbanisation in the North-East Region of India (1901-71) Kaya Deb has identified 19 core regions of the North East Region based on the following six basic indices.[2]

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2. Kaya Deb (1972), Trends, Processes and Characteristics of Urbanisation of the North-Eastern Region of India. (unpublished M.Phil Dissertation) J.N.U., New Delhi.

3. Kaya Deb (1972), op. cit. p.75.

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1. Possibility of resource development.
2. Present size and growth of urban centres.
3. Accessibility.
4. Proportion of workers engaged in manufacturing and tertiary activities in the 19 major urban centres of the region.
5. Commodity flow along road sections.
6. Extent and character of urban fields.

1. The region has vast natural resources like coal and oil, forest & water resources. Their pattern of distributions suggests the possibility of development of a few core regions like the development of mineral and oil in the districts of Garo Hills, Lakhimpur and Nagaland. Centres like Tura, Shillong, Nalbarkhatya and Nazira might become the focus of economic activities in the region. There is a high propensity for development of forest based industries around centres like Sibsagar, Nowgong and Silchar and they can be developed as strong economic nodes for generating growth impulses. The region has also vast hydro potential power. "The Umru hydro-electric project supplying power to Gauhati and its surrounding

areas, the Naharkatya Thermal project, the Gauhati Thermal project and the Garo Hills Thermal project, apart from other minor ones, have high growth impulses, whereby core regions such as Gauhati, Naharkhatya, Tura etc. can grow very rapidly".[4]

2. On the basis of the growth pattern of towns of different sizes and the growth of population in the region potential growth centres or core regions have been identified. Gauhati, Imphal, Dibrugarh, Tinsukia, Shillong, Jorhat and Tezpur are the seven important core centres/regions that have been identified.

3. Accessibility to urban centres has been judged on the basis of their transport linkages to assess the relative importance of the core regions in respect to the future markets and sources of raw materials. The towns have been divided into four broad groups which are:

1. Centres connected by both roadways and railways.
2. Centre lying on national highways.

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4. Kaya Deb: Ibid p.76

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3. Centres connected by railways only.

4. Centres linked by other important railways.

On this basis Gauhati, Dibrugarh, Tinsukia, Jorhat, Tejpur and Silchar emerge as core regions of high order while centres like Goalpara, Shillong etc. follow in close persuit.

4. Comparing the percentages of people employed in the secondary and tertiary sector in the region, the latter is of higher importance in the urban centres. This is because most of the towns are predominantly administrative in fuctions.

5. The study of commodity flow data along road sections gives an idea of the volume of traffic outflow and inflow in the stations situated along the roadways within the region. For this study, Kaya Deba has analysed by categories of commodities.

1. Products of Agriculture.

2. Products of animal husbandary.

3. Products of mines.

4. Products of forests.

5. Building materials.

6. Manufactured agricultural products.

7. Miscellaneous manufactured products.

8. Other miscellaneous commodities.

The outcome of the flow data very clearly shows the importance of the Assam valley as a major nodal region. The volume of commodities transported by roads in the Assam valley linking the major centres such as Dubri, Gauhati, Tezpur, Nowgong, Jorhat, Sibsagar, Dibrugarh & Tinsukia ranges from 500 to 1000 m tonnes each way. The highest flow has been recorded between Gauhati & Tezpur and between Jorhat & Dibrugarh.

Among the hilly regions, Imphal has emerged as the centre with the largest commodity flow. The National Highway No.39 linking Kohima through Imphal to Pallel in the southern tip of Manipur forms an important linkages.

From the commodity flow analysis, Gauhati, Nowgong, Jorhat and Sibsagar emerged as important core regions. Imphal and Shillong come next in importance.

In 1971 the total number of towns in the North East Region was 101 of which Assam's share was the largest-75 towns followed by Manipur 8, Tripura 6, Meghalaya 5, Arunachal Pradesh 4 and Nagaland 3.

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Again 60 per cent of the total towns are in the lower order of the urban hierarchy with a population of less than 10,000. The following table shows the distribution of towns by class in different parts of the region.

CLASS OF TOWNS

State/ U.T.	I	II	III	IV	V	VI	Total
Assam	1	4	11	26	24	9	75
Manipur	1	-	4	-	4	3	8
Nagaland	-	-	1	2	-	-	3
Misoram	-	-	-	-	-	-	-
Mehgalaya	-	1	-	3	1	-	5
Tripura	-	1	-	4	1	-	6
A.Pradesh.	-	-	-	-	1	3	4
Total	2	6	12	35	31	15	101

The Core Regions in the North-East India

The study to identify the core regions in North East India on the basis of the six chosen indices depicts

the pattern and spatial distribution of few major and minor cores along with their hinterlands. But the extent of the hinterland varies according to the size of the core of the generating centres.

On the basis of the six chosen indices, the cities like Gauhati, Imphal, Dibrugarh, Agartala, Tinsukia, Nowgong, Silchar, Dhubri, Tezpur, Pandu, Karimganj, Aijal, Jorhat, Lumding, Sibsagar, North Lakhimpur, Digboi, Shillong and Kohima have emergedas core regions.

These core regions can be arranged in a hierarchy as used by Friedman in his case study of Venesuala with the following four components:

Rank Order of Core Regions.	Descriptive Name
First	National Metropolis
Second	Regional Capital
Third	Sub-Regional Centre
Fourth	Local Service Centre

In the north east region, the first order core regions are lacking as it is at the level of national capital. Therefore, the hierarchy begins

from the second order core regions. Two core regions of the second order were identified:

(1) The Gauhati Region, and

(2) The Imphal Region.

Both these cities are class I towns. But Gauhati is situated in a favourable condition in all respects for the growth of a core region by its combined junction of rivers, roads and railways and therefore very well connected with areas of raw materials and future markets. Although the town's predominent character of administration employing 78 per cent of the work force in tertiary and 7 per cent in manufacturing, it has a lot of trade and commerce which meets the needs not only of the towns but also of the hinterland.

Imphal: Imphal, the capital of Manipur is situated comparatively in an unfavourable place. The National Highway No.39 or air service is the only transport route linking with the other states. Its rate of population growth is very high and also the highest proportion of the region's manufacturing workers are employed in Imphal (14.33%) and about 13.4 per cent of tertiary workers. It is the only growth generating core in the extreme eastern part

of the region. The Third order core regions are Dibrugarh, Agartala, Tinsukia, Nowgong, Silchar, Tespur, Digboi and Shillong. They are all important trade centres which offer some prospects of industrial expansion and located favourably in areas of raw materials and markets. These towns handle large volume of traffic. Mostly these towns are administrative in function although Digboi and Tinsukia are mainly industrial in character and Silchar is a trade and commerce town. Their hinterlands are also wide spread.

The fourth order core regions are slected on the basis of their future role in regional development and considered important growth centres. Dhubri, Pandu, Karimganj, Aijal, Jorhat, Lumding, Sibsagar, North Lakhimpur and Kohima fall under this category. All of them are well connected by transport routes to the higher order centres.(See fig.no.8).

Coming to the conclusion, the growth of towns in the region is largely influenced by its physical setting due to which most of the urban centres are concentrated in the Brahmaputra valley close to the water front.

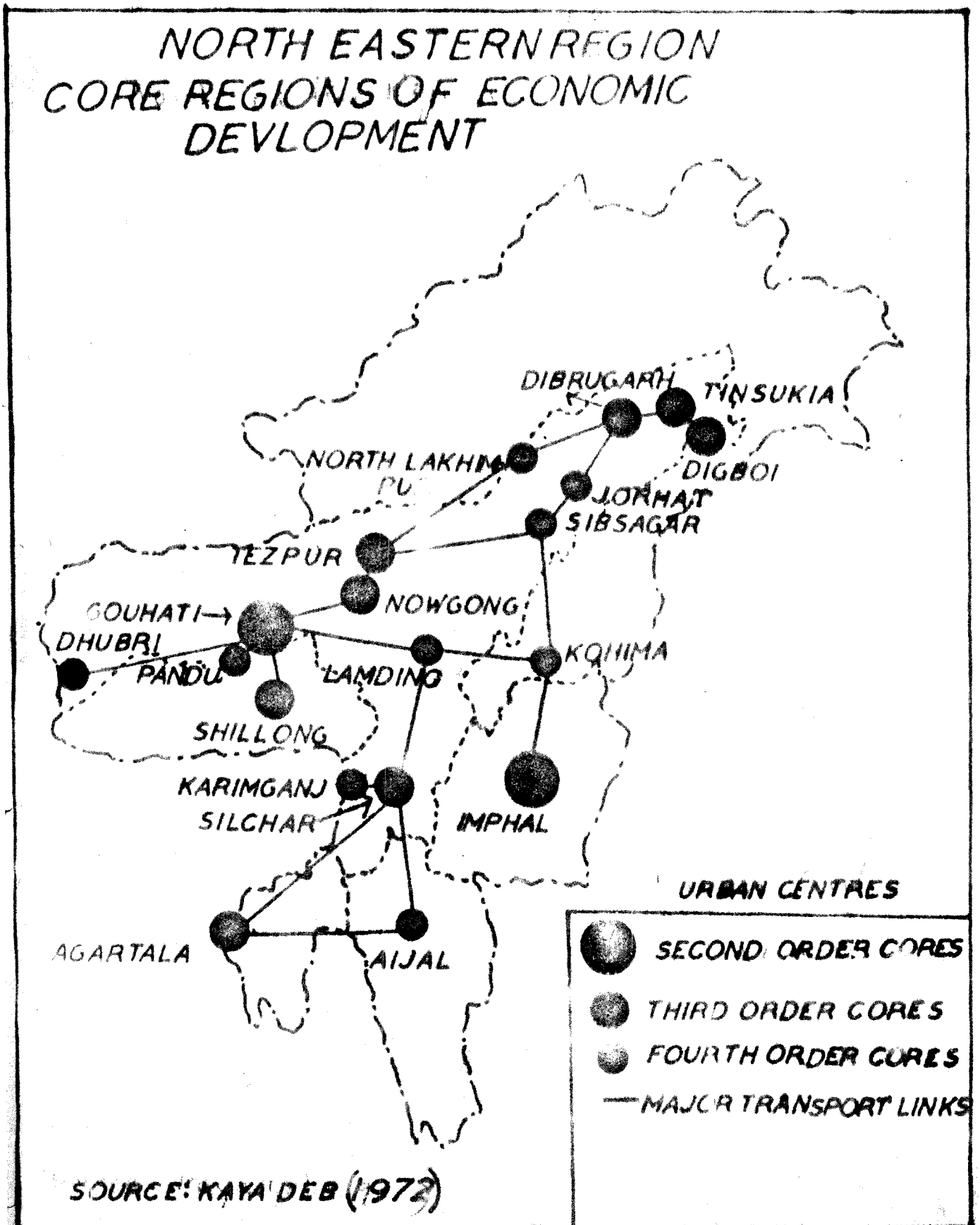
NORTH EASTERN REGION
CORE REGIONS OF ECONOMIC DEVLOPMENT
DIBRUGARH
TINSUKIA
DIGBOI
NORTH LAKHIM
JORHAT
SIBSAGAR
TEZPUR
NOWGONG
GOUHATI
DHUBRI
PANDU
LAMDING
KOHIMA
SHILLONG
KARIMGANJ
SILCHAR
IMPHAL
AGARTALA
AIJAL
URBAN CENTRES
SECOND ORDER CORES
THIRD ORDER CORES
FOURTH ORDER CORES
MAJOR TRANSPORT LINKS
SOURCE: KAYA DEB (1972)

FIG. NO. 8

The transport and communication system of the region has also a tendency to localise in and around the Brahmaputra influencing the location of towns.

Because of its strategic importance, the region has necessitated the establishment of military bases and these bases gradually expanded into administrative headquarters and developed into towns.

Regarding functional classification, the towns of the region are basically predominated by two or three functions among which administrative, trade and commerce are the most important. In fact urbanisation in the north-eastern region is basically the outcome of the developments of the tertiary sector particularly administration.

To sum up the vast natural resources like coal, mineral oil and gas, silimanite, hydro-power potential, forest etc. are not fully exploited. The economic development of the region depends upon the full exploitation of these valuable resources. The levels of living of the region is much lower than the all India average. In 1972-73 the per capita income in Assam, Manipur and Tripura were Rs.572.1, 517.6 and

534.1 respectively at current prices as against the all India figure of Rs.700.4. For providing employment and improvement of the living standard, the available resources have to be properly exploited. "Resources like hydro-potential, minerals, cropsoil-rainfall zones etc. are not in all cases distributed among lines of political divisions at the state levels. Therefore, proper development of the resources would call for coordinated efforts of different states under a commonly formulated plan of action. Secondly, the progress of exploitation of power, minerals, forests, soils and water resources depend on two vital inputs, namely capital and organisation. On all these counts, the prospects for the rapid development of the different political units seperately and the region as a whole are essentially depends on the coordinated and comprehensive plan of development of available resources with increased mobilisation of capital, expertise and enterprise".5

The private capital investments are shy and at the same time state Govt's resources are very limited.

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5. Gangully J.B.(1978): Role of North Eastern Council in Economic Development of North East India in the North East India- A sociological study. Ed.by Chubey S.M.p-355

Under these circumstances, adequate amount of capital for investment in the construction of infrastructure and development of mineral resources can only come from the Centre. "And the resources that would be transferred by the Centre for the development of infrastructure in this region would be better utilised if done under a coordinated plan for the region as a whole rather than in piecemeal way by the different states and Union Territories".[5]

The spatial organisation of the economy of the North-eastern region brings out the fact that Imphal and Gauhati are the only two major economic cores of the North-eastern region and unlike in the Assam valley in most of the hill states Imphal is the capital of the State which also enjoys the economic status. The identification of centres of the lower order within Manipur reveals that the centres below the level of Imphal are too low by comparison with third order centres worked out for the North-eastern region as a whole. These findings however, tentative serves to bringout the fact that

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5. Ibid. p.355

the spatial organisation of the economy of Manipur is rather weak and these distortions get accentuated unless efforts are made in working out a system of nodal centres to serve the hill areas and the plains of Manipur in the first instance using the spatial configuration of local resources, settlement location, manpower and provision of infrastructure, facilities and amenities. Such a framework should essentially taken into consideration the community groups, their behaviour and perception of spare element expressed through their felt needs which are in sharp contrast to those occuring in extensive agriculturally rich areas elsewhere in the country.

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CHAPTER - SIX

SUMMARY AND CONCLUSIONS

The foregoing study based on secondary data to the extent they were amenable for spatial analysis of the economy of Manipur has brought out certain characteristics peculiar to the North-Eastern Region in general and Manipur in particular.

Striking similarities in spatial organisation of the economy at the state (meso) and inter-state (macro) levels are noticiable in that the Brahmaputra valley plain forms the core region of the economy in as much as the Imphal valley plain is for Manipur. This comparision provides a basic frame work within which the economy of Manipur and the rest of the North-Eastern Region have to be understood. The situation coupled with in accessibility within and between the component parts of the North-Eastern Region and the environment impose certain limitations to the normal process of spatial organisation and regional economic growth as implied in general concepts and theories of regional development.

For example the concept of growth-pole for the development of the North-Eastern economic region/sub-region acquires different connotation and in reality

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the growth-process in this region is marked by the emergence of belts or corridors along the course of the river and major transport routes or as isolated centres of industrial development e.g.petrolium refinery in Assam. Likewise Small settlements being scattered in isolated pockets of forest clearing or flat valley bottoms development of a settlement hierarchy living the large town with Small Settlements through a graded system of nodal centres is not a realistic strategy. Within this framework an attempt is made in the following pages to highlight those elements of the resource base, population & settlements, infrastructure, facilities and amenities and emergence of higher order settlements and their implications in integrated development.

The present study is an attempt at three stages in formulating the patterns of development within Manipur between the hills and the plain at the meso level, the study of amenities and facilities of the Manipur valley region at the micro level taking villages as the unit of study and lastly, economic integration of the component units of the North-Eastern Region considering the urban cores as nodal points.

Manipur in its physical setting comprises hilly terrain with narrow valleys. The hilly area claims about 92 per cent of the geographical area. It has a petty valley in the heart of the region surrounded by ranges of hills. The hills are settled by tribal people and the valley on the other hand is inhabited by the non-tribal people mostly the Meeties, relatively more advanced community in the region. The geographical location and the physiographic condition of the region has played a very important role in shaping the pattern of its economy. The hills are not favourable for cultivation, Transport & Communications are very difficult and therefore the terrain is hostile to large scale habilation. Population density is very low-18 persons per sq.km. The valley plain on the other hand is a very fertile tract with high density of population - 380 persons per sq.km. Industrially Manipur is one of the most backward states in the country. There is no big and medium size industry. Small Scale and handloom industries represent the industrial landscape. In the hills even the Small Scale industries are not developed (see Appendix I). Thus the the natural

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divisions of the state - hills and plains - are marked by strong contrasts in development and they are not integrated economically and socially. The hill region is isolated from the plains and has very little scope for economic activity and its level of economic development is far behind then that of the valley region. The valley region on the other hand, with fertile land, relatively well developed transport & communication system and signs of industrial development (particularly Small Scale and handloom industries) has potentialities for economic development.

Agriculture is the backbone of the State's economy where 71 per cent of the population depends for their livelihood. That the economy is at its lowest level of subsistence is illustreated by the fact that the pressure of population on limited agricultural land is so high and agriculture itself, is of a primitive nature. The cropping pattern is monoculture with rice accounting for 90 per cent of the agricultural produce and 86 per cent of the cultivated land. Diversification and double cropping pattern is almost negligible for lack of proper irrigation

system. The industrial sector is also not developed at all. Thus the economy is not diversified and stagnant. Population growth on the other hand is very high 3.75 per cent - whereas the growth of State income was only 2.61 per cent. The end result is that unemployment is increasing at an alarming rate and standard of living is very low.

Mineral resources in Manipur is very poor but proper investigation has not been done so far. The recent investigations made by the Geological Survey of India in the three districts of Manipur has reported the occurences of copper, nickel, coal, chromite and asbestos. Besides limestone, the availability of brine salt from salt springs and bog iron are reported. Recently availability of oil in Kohima and uranium in Mizoram have been reported. Manipur being in the same belt there is every possibility of existence of mineral resources.

The possibility for the establishment of industries based on forests, minerals, agriculture e.g. paper mill, spinning mill, cement factory, sugar & starch factory etc. would lead to the integration of the hill and plain economies. Most of the forest

and mineral resources are available only in the hill areas which for a lack of proper transport and communication system are not yet exploited. In fact 65 per cent of the total area is under forests and the terrain is more conducive for developments based on forests rather than agriculture in the traditional sense of crop cultivation. For exploiting these vast natural resources, it requires provision of infrastructure and this infrastructure will be instrumental for breaking the isolated nature of the hill areas.

Considering the resource base of the region, it is clear that inspite its rich natural resources, there is under utilisation or non-utilisation of these resources. If the forest resources or other resource potentialities of the region are properly exploited Manipur can develop as fast as other states of the country.

Agriculture, the backbone of the state's economy is very backward. Primitive techniques, lack of transport organised market facilities, inferior cropping pattern and poor yield are responsible for low productivity in agriculture. Commercial crop is almost negligible. Cultivation is mono-cropping with

rice, and the yield is very low. Inefficiency in agricultural sector is mainly responsible for the state's backwardness and poverty which can only be removed when the agricultural sector is highly developed. So far the State does not have any medium and large irrigation projects. If proper irrigation system is provided, diversified cropping pattern can be introduced.

The contribution of the industrial sector to the total income of the State is almost nil and therefore level of industrial development is very low. There is no lage and medium scale industry. Small scale and cottage industries dominate the industrial scene. The provision of social and economic overheads like transport, power, technical education and public health measures is necessary for providing facilities not only to implement the industrialisation programme but also for the growth of ancillary industries so essential for the diversification of industrial structure. For guiding investment in this sector, private sector should be encouraged. At the same time effort should be made to put agriculture and industry on a sound footing and for achieving the desired growth

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in both these sectors, infrastructure of the economy particularly transport and power should be given the highest priority.

Chapter IV dealt with the spatial distribution of the amenities & facilities of the Manipur valley region. This shows sharp imbalances both spatially and structurally between different size range of settlements. Composite indices based on several attributes revealed 6 hierarchical levels of settlements and this framework can be the basis for selecting nodal points. From the tables of the amenities and facilities and their distributions, it is quite clear that most of the settlements are deprived of even the minimum levels of facilities and amenities and have at the most only one or two facilities at the lower level like primary school, middle school and post office. (Only 10 & 20 per cent of the total number of settlements have high school and college facilities respectively and therefore these higher level of educational functions are always concentrated in and around the towns.) The medical facilities are available in 12 per cent of the total number of settlements. Next to primary school, branch

post office is available at the largest number but compared to primary school, its distribution is quite irregular. Only 21 per cent of the total number of settlements have this facility. But in the case of post office with telephone and telegraph office, they are availed of only in the towns and none of the rural settlements has this facility. Similar is the case in the distribution of banking and credit societies which are available only in the towns. The percentage of settlements with electricity is very small only 17 per cent. Considering all the functions together, Table XX clearly depicts the top-sided picture of the distribution of facilities and amenities. Of the 470 settlements, 60 per cent have only one function but there is a sudden drop from the settlements having two functions onwards. Thus from the study of the pattern and distribution of amenities and facilities, one can easily conclude that most of the settlements do not have these facilities. These are the infrastructures through which villages can be modernised and the economy of the villages can be functionally integrated. In the absence of these facilities rural areas will remain

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isolated and backward while few towns will tend to grow at the expense of the rural area.

Lack of transport and communication system in the rural areas are mainly responsible for low demand and hence of occurence of these facilities. Most of the rural areas are not properly linked up with the towns. At the same time, lack of coordination and interest on the part of the state government is equally responsible for the non-availability of facilities in the rural areas. This has led to political instability at times.

With this background the economy of Manipur can be integrated at three levels - at the micro level, meso level and macro level.

1. At the micro level, within the small valley area, there is need for functional and economic integration of rural settlements with agriculture as the major source of income, employment and development of agro-basic activities. Agriculture is the largest sources for earning livelihood and is dependent mostly on the monsoon which is quite uncertain. There is no large and medium irrigation

project. Agriculture is mono-cropping. If proper irrigation system is provided the state could have introduced double and diversified cropping. Unless agricultural sector is properly developed and necessary amenities and facilities provided migration of rural people to the urban areas cannot be checked and the rural areas will remain isolated and backward.

2. At the meso level, as pointed out earlier, its economy is divided into two - hill and plain economy which can be integrated by constructing good net work of transport and communication system. This will ultimately lead to the exploitation of the vast natural resources. The linking of the hill areas inhabited by the tribesmen will serve two purpose (1) The isolation of the hill area will be broken and (2) the vast natural resources will be exploited. The breaking of the isolation will bring a change in the socio-economic transformation of the hill tribesmen who should be brought into the mainstream of the general economic development. The exploitation of the mineral and forest resources will enable to establish forest base and mineral base

industries. The establishment of these industries will increase employment opportunities and make the State self sufficient at least in some of the basic necessities. "As the hill areas develop economically, the yawning gap between the hills and the valley people from the angle of standards of living will close up and many of the causes for natural suspicions will disappear. The whole economy will assume a dynamic character".[1]

3. Lastly, at the macro level, the economy of Manipur can be integrated within the larger economy of the whole north-eastern region in those projects which have common interests like construction of inter-State roads, hydro-electric project etc. which for reasons of the smallness of the component units and consequent limited resources have not been undertaken as yet. Even though the entire North-Eastern region is geographically compact, all the states are not well connected each other because of the lack of

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1. N.C.A.E.R. 1961:- Techno Economic Survey of Manipur, New Delhi.

co-ordinated development of transport & communication system. As a result the inter-regional trade among the different states is very negligible. If all the Units are well connected and formed into a sound economic sub-region, it can increase its volume of trade with the larger market of the Eastern Economic region which includes apart from the North-Eastern Region the States of West Bengal, Orissa and Bihar.

Data limitations in the North-Eastern Region in general and Manipur in particular are formidable for in depth study with secondary data. This study therefore, should be viewed as a prelude to detailed regional survey within the framework of the new strategy for economic development which has layed emphasis on Blocks and Districts as the basic units of planning. It might be necessary to adopt a group of hamlets as the areal unit of such a study.

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APPENDIX - I

SMALL SCALE INDUSTRIES IN MANIPUR
(BY DISTRICTS)

MANIPUR CENTRAL DISTRICT

Name of the Industry	No.of units.	No.of person employed	Total capital Rs.('000)
1	2	3	4
Wood & Carpentry:			
Wood sawn & planned	1	6	159
Plank & beams etc.	6	46	281
Carpentry	180	1161	3466
Photo frames	1	5	3
Other wood products	7	29	135
Truck & Buses body building.	5	61	249
Handloom parts & Accessories.	3	15	30
Bullock carts (Wooden)	1	5	14
Engineering & Scientific Products:			
Laboratory & Scientific Equipments.	3	14	69
Iron & Steel products	27	179	888
Agricultural Implements & Machinery.	17	116	392
Wooden cashing & coping & other electrical accessories.	2	13	33

1	2	3	4
Motor vehicle repairing & service.	13	148	645
Motor vehicle Radiator Manufacturing.	2	19	58
Radio & Amplifier manufacturing & Assembling.	8	38	382
Storage Batteries.	9	76	523
G.I.Pipe Fitting.	1	9	694
Assembling & Mfg. of Cycle & Rickshaw	4	19	83
<u>Metal and Alluminium products:</u>			
Brass utensils	4	27	93
Alluminium utensils.	10	111	282
Iron utensils.	1	11	21
Other metal products (Photo blocks)	1	4	108
Brush ware(Plant fibre)	3	37	172
<u>Miscellaneous Industries:</u>			
Fruit squash	1	6	9
Aerated Drinks	1	3	13
Ready made garments	60	534	1633

1	2	3	4
Leather & Canvas works.	1	12	27
Printing Press.	11	99	676
Tyre & Tube valcanising.	16	94	783
Candle	5	24	104
Ayurvedic medicine	2	6	49
Washing Soap	2	12	173
Face Powder	1	4	13
Surki	1	204	868
Ink	1	7	76
Artificial Teeth & Gum	1	2	26
Bricks.	3	521	1182
Stone slab	1	4	6
Spray painting	1	5	23
Musical Instruments.	1	4	5
Rubber stamps making.	3	37	172
Total.	441	3727	14522

1	2	3	4
NORTH DISTRICT:			
Carpentry	14	40	122
Ready made garments	4	15	32
Candle manufacturing	1	2	6
Brick making	1	7	4
Total	20	64	164
WEST DISTRICT :			
Carpentry	5	28	74
Agricultural Implements,	2	6	17
Total	7	34	91
SOUTH DISTRICT:			
Carpentry	13	43	103
Motor Repairing	2	8	25
Blacksmithy	2	6	15
Printing	2	18	45
Soap Mfg.	1	4	2
Book Binding,	1	4	6
Alluminium Works,	1	5	5
Radio	1	4	22
Total	23	89	223

1	2	3	4
TSHONGUPAL DISTRICT:			
Ready made garments.	1	5	8
Carpentry	7	33	38
Total.	8	38	46
EAST DISTRICT:			
Carpentry	12	48	86
Ready made garments	4	21	25
Agricultural Implements.	1	2	4
Total	17	71	115

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