REGIONAL STRUCTURE OF MANIPUR

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I certify that the dissertation entitled "The Regional Structure of Manipur" submitted by Mr. N. Deva Singh is in partial fulfilment of total requirements for the Degree of Master of Philosophy (M. Phil) of the university, is a bonafide work to the best of my knowledge and may be placed before the examiners for their consideration.

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N. Deva Singh.
N. Deva Singh

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INTRODUCTION

The present work is an approach to the study of the regional structure of Manipur. This study refers to the existing geographical personalities, such as, physical, social and economic characteristic of the region. The state of Manipur is a small unit of the Indian Union located in the far east, with different socio-economic ties evolved through the passage of time. The present location of Manipur lies between 23.50'N. and 25.45'N. latitudes and 93.2' E. and 94.47' E. longitudes with an area of 22,356 Sq. Km. and the total population of 1,072,753 (1971). It is bounded on the north by the Naga Hills, on the east by the Somra tract and the upper Chindwin districts of Burma, on the south by the Chin hills of Burma and Mizoram and on the West by the Cachar district of Assam. Administratively the state has five districts (1971) Manipur East, West, South, North and Central districts and twentifive subdivisions (see the Fig. no.1).

Agriculture is by far the most important economic activity of the people but at present there is limited land for cultivation. Compared to population very limited good land is available. Jhuming gives less economy in the state. Forest covers large part of the state, has good potential but so far as mineral resources is concerned she is very

poor. The power resources of the state in the form of hydro-electricity is still remain untapped and has very good prospects of development. Transport and communication is good in the valley but there is a hazard of double inaccessibility in the hills. Industries are mainly agrobased and forest based, household industry is the most important one in the economy of the industrial landscape. Amenities are concentrated in the central plain where the urban centres are located. Must differences of population distribution is found between the plain and hills and again characterised by the two dominant religious groups - Hindu and Christian. It appears, inspite of the resource potential, there is a variation in the economic development levels among the micro units. The central plain units are highly developed than the hills as it has physical contrast, imbalance of economy and disparity of population. So it highly needs the rational plan programme to have balanced economic development and welfare of people of the state.

OBJECTIVE :

The objective of this study is primarily to describe and analyse the various geographical aspects which are responsible for its regional structure. However, these aspects of regional structure are taken for which data and information is available easily. Since the present study is analytical in nature and it tries to analyse also the resources

base(both physical and human) and their potential. It will try to measure spatial relationships which would help in finding out level of development and dimensions of the problems of development.

DATA AND INFORMATION BASE AND METHODOLOGY :

The data and information base is secondary in nature, primarily based on published materials. However, unpublished data and information has been gathered from the various government departments. Here mention may be made of the publications, government statistical hand books and other departmental reports of the survey works and publications.

In the greater part of the study, the analysis is made on the subdivisional level depending upon the availability of data but in the case of agriculture, the analysis and mapping are done on blockwise as the data are available on it.

The suitable statistical and the cartographical techniques are adopted to analyse the spatio-temporal patter At appropriate places and levels the help of statistical technique, like correlation coefficient, chisquare,N.N.D., crop combination, population potentials and composit index are used and these techniques are well supported with suitable cartographic techniques.

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STRUCTURE AND ARRANGEMENT

The regional structure of Manipur is essentially an account of physical and socio-economic characteristics. It, therefore, starts to examine from the historical perspective of the state to understand the evolution processes resulting into on present administrative entity with its socio-economic characteristics. The second chapter discusses the impact and relationship of natural factor on the spatial pattern and the structure of the population etc. The third chapter deals with the characteristics of human resources in response to physical setting and socio-economic activities. The fourth chapter, the economic structure is divided into seven parts - Working force, Agriculture, Forest economy Transport linkages, Minerals, Power generation and Industries which deal with different economic sectors. It is in order to facilitiate detailed discussion and show their significance or economic relations. In the fifth chapter, the imprint of settlement both rural and urban on the terrain of Manipur is studied. The chapter sixth is social amenities it deals with the essential facilities available in the upgrowth of a region. Towards the end, in chapter seventh an attempt has been made to measure the levels of development by considering certain variables. Thus the accumpanying analysis of geographic regulabities in this approach is all the more necessary acquired for great practical significance in planning and in solving practical problems involved in utilizing the natural resources.

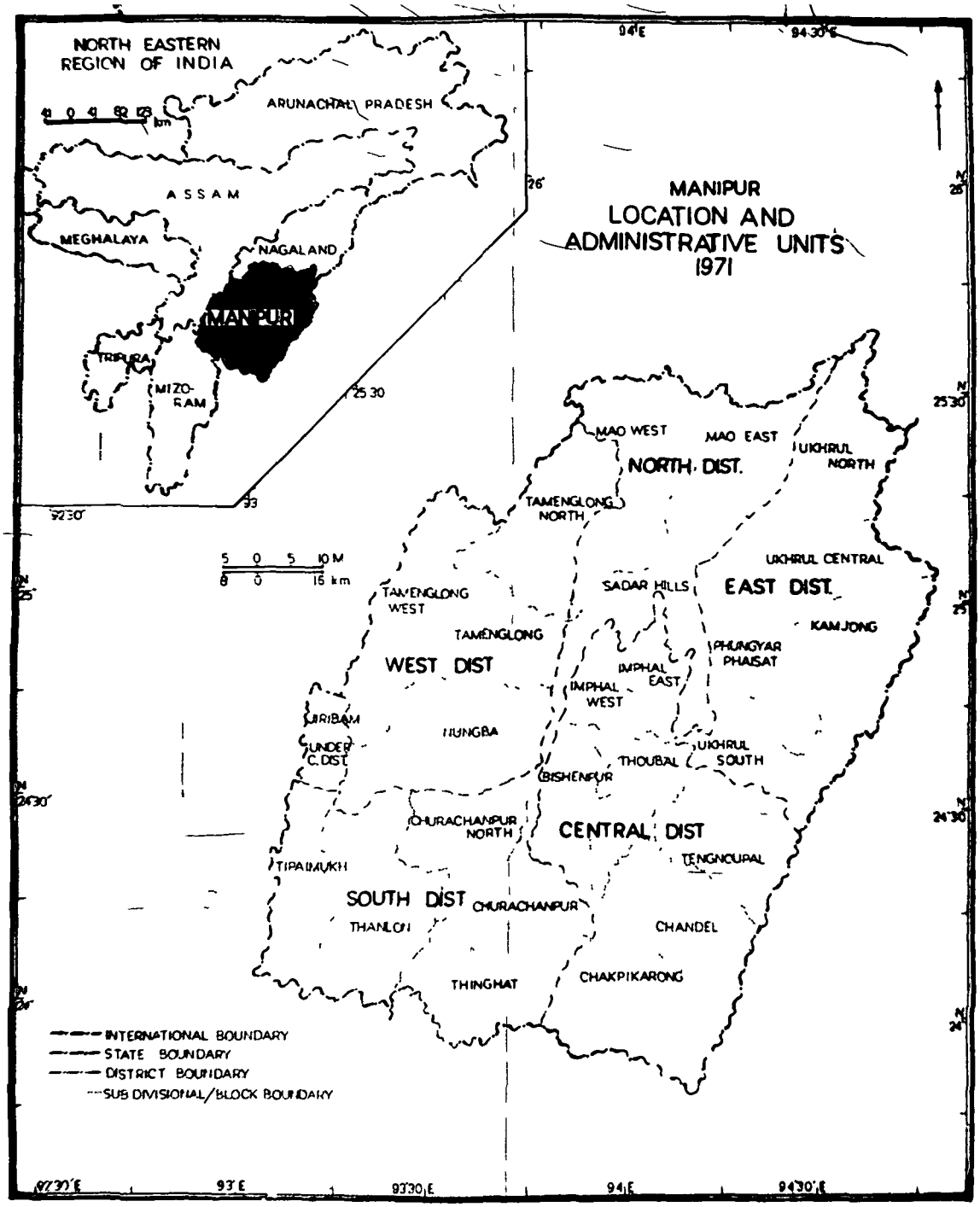
NORTH EASTERN
REGION OF INDIA
ARUNACHAL PRADESH
ASSAM
MEGHALAYA
NAGALAND
MANIPUR
TRIPURA
MIZO-
RAM
MANIPUR
LOCATION AND
ADMINISTRATIVE UNITS
1971
MAO WEST
MAO EAST
UKHRUL
NORTH
NORTH DIST.
TAMENGLONG
NORTH
UKHRUL CENTRAL
SADAR HILLS
EAST DIST.
KAMJONG
TAMENGLONG
WEST
TAMENGLONG
WEST DIST
PHUNGYAR
PHAISAT
IMPHAL
EAST
IMPHAL
WEST
JIRIBAM
UNDER
C.DIST.
HUNGBA
UKHRUL
SOUTH
THOUBAL
BISHENPUR
CHURACHANPUR
NORTH
CENTRAL DIST
TENGNOUPAL
TIPAIMUKH
SOUTH DIST
CHURACHANPUR
THANLON
CHANDEL
THINGHAT
CHAKPIKARONG
INTERNATIONAL BOUNDARY
STATE BOUNDARY
DISTRICT BOUNDARY
SUB DIVISIONAL/BLOCK BOUNDARY

FIG 1

CHAPTER I

HISTORICAL PERSPECTIVE ON REGIONAL STRUCTURE

It is difficult to present a systematic study of the historical development which has taken place in Manipur because the data and information source is weak. Not much reliable information is available for hilly tracts. The central Manipur valley which has undergone several transformation during the last many centuries, has been the domain of successive kingdoms. It has been populated with the successive waves of immigrants who were of diverse stocks and strains.

In the evolution of human landscape it dates back to Vedic age, the role of natural factors, alongwith the kings and kingdoms in the central valley has been very significant. One could divide the history of Manipur into the following periods - Ancient period, Medieval period, British period and Post independence period for the analysis of besic geographical character, both temporal and spatial.

The prehistory of Manipur is shrouded in mysters and nothing could be said definitely. The sources of information are basically in the forms of folk and fain tales. One can't give much importance to them.[1]

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1. One of the school believes when Manipur was under water nine Gods and seven Godesses were throwing hillocks into the water to create the land. The Lord Shiva with his consort Paravati landed on one of the hill and drained out water by providing an outlet with his trident then played "Rasalela" over there.

Another school of thought gives an opinion that the first settlement was started at Imphal by the two lovers, Nongpokningtho and Panthoibi who were considered as the incarnation of Shiva and

Regarding the name, Viyas and Jamini called it as Manipur in their Mahapuran Bhagabat and Mahabharata. But in the old days Manipur was known by different names - the Shan called as "Kase", Burmese as "Kathe", Ahom as "Maketi", Cacharies as "Mugli", old Assamese as "Moglan" and in the Rennell's Memoir Atlas it is called "Mecklay".[2] It was known as Mecklay upto the 16th and 17th century because it was used in the Gaurasyam's declaration rafting the Anglo Manipuri Treaty of 1762 A.D. But afterwards the name Manipur was recognised by the East India Company entering the treaty with King Jai Singh in 1762 A.D. and the report (1800 A.D.) of Francies Himalton, officer of East India Company.[3] Here it can be concluded that the name Manipur became popular only from the 1800 A.D. onwards.

ANCIENT PERIOD (33 A.D. - 1074 A.D.) :

In the beginning of the Christian era Manipur belonged to several chiefs of the Valley and the tribal chiefs of the hills. The seven principalities in the valley are Ningthouja

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and Paravati.

And another school of thought gives the view that the first settlement took place at the Koubru peak which lies North West of Manipur valley and from there setting process started.

And again in the Brahmanical Purana stories it is said that Manipuri are the descendants of Babhrubahan, son of Arjuna, the third Pandava of Mahabharata ; It is also mentioned that Manipur was named by Babhrubahan taking the meaning from Jewel (Mani) wher he came into possession from the hand of Raja Naga or Serpent king

2. Mecklay derives from the Chinese word Mangkhala (Mung = Man + Kha = prominent + La = Lake or big) it means prominent man inhabited on the shore of lake.

3. Francis Himalton : An account of Assam, P. 76.

or Manˇgang or Mitaya or Meithei, Luwang, Angom, Moirang, Khuman, Khabanganba and Chenglai. They were independently settled along the river basins.[4] Amongst themselve they struggled for suzereinty, Mitaya or Meithei subdued Khabanganba and Chenglai at first then Angom and then Luwang.

There is not detail records of this ancient period except the political supermacy and a few works on social and religion. Right from the first king, Nongda Lairen Pakhangba(33 A.B. - 154 A.D.) the Meithei clan was politically powerful in the valley of Manipur.[5] But there was hardly any big fighting between the hill tribes and the valley tribes. It indicates that the surrounding hilly chiefs were almost confined and contended in their hill domains while the small kingdoms in the valley were trying

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4. Mitaya, Angom, Khabanganba and Chenglai clans occupied Imphal, Nambol, Naga, Kongba and Iril river basins.

Luwang clanoccupied Luwangli, Phumlou, Isingda and Abalak river basins. Moirang clan occupied Maklang, Nambul, Thongjaorok. Khuˊga and Moirang river basins, Khuman clan occupied Ingourok, Thoubal upto the place where it meets Imphal river thence the Mayang Imphal and thence to Sugnu river basins.

5. Some said Nongda Lairen Pakhangba was an adventure and other gave the opinion that he was the descendant of Babhruˊvahan. He was considered to be a God King. He only founded the Kingdom of Mitaya or Meithei clan for the first time in Manipur subduing the neighbouring Kingdoms.

to extend their territories.

In 154 A.D. King Khuiyam Tompok invented Drum(pung) for the first time in Manipur and king Yengliphaba introduced embroidary work on the border of phanek phiban(Ladies lower germant). During this period the kings used the measurement of time in the palace.[6]

Again when it looks into the researchers work it finds that "Dhujaraja" a king of Sakya race settled at Manipur about 550 B.C.[7] Ram Nath in his background Assamese culture (P.85) says that " group of people from Kalinga penetrated into Western Burma through Sylhet and Manipur". Dr.Hurvey in his history of Burma(P.9) mentions that "during the 2nd century B.C.Chinese silk were exchanged for the gold of Europe through the mountain passes of Manipur which took three month to reach Afganisthan and Sir A.Piyre when he describes the route says "One of the Kshetriya King passed through Manipur and reached Burma." The collection of coins of W.Yumjao singh is also belonged to 2nd century A.D.

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6. It was an instrument consists of a small copper bowl perforated at the bottom and it is floated on some water kept in a chisten. The time taken by the bowl to sink to the bottom of the chisten was called one"Wanglen". The time from one sunrise to the next sunrise was divided into eight equal parts and each part was called one"Yuthak". Each Yuthak was divided into eight equal parts and each part was call ed one Wanglen. The copper bowl was so constructed and made it as to sink 64 times during the course of one sunrise to the next sunrise.

7. Col Girini; Researches on ptolemy's geography. PP.421-26.

The above historical facts and researchers works proved that the civilization in Manipur valley during the Ancient period had reached upto certain level. Although it is difficult to present an analysis of the socio-political and economic conditions due to lack of informations. However, it could be said that Manipur had a trade relationship with her neighbouring countries and many groups of races from East, West, North and South passed through and some of them reigned and settled in Manipur during the ancient time.

THE MEDIEVAL PERIOD (1074 A.D. - 1891 A.D.):

This period accounts from the King Laiyamba 1974 A.D. to the King Surchandra 1891 A.D. During this Medieval period there were fifty four rulers amongst them King Khagemba, Garbaniwaj, Bhaigachandra and Chandrakriti were considered to be the most powerful kings. The process of succession and the territorial annexation, specially of the surrounding hilly areas has been important to leave a definite impress on the region. One could locate plenty of evidences of socio-economic conditions prevalent during this period. As for critical study this period is divided into two sub periods.

i)Early Medieval :

In this period, the process of annexation at the cost of hill tribes, the Mitaya or Meithei Kings were also involved in struggles with the Chinese, Cacharies, Shan, Burmese

and Tripuris. Throughout this phase of adjustment vis a vis tribes and the outsiders, the boundaries were in constant in-flux.

In King Laiyemba, one could find the person who tried to develop a system of laws of dividing the courts into administrative divisions and as per records available he came out with six pana and twenty seven subdivisions of classes.[8]

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8. Pana was a force labour institution who were arranged to settle in different places.

Great divisions in order of Seniority.

1) Laipham
2) Khapham
3) Ahllup
4) Naharup
5) Hidakphanba } inferior class.
6) Potsangba }

Subdivision of Classes.

1)	Ningthouselba	(Raja's body and house servants)
2)	Leimselba	(Ranis " " " "
3)	Maiba semglal	(Medical practitioners or Kabiraj
4)	Pachan	(Court of justic for women)
5)	Pena Khongba	(Musicians and singers)
6)	Sagolsung	(overseers of the Moyal stables)
7)	Samusung	(overseers of the elephants)
8)	Arengba	(Butlers, look after the food)
9)	Thongjapanaba	(overseers of blacksmiths)
10)	Boledeo seino	(overseer of firewood)
11)	Phurongba	(overseer of rice)
12)	Thoomjaorongba	(overseer of salt)
13)	Porgai	(incharge of money chest)
14)	Maibatul	(Strikers of youngs)
15)	Ooilaipaba	(Chuprassess and messengers)
16)	Apalpa	(Mounted troops)
17)	Ooilai sung	(Carry Chariot)
18)	Sebut Thangsuba	(Raja's sward bearers)
19)	Oosuba	(carpenter)
20)	Lourongba	(cultivator)
21)	Thangsaba	(Blacksmiths).
22)	Konsaba	(Jewellers and workers in brass)
23)	Koodumba	(Bone setters)
24)	Ahoiba	(Metal casters)
25)	Sungle	(Cutcherry work)
26)	Sungorba	(Cutcherry work)
27)	Laikai	(House Builders)

In 1195 A.D. King Thawantha introduced the salt manufacture. Kabomba dug a canal (Takhelkhong) in 1534 A.D. to commemorate his victory of Tripura and constructed a road leading to Assam in 1536 A.D., later on Laisangkhong canal was also dug by Charanba in 1545 A.D. In 1604 A.D. ~~Chariot~~ palanquin (Doilai) was introduced by king Khagemba and he captured 30 elephants, 1,000 muskets, 1,000 mahamadan sepoys, many balcksmiths, goldsmiths, artisans and washerman from the Cacharies King. Since then Muslim people from outside have started to settle in Manipur. For trading operation he opened eleven marketing centres in different parts of Manipur and also started to collect gold from the river Chindwin.

ii) The Late Medieval :

It was started with a very powerful king, Garibaniwaj and ended with the war of British in 1891 A.D. But from the beginning upto ChandraKirti (1886 A.D.) Manipur had a good relationship with British.

Garibaniwaj(1709 - A.D.- 1748 A.D.) reign was one of the brightest period in the history of Manipur. He extended the boundary of territory to the east upto the capital of Burma, beyond Chindwin river, Tripura to the West, border of China to the north and extreme south. Since the immediate successors of him were petty so Manipur had frequent setback at the hand of Burmese as they were given arms help by the British. Almost all the time kings of Manipur fled to

Western neighbouring countries like, Cachar, Assam and Sylhet for getting help. Later on 1825 A.D. Gambir singh regained Manipur from the hand of Burmese with the assistance of British this proved the war for the final control by British in 1891 A.D.

About the changing pattern of the boundary of Manipur Fig. no.2 is also clearly proved that it had been becoming smaller and smaller from reign to reign and finally adjustment of boundary was taken place by the British.[9] It was in 1833 A.D. Jiribam area was given to Gambir singh demarcating the line of Jiri river and western bend of Barak river as the boundary between Manipur and British India, and in 1834 A.D. Kabow valley to Burma and then Yoomodung hills become the eastern boundary. The forest between the Doyeng and the Dhansiri was declared to be the boundary between Assam and Manipur in 1835 A.D. and similarly the northern boundary was also demarcated.

Economic condition :

Besides agriculture, the manufactures of cloth specially in silk, leather and leather goods, pottery, jwellery, carpentary etc., were existed. They created a lot of tradi

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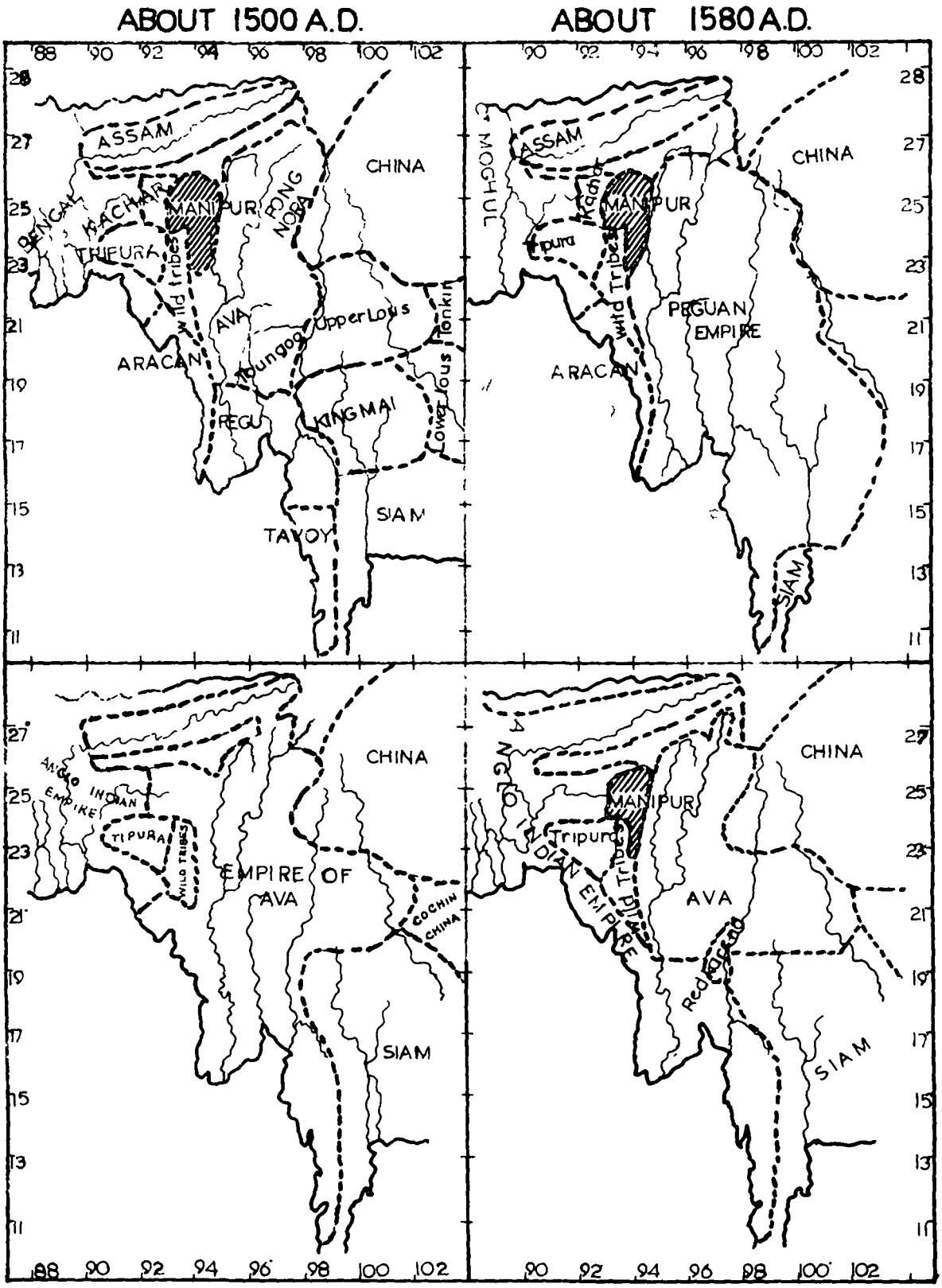
9. Fig.no.2 shows the historical geography of the Burmese countries at several Epoches(1500 A.D. -1856 A.D.)with the boundary changes of Manipur. Capt.H.Yule, Bengal Engineer, F.R.G.S.,late sectry to the Envoy(Major Phayre) and under sect (D.P.W.) to the Govt.of India prepared it, in a report named "Narrative of the Mission sent by the Govt. General of India t the court of Ava in 1855(with notice of the courtry,Govt. and people), with a large collection from different sources.



SOURCE : NARRATIVE OF THE MISSION TO THE COURT OF AVA IN 1855. BY H. YULE.

FIG. 2

activities between the highlanders and valley people and with other neighbouring areas like Cachar, Tripura and Assam etc., although the hilly terrain remained an obstacle for trade and transport activities. Barter trade was the main form and it resulted into many a market centres.[10]

Land Holding System :

It is beleived that out of the total valley area, one half was under rice cultivation. In Manipur there were for kinds of free revenue lands viz.

1. Ningthoulou (personally enjoyed by the king)
2. Lairou (granted for maintenance of temples)
3. Lugunlou (given to the Brahmin for sacred servic
4. Taloblou (Land given to the favourite, officer of relatives or the little holders of the king.

And another two more kinds(1) Siphailou which was given to the military and (2) The land held by the civilian people. Each got one pari($2\frac{1}{2}$ acres) and only thecivilian villages gave the revenue at the annual rate of about 20 seers of rice to the crown. But no lease or patta of any kind was issued to the land holders. The land was under the charge of two agents of king.

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10. They congregated during the early part of the day and deserted afternoon. Daily at least 3 thousands women were essembled on a vacant plot of ground which is within the area of present marketing centres of Imphal(Khwairamban) in which many hill men were also presented.

One was the headman of each division or village and the other one was Lourengpuren Achouba or Phamen Selungba (chief land collector) who was next to the king in term of land property.

Agriculture Practice :

The enough rainfall and temperature gave the suitable climate for rice cultivation but fog and hoar frost was very common during the winter season. The agricultural practice were primitive; under wet cultivation the farmer used buffalo and cattle for tilting and the use of manure and sceintific implements were not there. Average yield was 100 baskets (60 pounds per basket) for one pari land of inferior quality and 60-200 baskets of rice for the best pari land.

Population and Religion :

There was not any reliable sources of population in Manipur during the mornarchy period. But from the available report of E.W.Dun's Gazetter of Manipur 1886, one can describe some of the characteristics of population of Manipuri based on 1881 A.D.(Table no.I). The total population of Manipur was found 221,070 contributing the proportion of 135,782 (61.42 p.c.) and 85,288(38.58 p.c.) both valley and hills. In the plain Meithei, Kei, Loi, Maiyang,

TABLE I

Population in 1881

(a)	Manipur Plain	Pop.	P.C.
Manipuri	Meithei	117,103	52.97
	Kei, Loi, Mayang	18,574	8.40
Foreigners	Bengali	15	
	English	7	
	Hindustani	83	
		105	0.047
	Hill		
	Kuki	25384	11.48
	Naga	59904	27.09
	Grand Total	221,070	100

(b) Religious Composition

Religion	Pop.	P.C.
Hindus	130,892	59.20
Mahamadans (Sunni)	4,881	2.20
Christians	7	.003
Bhudist	2	.001
Hill Tribes	85,288	38.57
	221,070	100

(c) Language

	Pop.	P.C.
Bengali	15	.006
Sengmaie	7,151	3.23
English	7	.003
Kuki	25,384	11.48
Manipuri	128,926	58.13
Naga	59,904	27.09
Hindustani	83	.07
	221,070	100

(d)

Class	Males	P.C.	Females	P.C.	Persons	P.C. to the tot
Proffessional Class	12,169	80.9	2,858	19.1	15,027	6.7
Domestic Class	7,324	48.8	7,672	51.1	14,996	6.7
Commercial Class	572	3.7	14,861	97.3	15,433	6.9
Agricultural	51,057	49.1	52,880	50.9	103,937	47.0
Industrial Class						
Indefinite and non Productives (Nonworkers)	36,310	52.9	32,315	47.1	68,635	3.1
Total -	109,557		111,513		221,070	

Source - E.W.Dun ; Gazetteer of Manipur, pp.14-15.

Mahamadan, Bengali, English and Hindustani were there and in the hills both Kuki and Naga groups settled.[11] Meithei or Manipuri groups predominated in religions composition(59.20 p.c.) and language(58.13 p.c.). In occupation structure it is also depicted that people were very much dependent on agriculture(47.p.c.) than other economic activities. The percentage of nonworkers were less(31.00 p.c.) and female were sharing large percentage working class except industrial and proffessional class(see the Table I) and the ratio of sex was 1,018 for every 1,000 males.

Religion is also largely responsible to build the present from of society of Manipur. One can noticed that all the Manipuri were Hindu in the late 17th century due to the influence of Brahmins and Hindu outsiders.[12]

11.Loi -also in the lower class group (now one of the caste) appear to be descendants of the former inhabitants of Moirang, culprit, prisoner and even Manipuri were degraded to Loi according to their victims. They proffessed Hindu.

Maiyang-descendents of Hindus who originally migrated from the west,also of such captured by the Manipuri, in arms against them. They formerly settled at Mayang Imphal and deserted during Burmese war in 1824 then scattered over the valley.

Kei- Lower class group formerly Nagas working in the field to cultivate rice and pounding it chiefly on account of the Raja, later on they were recruited to Manipuri.

12. The coming of Hinduism in Manipur is most contradictory, but one could came across the worship of veishnuvism from the temple of Bishnu at Bishenpur(19 k.m from Imphal) which was constructed by king Kayamba in 1407 A.D. Then the professed was changed to the Madhavachariya sect by Charairongba in 1697 A.D. Again Garibaniwaj ....

Christanity and Budhist were almost nil and Mahamadan were also very less but the hill tribes were still prestine believing their ancestor God.

Migration :

From a very long time many invaders, traders, pilgrims and travellers have came across Manipur through the mountain passes.[13] The land was originally inhabited by the tribes and three distinct cultural areas could be located

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Contd...
forcively brought Ramaodicult in Manipur, in 1750 A.D. and admitted into the kshatria caste. In about 1777 A.D. king Bhaigachandra and his subjedt begain to worship God(Radha-krishna) in Parakiyarasa of the Madharbhava of the Naralom (Gourango)Paribar of the Bengal branch of the Madhuguru sect of Veishavsam Pradaya.He founded the Shri Govindaji temple in 1779 A.D. and performed the favmous Manipuri Rasdance. Thus Hinduism, keeping a close contact with the holy places of India, has been fostered side by side with veishnavism in Manipur. As a result the present Manipuri society is by and large extensibly Hinduism.

13.

		Name of the mountain passes.		Name of the countries passed through.
East and S.East	i)	Heirok pass	...	Chinese, Burmese and othe south east Asia countrie
	ii)	Aimol pass	...	" " " "
	iii)	Ngarachingjen pass	...	" " " "
	iv)	Marring pass	...	" " " "
West N.West and S.West	v)	Tongjeimaril pass	...	Cachar.
	vi)	Ngaprum Chingjel pass	...	Tripura and other western countries.
	vii)	Khongjai pass	...	" "
	viii)	Akui pass	...	" "
	ix)	Chinkhai Haram pass	...	Assam and other western countries.

Manipuri or Meithei with their culture in the central valley and Naga and Kuki on the hills.[14] The central valley remained the melting pot where people belonging to different groups came from places like China, Burma (Shan, Kabow and Awa), Assam, Cachar, Shylet, Tripura and Bengal etc. The factors were 1) Hinduism as religion in Manipur generated immigration of Brahmin class alongwith other necessa r y elements(11) with victories, the captives were brought in and ultimately become the part of the society and (iii) in the form of pilgrim, traders and travellers the people of different groups came and some of them settled.

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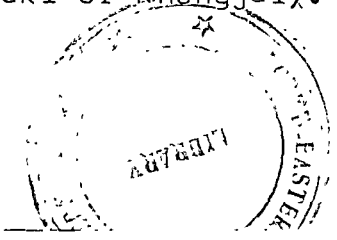
14. Meithei(Manipuri or Meitei)- The group name"Meithei" has been derived from mi - Man and thei = separate. B.H. Hodgson gave the view to the Asiatic society of Bengal in 1853 that in the "Moitay" there is combined appellations of Seamese Tai and Kachin Chinese "Moy". In other words, Bengali called Cossiates denoting the "Moi" section of the great tribe called Tai by themselves and Burmese called Shan-velsyn, the sectional name being also foreign and equivalent the nature.

Dr.Greison gives(in his linguistic survey of India) Meithei are linguistically to be link between the two groups- Kachin and Kukichin languages.

Naga and Kuki- The hillmen generally are all named"Haow" by the Manipuri in Manipurbut they also recognize the distinctions of Naga and Kuki.

The derivation of the name Naga is doubtful some deriving it from "Nag" or snake as beautiful dragon: like being against whom the hero Arjuna of Mahabharata fought,other: from a corruption of the Bengali word"Naga" means naked.

The origin of the term Kuki is the generic name but it is said to be derived from a ward applied to the syste of cultivation by the Bengalis.It is believed that in Manip they came from the South West direction with two arrivals - old arrivals(Kuki) and new arrivals (Kuki or Khongjai).



There was out migration due to atraction of pilgrim places to other parts of India and the forced migration during the war. So one could locate Manipur population at Gauhati, Cachar, Myllemshig, Nawdip, Bengal province and Mandalay(Burma) etc.

BRITISH PERIOD(1891 A.D. - 1947 A.D.) :

British had a relationship with Manipur in political as well as administrative affairs since the 1962 treaty of Chittagong (between Jai singhand British). But the relationship was broken due to the misunderstanding.[15] So when a palace intrigue arose among the grandson of Gambhirsing a series of battles were took place at Imphal. Finally Manipur was defeated by the British and Kept as a native state(which was accordingly decided by the debate in the house of common and the house of lords).

During the British period there were two kings - Churachand and Budhachandra who ruled the native state under the control of British, Like other rulers, Maharaja Churachand singh was an enlightened and religious minded. He developed an education system in the state and carried out some administration and land reform e.g. abolished the lalhup or

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15. Manipur though that the British were only a friendly people and nothing of the kind but the British regarded Manipur as an independent country in the begining then due to gradual consolidation of British power in the sub continent and Burma, they kept as a protected state.

pana system in place of it house tax was collected and improved the cultural life in the state. In 1898, he instituted chawkidar system to every villages and constructed motorable road from Imphal to Kohima.

After the second world war the demand of full responsibility Government ofManipur was raised against the British along with the movement of India independence when the paramountcy of British crown over India was ended on 15th August, 1947 the native state also had to be free from British and the monarchical dispotism. So in 1947, conceding the demand of the laftish group, the Manipur state congress, Maharaj Budhachandra apointed a committee to Frame a constitution of Manipur and a Government was formed by the elected representative of people for the first time in the history of Manipur.

POST INDEPENDENT PERIOD :

On 15th October 1949 Manipur merged with the Indian Union and become a part C State. In January 1952 the first general election was held in Manipur. And in 1965 according to the state reorganisation commission Manipur became into a Union Territory. But the discontent against the territorial regim and demand for stathood again started. So in 21st January, 1972, Manipur has got full fledged Autonomous State headed by a Governor.

TABLE II

Manipur, Change in the administrative Units
1951 - 1971

1951 Dist.	Subdiv.	Tehsil.
Manipur	(1) Sadar Sub div.	(a) Imphal West Tehsil
		(b) Imphal East Tehsil
		(c) Sadar Hills Circle (including Mao)
	(2) Thoubal Subdiv.	
		(a) Thoubal Tehsil
		(b) Bishenpur Tehsil
		(c) Tengnoupal Tehsil
	(3) Ukhrul Subdiv.	
	(4) Tamenglong Subdiv.	
	(5) Churachandpur Subdiv.	
	(6) Jiribam Subdiv.	

1961 Dist.	Subdiv.
Manipur	(1) Churachandpur
	(2) Ukhrul
	(3) Tamenglong
	(4) Jiribam
	(5) Tengnoupal
	(6) Sadar Hills and Mao
	(7) Imphal West
	(8) Imphal East
	(9) Thoubal
	(10) Bishenpur

1971 Dist./Subdiv/block	Population.
1) Manipur North Dist.	104,175
a) Mao West Subdiv.	30,442
b) Mao East Subdiv.	35,424
c) Sadar Hills Subdiv.	38,309
2) Manipur West Dist.	44,975
a) Temenglong Subdiv.	7,732
b) T.West Subdiv.	8,888
c) Nungba Subdiv.	14,028
d) T.North Subdiv.	14,327
3) Manipur South Dist.	98,114
a) Tipaimukh Subdiv.	15,214
b) Thanlon Subdiv.	12,889
c) Churachandpur North Subdiv.	12,114
d) Churachandpur Subdiv.	46,417
e) Thinghat Subdiv.	11,480
4) Manipur Central Dist.	763,260
a) Imphal East Subdiv.	169,937
b) Imphal West Subdiv.	241,155
c) Bishenpur Subdiv.	108,306
d) Thoubal Subdiv.	181,771
e) Tengnoupal Subdiv.	17,389
f) Chandel Subdiv.	10,407
g) Chakpikarong Subdiv.	10,927
h) Jiribam Subdiv.	23,368
5. Manipur East Dist.	62,229
a) Ukhrul North Subdiv.	10,381
b) Ukhrul Central Subdiv.	31,740
c) Phungyar Phaisat Subdiv.	8,17[illegible]
d) Kamjong Chassad Subdiv.	7,15[illegible]
e) Ukhrul South Subdiv.	4,78[illegible]
	1,072,75[illegible]

From 1901 - 1961, there was no change in the area of Manipur which remained as 8,628 Sq.miles(22,356 Sq.Km.) as given by the Survey Generalof India. Although there were interval administrative changes. For instances in 1951 there were six subdivisions and in 1961, ten subdivisions. Again on 14 November,1949, Manipur territory was recognised five administrative units and twentyfive subdivisions (Fig.No.1* and Table II).[16] Simultaneously in order to remove the economic disparity between the hill and plain and to accelerate the economic activities twenty-six blocks and six autonomus districts have been formed in the hill.[17] The boundary of blocks coincide with the subdivisions except Imphal West.

The above discussion has shown the civilization of successive stages since the prehistoric time with the correlation between the instances of temporal activities of Manipur kings and their geographical setting. It represented

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16. On the basis of linguistic and cultural affinity Jiribam, one of the subdivisions(which is not the contigous tract of central district) is included in the central district.

17. Recently Tengnoupal autonomous district has been converted to district by separating from the central district.

the changing penorama and penetration of races at many points of time. The region was the component of many tribes their interactions with the outsiders and with the physical environmetns have brought it into the real picture of Meithei or Meitei or Manipuri (Hindu) in the valley and Naga and Kuki (non Hindu) in the hills with three cultural groups.[18] The linkages and transport and communication was operated connecting all the links with the core area Imphal. So with the passes of time and constant mixed up with the surrounding people, social and economic activities were changed to improve, also many administrative reforms took place. But the influence of western people were more than the eastern people though the inhabitants have ethnically very much sound of mongoloid blood.

The geographical situation of the valley is made a natural strong fortified position enclosed by the hills and the kings of Manipur could easily bring all the refrectory hilly kingdoms under the control and make a compact form. They expanded the kingdom to large areas on the hilly tracts, later on it was fixed by the British. Thus the study of socio-political events, economic condition and administrative development throughout the history of the region in context of its space relationship of the mountain terrain have led to build the present regional structure of Manipur.

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18. Here the author treats Meithei, Meitei and Manipuri words in the same manner. The Meithei was used by the English people only. Whereas the Meitei is called to the inhabitants whose mother tonge is Manipuri. And the Manipuri is meant the one who speaks Manipuri language (or who are living in Manipur).

CHAPTER II

PHYSICAL SETTING

The chapter on physical setting is aimed to discuss the spatial variations of geological structure, physiographic personality, the climatic characteristics, soils and natural vegetation and the basic aim is to find out the distinctiveness of physical setting. This area has and how far it has influenced the regional character in terms of socio-economic structuring of region.

GEOLOGY:[1]

The state of Manipur is geologically a virgin land. So far from the preliminary survey work of Geological survey of India, it is found that Manipur is a part of the Burmese arc which is the southuard continuation of Patkai and Kohima synclinoria. In terms of the general character of geology, the area has the following lithostratigraphic units(Fig.no.3). 1) The Cretaceous limestone and Disangs with serpentinites form during the Lower and Middle Eocene - Upper Cretaceous period(60-90 million years old). 2).The Barail series form during the upper Eocene and Oligocene period(50 million years old) and 3). The Surma and Tipam series form during the Miocene period(25 million years old).

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1. The study of geology is largely dependent on the reports of G.S.I., where the source is limited as the investigation is in the primary stage in Manipur. And the economic geology is studied in the chapter IV, Economic structure with the aims to show the relationship with other economic characteristics of the region.

1) The Disang series covers the whole eastern half which is nearly 55 to 60 percent of the entire region.[2] This series goes almost parallel with the Barail series from north to south. This group of rocks comprise a monotonous sequence of grey shale interbedded with minor mudstone, silt stone and sandstone, buff coloured shale and siligeous limestone, sediments consisting of sandstone, calcareous at places, buff coloured shale, grit, conglomerat and limestone towards the east (G.S.I. Mesc. publication no.30). The limestone rocks are found in the Disang series of the north eastern areas. It is the fossile assemblage of upper cretaceous having the characteristics of massive fossilferous with solution caves, tunnels and small scale cavities (G.S.I. report 1970-71).

The regional strike of Disang formations is N 10^{o} E - S 10^{o} W with moderate to steep dips of 35^{o} - 80^{o} and appears to be folded into a series of anticliness and synclines resulting in anticlinal valleyes and synclinal ridges.

The serpentinites is represented as a belt on the eastern fringe of Manipur by occuring a number of intrusive bands in the Disang group. They are found to be fine grained

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2. The name of this is derived from the Disang river, along the gorge of which typical sections are well exposed, it was first described by F.R. Mallet in 1876.

MANIPUR
GEOLOGY

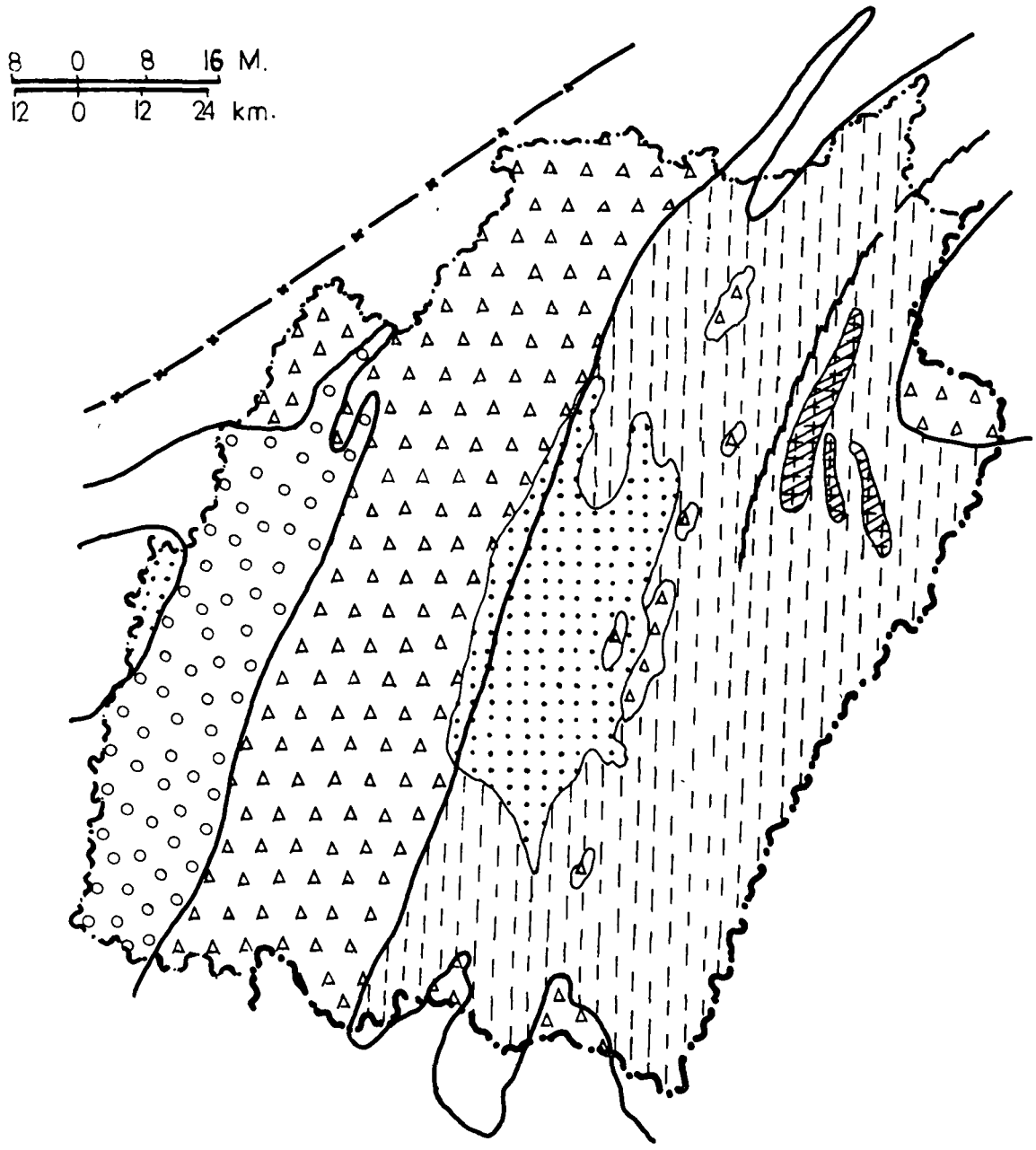

FIG. 3 SOURCE G S I & BURMA OIL COMPANY LTD.

moderately hard, fractured and traversed by their criss-cross stringers of asbestos, chromite and magnitete etc.

2). The Barail series continuing from the Nagaland to the south occupies the western and central part of Manipur.[3] This group is predominantly arenaceous in character with well bedded sandstone and shales. It can be distinguished from the younger Surma group by the dominance of carbonaceous element and its synclinal fold from the Disangs fold of anticlinoruim with southerly plung.

3). The Surma and Tipam series comprise only a small part in the western margin of the state. The rocks are characterised by argillaceous and arenaceous seguences chiefly sandstone, shale and clay.

The Manipur valley is made up of recent alluvium of fluvial origin of the subrecent to recent age.[4] The sediments are fine to medium grained sands silts and clays. It is observed that there is persistent clay bed which has a very wide areal extent with their sand horizons (about 6-10 metres) and occuring between 718 to 785 metres above sea level. This valley

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3. It talks from the name of Barail Range, the backbone of the north Cachar Hills and Watershed between the Brahmaputra and Surma valley.

4. G.S.I. Report on systematic Hydrogiological studies in parts of central district, Manipur by R.K. Agarwal, Vol. 100, Part I, 1975-76.

as a whole represents the exial region of an anticlinorium the crest of which has been eroded away. And the main synclinal axis tranding almost N - S passes through the high elevation of western hills.

PHYSIOGRAPHY:

The geological formations and characteristics have influenced the topographic details of the area. The topography of Manipur is characterised by rugged and hilly terrain except the central plain and the low lying plain of south western fringe. The hilly terrain occupies nearly 90 percent and the plain 10 percent of the total geographical area and the altitudes varies between 200 to 3,050 metres above sea level (Fig.no. 4).

There are series of mountains running parallel north to south which show the general appearance of irregular serrated ridges and at places rise to conical peaks, flat cliffs and bare precipitous rocks. Those relic mountains are intersected by many deep drainage lines and form innumberable small valleys, longitudnal as well as transverse in character. The highest elevated areas are located in the north and gradually decrease towards the south. The eastern portions are higher than the western areas of the state (see the Table 3.)

31

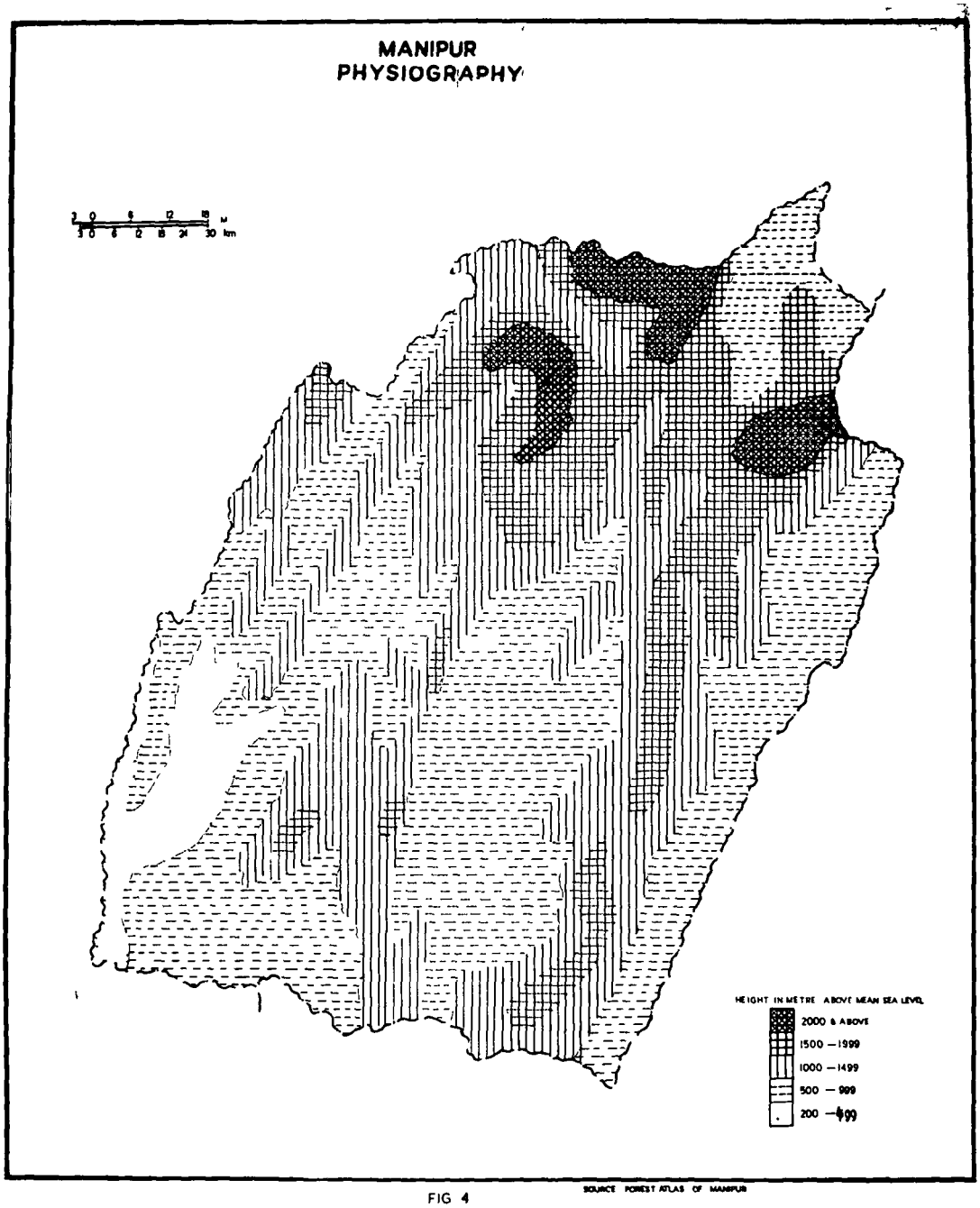

FIG 4

SOURCE FOREST ATLAS OF MANIPUR

TABLE III

Names of the important mountain ranges and the elevation of some peaks.

A.	East Ranges	-	Serameti, Somral, Kassom, Nupital or Mupethe and Yomadung.
B.	West Ranges	-	Neugjaibung, Kalanage, Chakka Nungba, Kaupum and Kŏpru Laimatol.
C.	North Ranges	-	Kunhospars, Thumion - Mayankhong Laison and Sirohifara.
D.	South Ranges	-	Hoabi.

	Peaks	Elevation
1).	Tenipu	2,994 metres (M. North Dist.)
2).	Koubru	2,652 " (" " ")
3).	Iso	2,460 " (" " ")
4).	Khayangbung	2,833 " (M. East. Dist.)
5).	Siroi	2,568 " (" " ")
6).	Kachoobung	2,498 " (" " ")
7).	Leikot	2,531 " (M. West. Dist.)
8).	Tompaba	2,564 " (" " ")

The central valley plain is surrounded by hills and is flat and elongated in shape. It is covered with sediments which are brought down and deposited by the rivers. It has an area of about 1,800 Sq. Km. with an average elevation of 763 metres. There are a few scattered low lying

ridges and small hillocks as a part of Disang series. In the south west, over the structural depression, Loktake lake is located and it varies in size from 255 to 475 Sq. Km. during the dry and rainy seasons. The catchment area of this lake is 6,00 Sq. Km. Apart of this lake there are some small lakes in the central plain.

The low lying plain of the south Western corner of Manipur is the eastern extermity of the Surma valley. It lies between 200-500 metres above sea level and covers nearly 500 Sq. Km. at the Tipaimukh and Jiribam area following the hire-pine course of Barak river.

DRAINAGE :

In Manipur there are numerous drainages running - north to south, east to west, west to east and south to north according to the varied slope of the area. It can be divided into two water catchment areas on the basis of their main river systems. One is the Ganga-Brahmaputra catchment which covers the western side of Barail and Surma and Tipam series and the another one is the Chindwin-Irrawaddi catchment area in Disang series. Again, these two catchment areas are further divided into 16 river basins considering the water-shed lines as the basins boundary. Fig. no. 5 and Table IV show seven basins in the Ganga - Brahmaputra and nine basins in the Chindwin-Irrawaddi catchment.

Table IV

Catchment/Basins		Area in Sq.Km.	Total length of all the segments in Km.	Density in Km.
A.	Ganga Brahmaputra catchment	11523.74	5222.6	0.45
1.	Makuu basin	1042.27	366.8	0.35
2.	Barak I basin	1155.29	294.2	0.25
3.	Barak II basin	2937.35	1830.4	0.62
4.	Irang and Laimatak basins	1948.96	1043.2	0.53
5.	Irang basin	1519.46	753.6	0.49
6.	Tuivai I basin	1222.06	377.6	0.30
7.	Tuivai II basin	1698.35	556.8	0.32
B.	Chindwim Irriwadi catchment	10766.01	4739.1	0.44
1.	Imphal basin	751.54	263.6	0.35
2.	Iril basin	1192.96	441.6	0.37
3.	Thoubal basin	706.91	307.2	0.43
4.	Nambal , Sekmai & Kakching basins	1509.59	450.0	0.29
5.	Khuga basin	487.52	140.8	0.29
6.	Tuiyang basin	1377.87	582.4	0.42
7.	Taret basin	1901.00	870.4	0.45
8.	Tuyangi basin	1750.83	1056.0	0.60
9.	Chingai & Jesami or Luniya basins	1087.79	627.2	0.57
	Others	66.25		
	Manipur	22356.00	9961.8	0.44

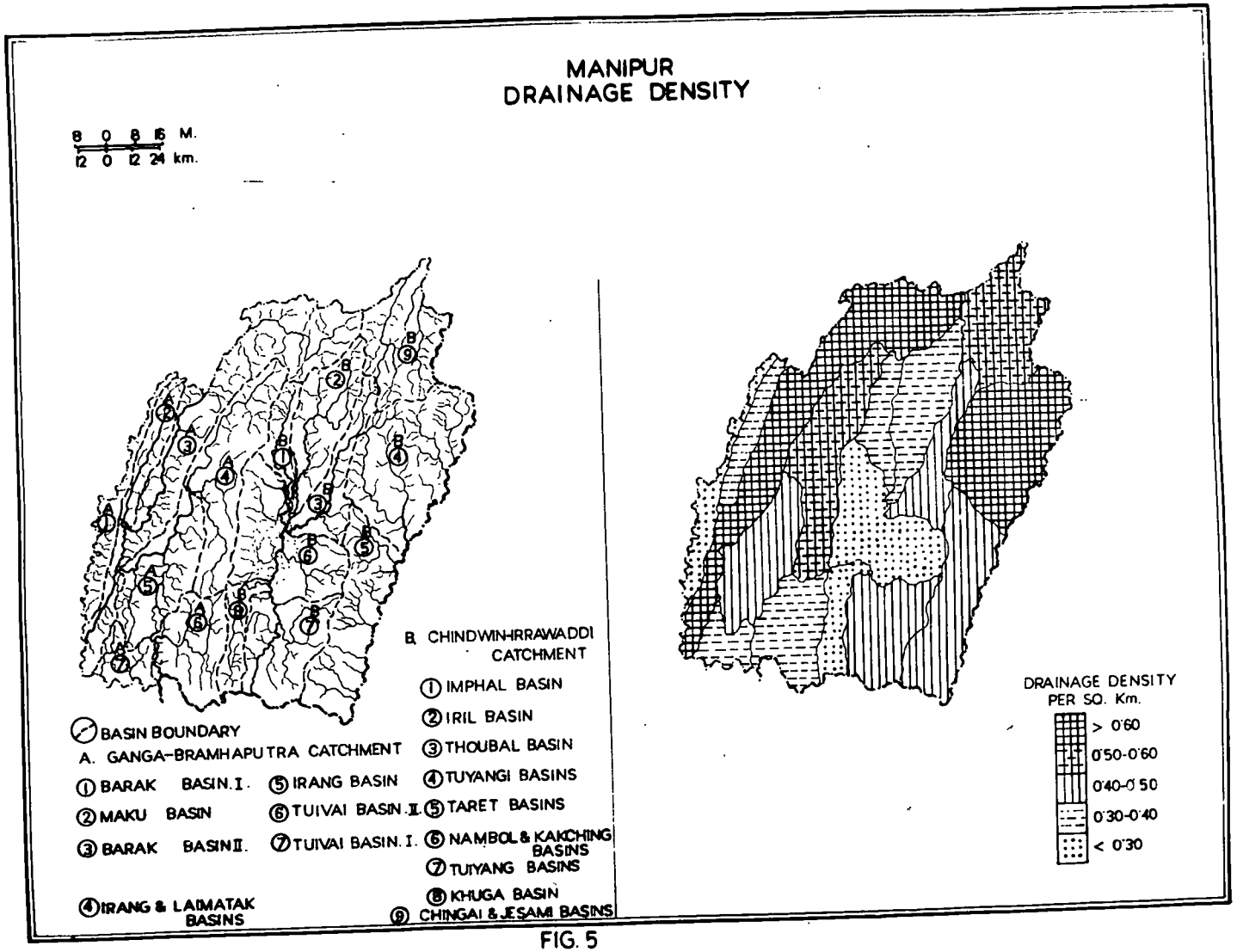
MANIPUR
DRAINAGE DENSITY
8 0 8 16 M.
12 0 12 24 km.
BASIN BOUNDARY
A. GANGA-BRAMHAPUTRA CATCHMENT
① BARAK BASIN.I.
② MAKU BASIN
③ BARAK BASIN II.
④ IRANG & LAIMATAK BASINS
⑤ IRANG BASIN
⑥ TUIVAI BASIN.II.
⑦ TUIVAI BASIN.I.
B. CHINDWIN-IRRAWADDI CATCHMENT
① IMPHAL BASIN
② IRIL BASIN
③ THOUBAL BASIN
④ TUYANGI BASINS
⑤ TARET BASINS
⑥ NAMBOL & KAKCHING BASINS
⑦ TUIYANG BASINS
⑧ KHUGA BASIN
⑨ CHINGAI & JESAMI BASINS
DRAINAGE DENSITY PER SQ. Km.
> 0·60
0·50-0·60
0·40-0·50
0·30-0·40
< 0·30

FIG. 5

DRAINAGE DENSITY :

The drainage is trellis type in the middle west as the streams develope at the right angle to the main stream but elsewhere it is dendritic pattern since the streams develop to a form of the branches of tree. The density of drainage is worked on the basis of the formula -

$$D = \frac{LK}{AK}$$

Where D = Drainage density per Sq. Km.

LK = Total length of all segments of all order.

AK = Total area of the basin.

It is clear from the Fig. no.5 Barak basin II and Tuiyang basins get the maximum density (above 0.60) while the Nambol and Kakching basins, Barak basin I and Khuga get the lowest density. These density of drainage can also be compared with the physiography map (Fig.no.4) where the contour value is high or low the density is also relatively high and low. And the bed rocks sand, shale and clay and its undulating topography give high drainage density in Manipur (0.44). But only in the plain and patches of flat areas the densities are found to be low. So the grade of the drainage density is showing the characteristics of the streams i.e. in the Barak basin II and Tuiyang basins the erosional activity is strong compared to other basins because the proportion of surface runoff is high as the streams are abruptly crossing from higher contour to lower controur.

CLIMATE :

Climate is an important factor which directly or indirectly effects the socio-economic activities of our daily life. The general character of climatic condition in Manipur is largely controlled by the determinant factors of topography, location, direction of the wind etc. Being a region located just above the tropic of cencer with an average of 1,500 metres above the mean sea level receives plently of rainfall during the summer from the south west Monsoon wind.

Manipur has the subtropical to temperate climate depending on the varying level of elevation. The average annual rainfall, rainy days, temperature and humidity data are computed and the general pattern is depicted in figures 2101 mm., 113, 22^{o} C, and 81, respectively. In a year there is not much variation of temperature, it is appeared between 13^{o} to 26^{o} C an average (Table V). But the amount of rainfall differs from season to season although the percent of humidity is always high in the sky. The actual rainy season is started from April/ May to Sept./October i.e. summer, next comes to Autumn with partly rainfall occured and partly cold in the month of Oct./Nov then get the cold season winter from November to February where the falling of temperature is almost reached of freezing point and then started spring in the month of March and April (see the Fig. no.6).

TABLE V

Climatic table

Stations	Mean annual rainfall in m.m.	Mean annual temp. in c.	Mean annual rainy days	Mean annual humidity	Intensity of rainfall	C.V. of rainfal per 18 years.
Churachandpur	1526	22	105	79	14.53	27.24
Chakpikarong	2099	23	100	74	20.98	62.33
Thanlon	3394	24	130	93	25.10	37.83
Imphal	1404	20	103	71	13.63	33.08
Wangbal	1731	20	98	79	17.66	33.69
Tengnoupal	2445	19	102	80	23.97	35.79
Ukhrul	1522	21	107	82	14.22	26.80
Maram	1306	20	101	87	12.93	19.73
Jiribam	3108	25	122	85	25.47	33.70
Kangchup	1966	N.A.	146	N.A.	17.90	54.86
Tinsong	2614	22	146	77	17.90	33.64
Manipur	2101	21.6	113	81	18.42	36.24

Rainfall and Rainy days are 18 years average temp. and Humidity are 7 years average except Imphal which is 9 years average.

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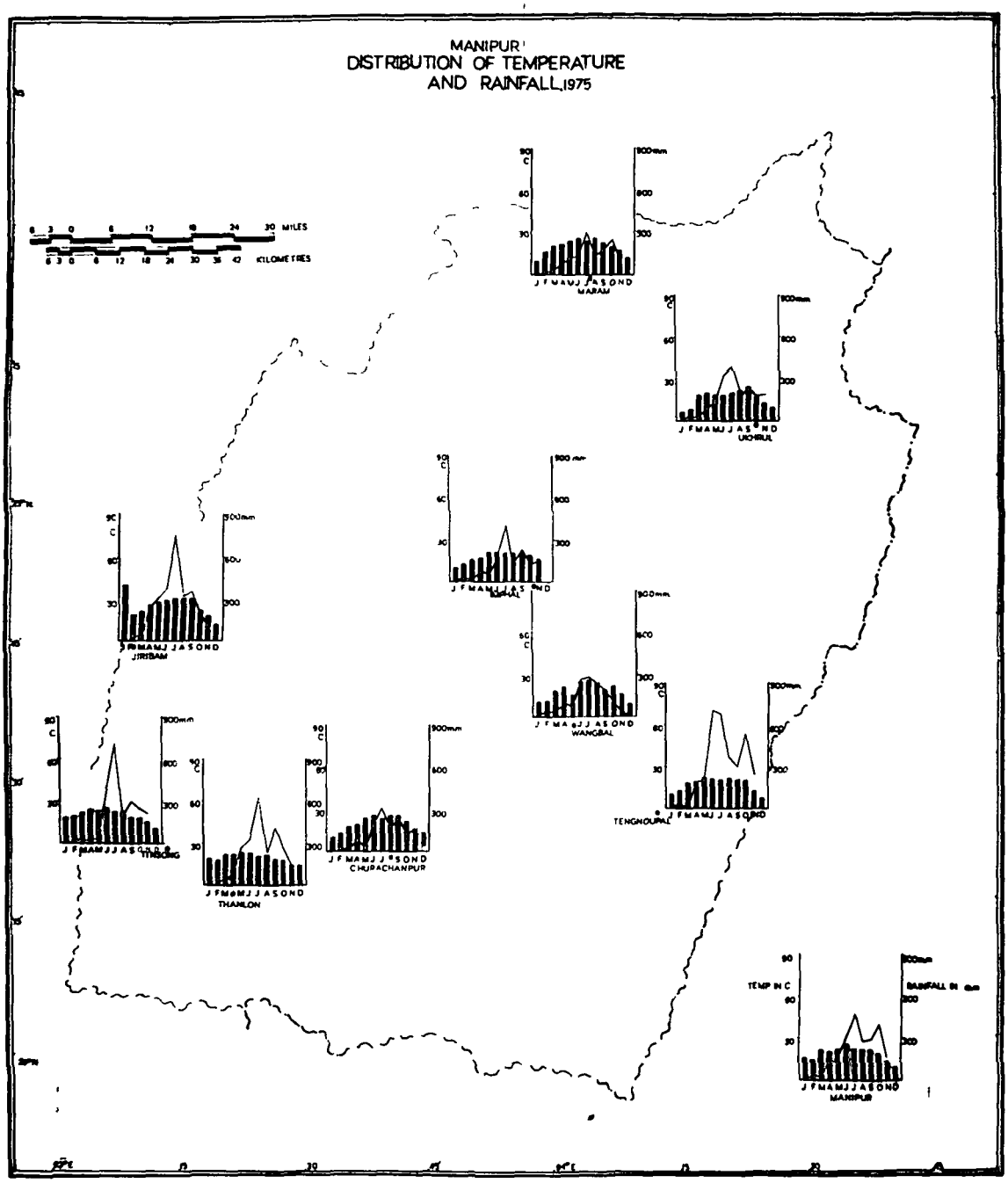
MANIPUR
DISTRIBUTION OF TEMPERATURE
AND RAINFALL, 1975
MARAM
UKHRUL
JIRIBAM
WANGBAL
TENGNOUPAL
TAMENGLONG
THANLON
CHURACHANPUR
MANIPUR
TEMP IN C
RAINFALL IN cm

FIG 6

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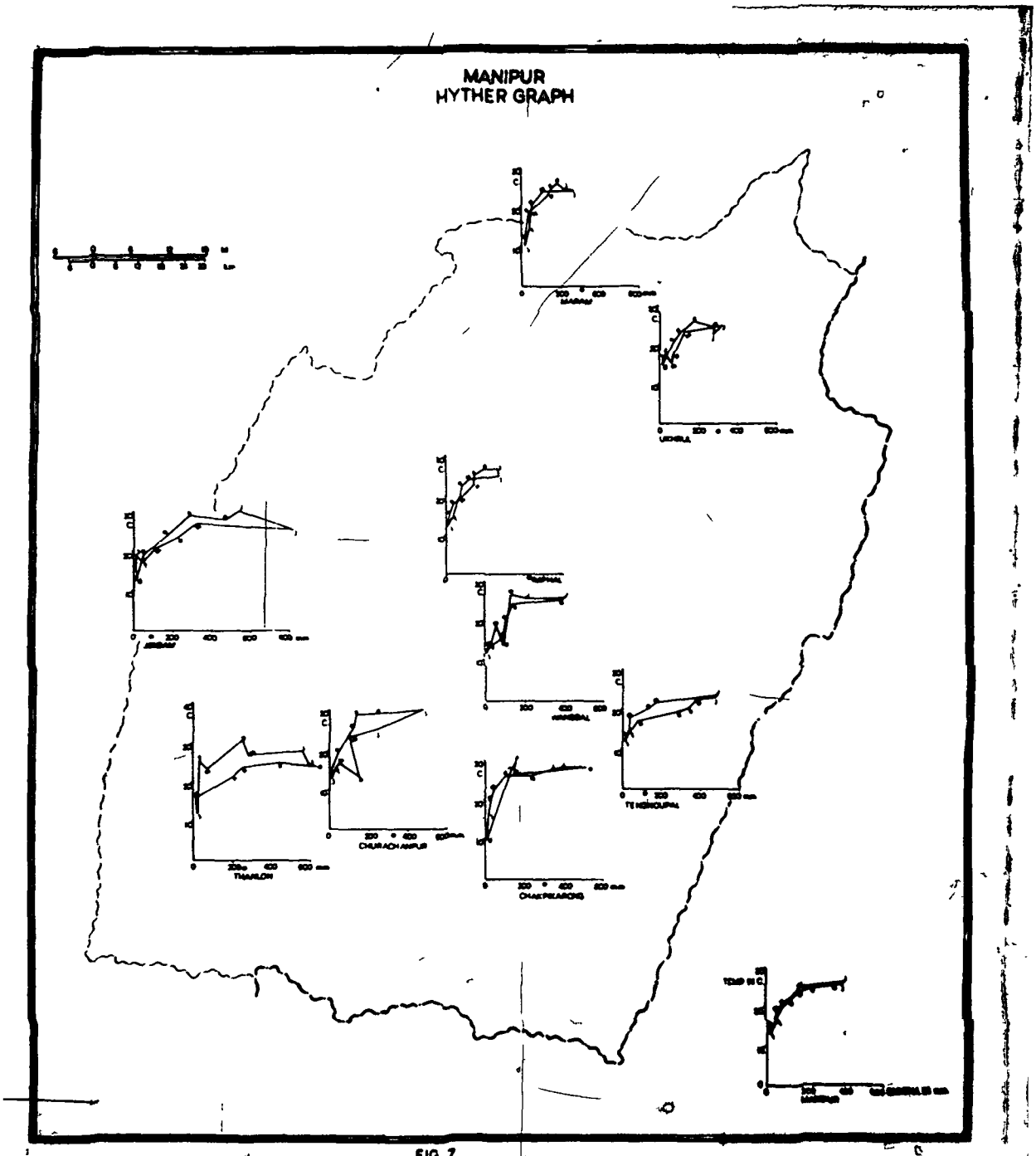

FIG 7

HYTHER GRAPH (temperature and rainfall) :

This Hyther graph, Fig. no 7, shows the mean monthly temperature and rainfall and reveals that the stations located in the west, south and southeast of Manipur have got relatively high rainfall and temperature during the summer season (April to Sept./Oct.) compared to the interior valley and north. This is because of the orographic effects due to the high mountain ranges of west as well as the south where the moisture laden wind of the west is met. Again it shows the different climatic condition between the central valley and the surrounding hilly areas. The average annual rainfall of valley lies between 1,400 - 1,500 m.m. whereas the surrounding hills exceeds 3,500 m.m. But amongst the hilly stations Maram and Ukhrul (North and North East) receive less rainfall and temperature as the seasonal wind does not heat directly. The wettest months in the state are June, July and August (respective annual average rainfall are 409,90, 402.93 and 366.57) and before and after the summer there is shower and cyclonic rainfall.

INTENSITY OF RAINFALL:[5]

The intensity of rainfall is worked out for the eleven stations of Manipur for a period of 18 years(1959 - 1976).

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5. Formula $1 = \frac{T}{n}$

Where 1= Intensity of rainfall
T= Total rainfall over a given period
n= Total no.of rainy days.

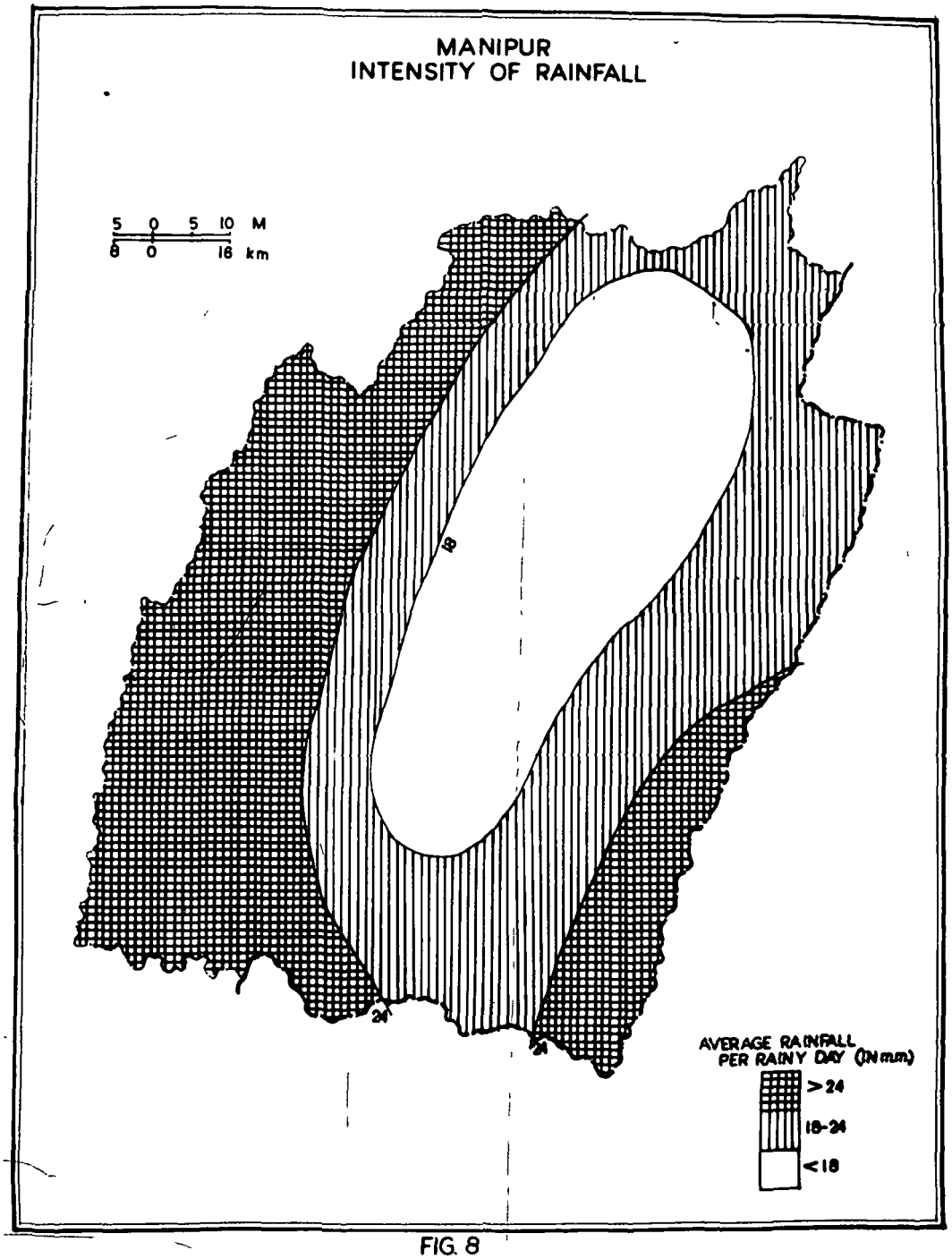
MANIPUR
INTENSITY OF RAINFALL
5 0 5 10 M
8 0 18 km
18
24
24
AVERAGE RAINFALL
PER RAINY DAY (IN mm)
>24
18-24
<18

FIG. 8

It portraits the overall intensity character of rainfall and by showing the effects of the orographic details on the seasonal rainfall. It further expresses the problem of runoff, floods and soil erosion. In this map(Fig No.8), there are three zones of rainfall intensity; the central valley and the further north and north east(less than 18 m.m.), the surrounding hilly areas(18 - 24 m.m.) and the western border side and south eastern fringe(above 24 m.m.). The maximum intensity is found because of the barrier of western mountain ranges right from the Koupru in the north upto the Churachandpur and Sugnu hills in the south act to cause heavy rainfall over this belt. According to this intensity of rainfall one can predict some remedy or improvement of the flood havoc or soil erosion due to high surface runoff.

RAINFALL EQUIVARIABLES[6]:

The data base has 18 years span for eleven stations in Manipur(see Table V). It helps us to understand the external reliability of rainfall variability. For example Maram station, located in the north, gets high inconsistancy (19.73) while Chakpikarong and Kangchup stations show higher consistancy(above 50) and the rest are more or less

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6. Equivariables or C.V. = $\frac{S.D.}{Mean} \times 100$

their degree or variability being got between the range of 25 - 35.

SOILS :

The soils of the state vary regionally in colour, depth, texture and fertility depending upon the chief soil forming factors like young unconsolidated Tertiary bed rock series, climate with its alternating humidity and natural vegetation and human interference by perpatually burning the forest for the Jhum cultivation in the hills. Both the valley and hills have clay to clayey loam soils and their pH, ranges from 4.5 to 6.8 with not very high nitrogenous and phospheric contents. They are enriched with fair amount of other plant food ingredients. The organic carbon percentage is from 1 to 2.5 hence the available nitrogen status is higher than other parts of India but the nitrogen minerization is slow due to slow activity of the microbes this is because of low temperature (A.O.C. soil Chemist, Imphal).

According to the geographical extent and distribution of soils one map is prepared consulting with the Soil chemist of the Agriculture dept. Imphal(See the Fig. no.9).[7]

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7. The given boundary of the soil types in the map is indicating only the approximate area and location.

There are four main types of soils in Manipur. They are

1)Red soils in the hills.

2)Alluvium in the central plain.

3)Lateritic soils in the eastern and western side (Jiribam and Moreh).

4)Peat soils in the Jheels of the central plain or valley.

1)Red Soils :

These soils covers over an extensive area in the hills. They are mostly red loam and sandy loam soil deriving from the arenaceous and argillaceous, loose and porous in physical composition and varies in thickness from place to place due to differential drainage system, erosion and vegtation covered. But it is covered with thick forest.

2)Alluvail Soils :

It is confined to only in the central plain being transported and deposited by the rivers. This alluvail soil contains clay (with high proportion), sand and silt. It has the considerable thickness underlied by a presistant clay bed and extremely fertile and yield good crops.The clay mineral present in the central alluvial soil contributes a very fantastic teste to the paddy crop.

3)Lateritic Soils :

It covers only a two small patches area.Jiribam and Moreh on the low lying border of east and west sides of

46

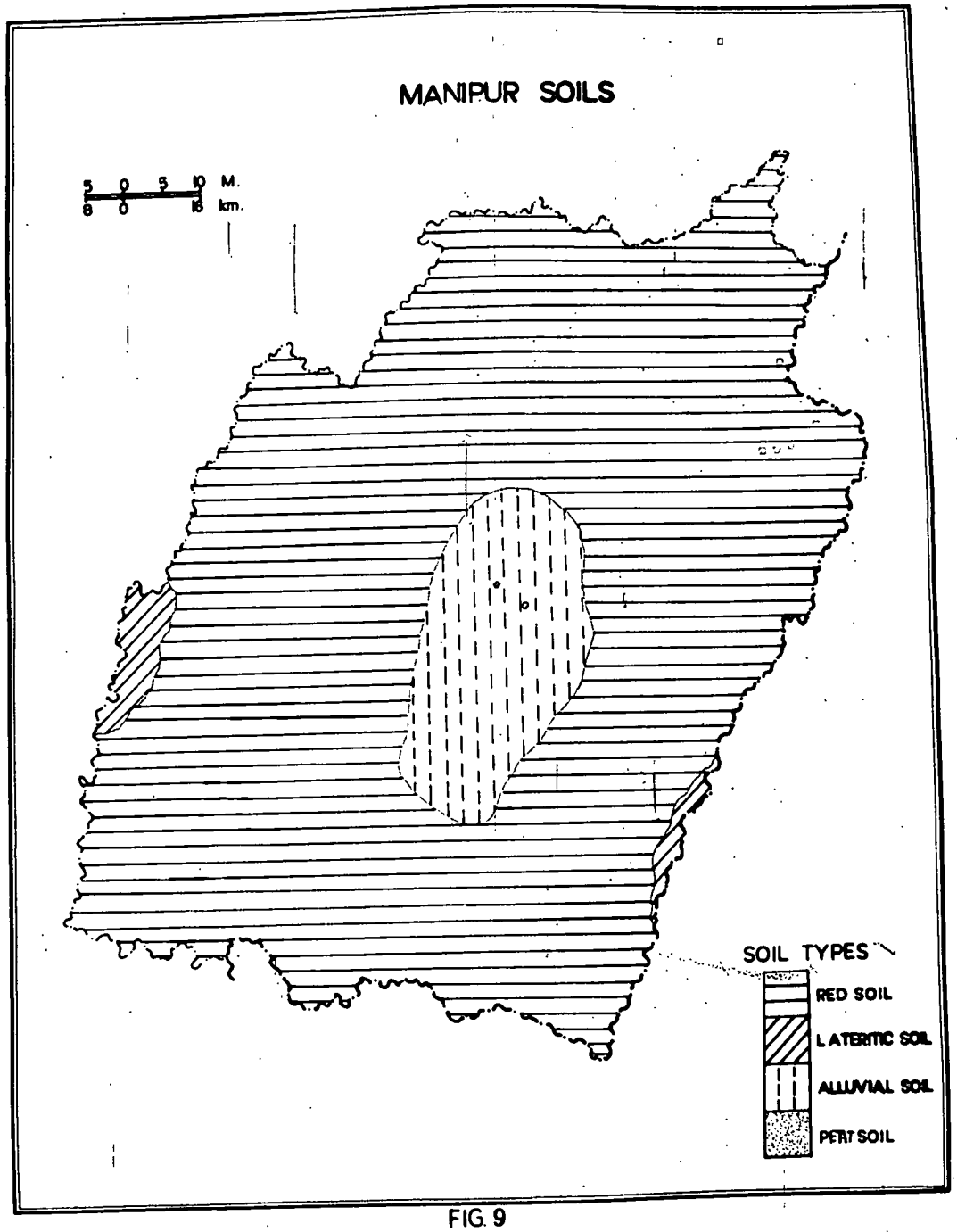

MANIPUR SOILS
5 0 5 10 M.
8 0 16 km.
SOIL TYPES
RED SOIL
LATERITIC SOIL
ALLUVIAL SOIL
PEAT SOIL

FIG. 9

Manipur. It has generally high organic matter and poor lime and magnesia also deficient in $P_2 O_s$ and $K_2 O$. The lateritic soils are reddish, yellowish and red in colour and associated with an derived from laterites, has a large proportion of primary keolinitie clay minerals which are occured generally in the heavy rainfall and high temperature areas. Paddy and arecanunt are the common crops.

Peat Soils :

In Manipur peat soils are formed in the marshy land where there is well drained externally and having slow internal permeability, especially in the Lamphel and Yaral pat(jheel) in the central plain. There is high amount of accumulation of organic matter in layers due to poor drainage. Peat soils contain high percentage free alumina and iron because of the sulpheric acid developed on clay but pH.level goes down. Paddy and equatic plants are grown in these soils.

VEGETATION :

Manipur is very rich in her natural vegetation. Her flora has similar to the adjacent regions as being similar character of enviornment specially the prevailing climate and topography. The vegetation in Manipur is of mixed type with a large number of species. They grow luxeriantly on this undulating relief features of varied claimatic condition. The vegetations changes with the altitudes and are

chiefly grass, equatic plants, climbers, flowers,creepers, fruits, reeds,bamboo and trees. Amongst them some are much economic significance to support the livelihood and for bearing perfume, gumresin, lac, leaf, fruit and medicine etc. The trees are almost hard wood variety(non coniferous type are 5,115.2 Sq.Km) and soft wood variety of coniferous coveres only a small area i.e. 906.5 Sq.Km.

Based on the important vegetation growth the vegetation of Manipur can broadly be divided into five types (Fig no.19).

1) Tropical semievergreen
2) Tropical Moist diciduous
3) Subtropical pine
4) Dry temperate
5) Arable and Swampy

1) Tropical semievergreen :

It is the continuation of Cachar semievergreen forest, can be seen here in the western part of Manipur occupying Jiribam and some part of West district and South district. It covers an area of 1,942.5 Sq.Km.Bamboo is the predominant vegetation, grows on the sandy loam to loamy clay soils with the heavy rainfall(above 3,000 m.m. annually). There are fifteen varieties of bamboo out of this Muli, Dulu and Petcha are of good varieties in term of size. Along with, other importance are cane (which trailing upto 200 ft.), Sehima Wallichii, Eugeniaeymos, Dilleniapentagyna, Cynometra,Polyandra,Cardiamyna;

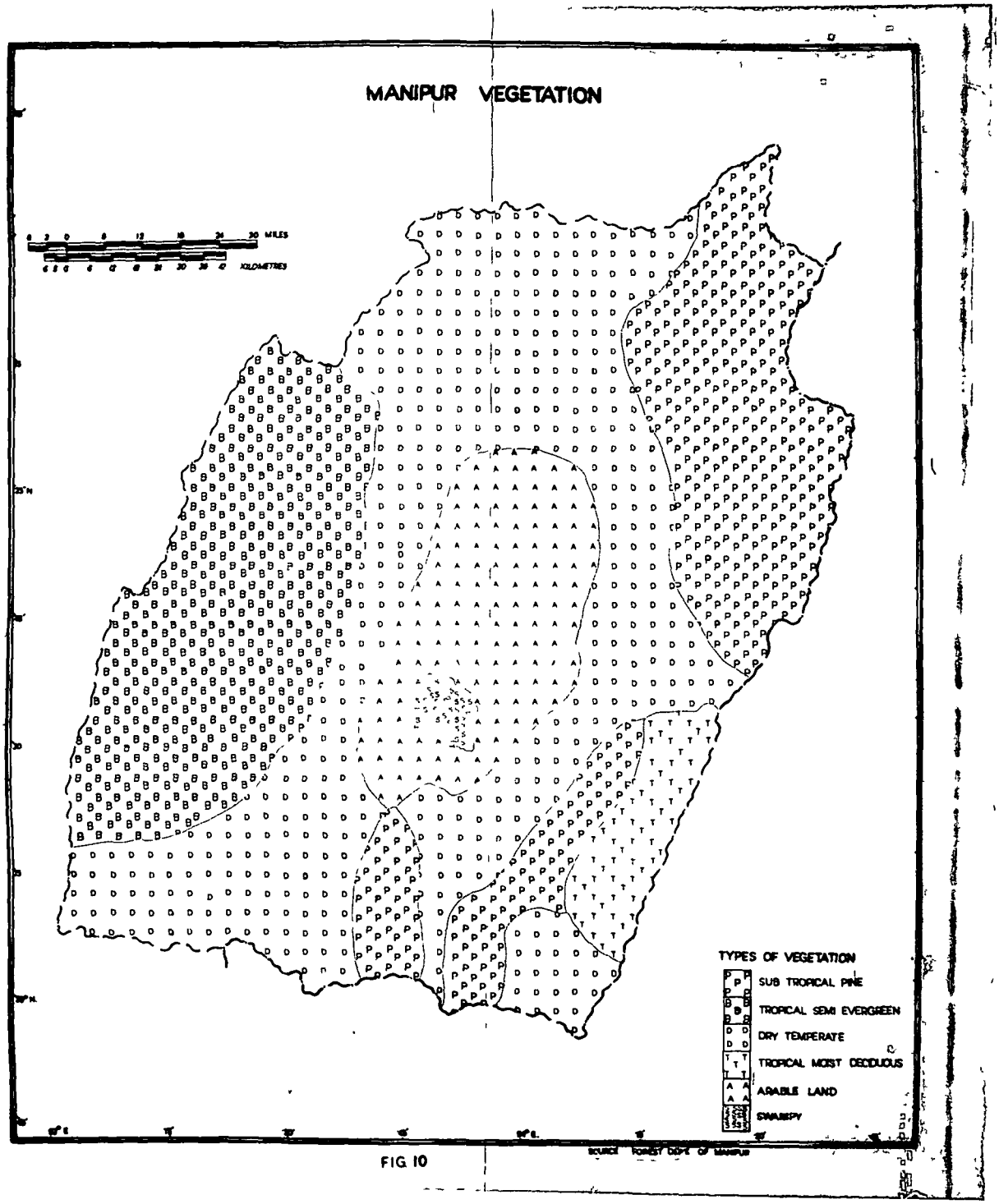

MANIPUR VEGETATION
MILES
KILOMETRES
TYPES OF VEGETATION
SUB TROPICAL PINE
TROPICAL SEMI EVERGREEN
DRY TEMPERATE
TROPICAL MOIST DECIDUOUS
ARABLE LAND
SWAMPY

FIG 10

Cedrellatoona, Bombax malabaricum and Albizzialucide etc.

2)Tropical Moist Diciduous :

It occurs along the Burma border and extending over on area of 518 Sq.Km. The most important tree in this zone is Teak, it is well grown on the moist,fertile and well drained sandy loam soils where the rainfall and temperature is high.

3)Subtropical pine :

Being predominated by Pinus Khasya of broad leaved species in the north eastern part of Manipur i.e. Ukhrul area and also a few patches in the south eastern part i.e. Sugnu and Chakpikarong cover an area of 905.5 Sq.Km. The pine tree grows favourably on the altitudes lying between 915 to 1,220 metres with the average annual rainfall of 1,500 m.m.

4)Dry temperate :

Dry Temperate vegetation grow in a wide area around the central valley. In this zone a large number of species are grown.

5)Arable and Swampy :

It is the central valley where the rainfall is 1,400 m.m. and the fertile alluvial soil. Here the seasonal crops are largely grown and the wild vegetations are very

TABLE VII

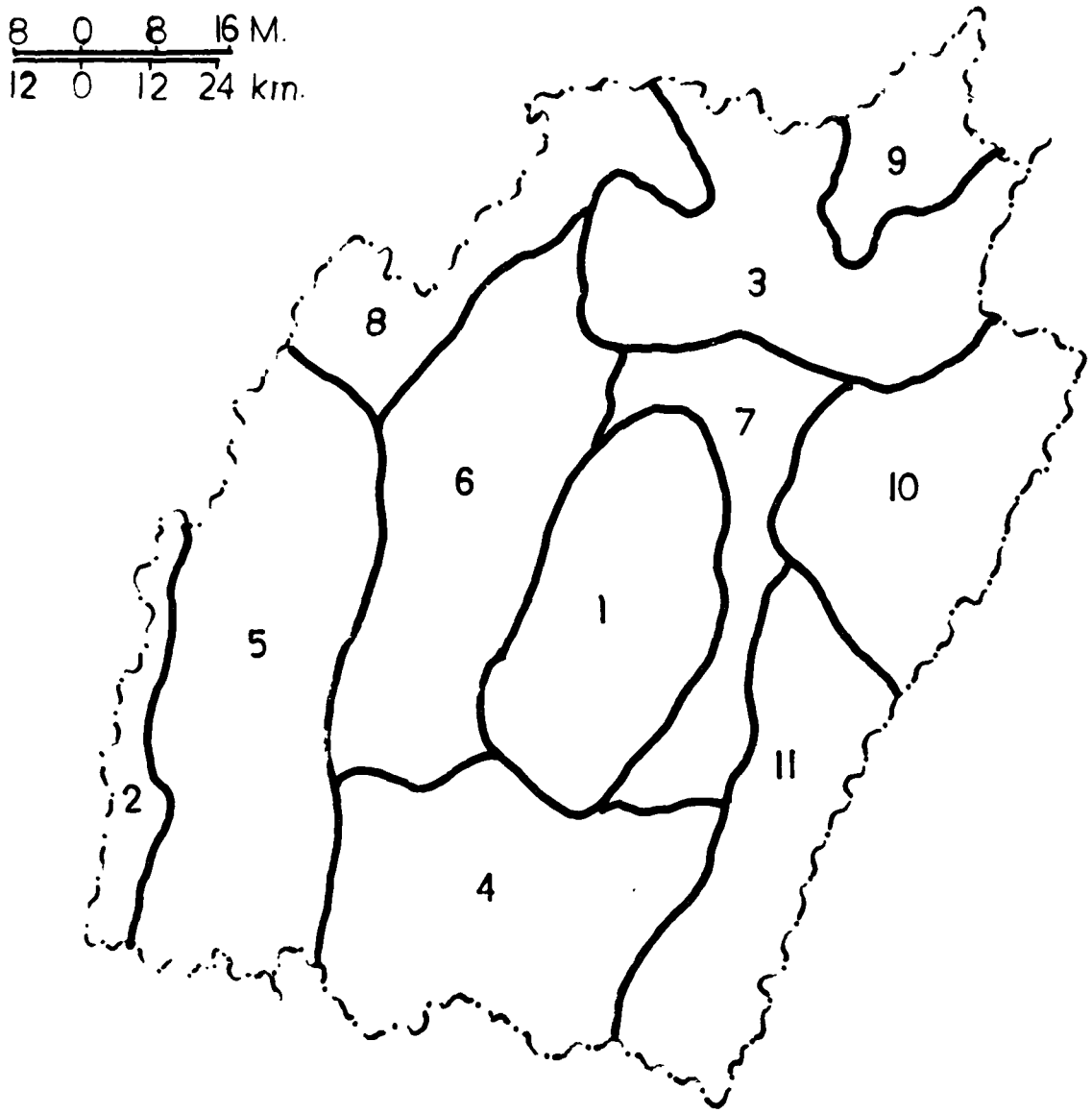
District/Subdiv.	R/U	Density	Leteracy P	Leteracy M	Leteracy F	Sex				
Imphal W.Subdiv.	T	504	43.47	29.30	14.17	980	2.90	3.72	110	1.9
	R	354	37.10	26.47	10.62	985	4.02	1.81		
	U	5435	57.18	35.38	21.80	968	0.50	7.83		
Bishenpur Subdiv.	T	204	31.09	23.21	7.88	980	1.49	1.71	0.98	0.05
	R	181	29.01	22.33	6.67	981	1.73	1.84		
	U	931	43.95	28.61	15.33	974	0.08	0.92		
Thoubal Subdiv.	T	449	25.17	20.05	5.12	988	0.34	0.97	0.22	0.03
	R	418	24.03	19.60	4.42	986	0.31	1.00		
	U	3074	38.58	25.23	13.34	974	0.06	0.56		
Joribam Subdiv.	R	60	30.69	21.39	9.29	918	15.47	19.15	0.10	0.61
Tengnaupal Subdiv.	R	18	23.35	17.32	6.03	925	0.81	80.53	0.53	2.58
Chandel Subdiv.	R	10	31.66	19.82	11.83	1032	0.64	95.08	.02	3.05
Chakpikarong Subdiv.	R	9	26.67	18.34	8.32	1002	0.10	96.91	0.06	3.10
M. East Dist	T	14	34.09	23.22	10.87	969	0.04	96.29		
Ukhrul N. Subdiv.	R	12	22.91	17.95	4.96	1013	0.0	99.56	3.19	0.0
Ukhrul C Subdiv.	R	26	38.33	25.69	12.63	935	0.08	93.62	3.00	0.05
Phungyamphaisat sd.	R	12	39.14	25.07	14.01	982	0.0	98.30	3.15	0.0
Kamjong Subdiv.	T	7	30.00	19.52	10.48	1040	0.0	98.99	3.17	0.0
Ukhrul S. Subdiv.	R	8	27.76	20.60	7.15	974	0.0	99.51	3.19	0.0
Manipur	T	48	32.9	23.24	9.66	980	1.53	31.18		
	R	42	29.8	21.73	8.09	980	1.6	34.31		
	U	3083	53.2	33.22	20.01	980	0.4	10.56		

rare. On the foot hills wild berries and variety of fruits with bushes are vizible. In the swampy, mainly in the Loktak lake, and jheels, many equatic plants are found among them waterchestnut, lillies, lotus, eurale-fero and thangjing(Makhama) are the importance.

Eleven physical units or regions(Fig. No.11) of Manipur have been identified by making superimposition of geology, soils, intensity of rainfall, drainage density, natural vegetation and physiography maps. The following physical units are given below.

1)	Central Plain	(approximate area	1,900 Sq.Km.).
2)	Jiribam and Tipaimukh plain	(" "	400 Sq.Km.).
3)	Northen High mountainous tract.	(" "	2,700 Sq.Km.).
4)	Southern mountainous tract.	(" "	2,626 Sq.Km.).
5)	Western mountainous tract.	(" "	3,100 Sq.Km.).
6)	Western intermediate mountainous tract	(" "	2,800 Sq.Km.).
7)	Eastern intermediate mountainous tract	(" "	2,000 Sq.Km.).
8)	Upper Barak basin	(" "	1,850 Sq.Km.).
9)	Chingai and Jessami basin	(" "	820 Sq.Km.).
10)	Tuiyang and Khunokhong basin	(" "	2,100 Sq.Km.).
11)	Tamet and chicaphulan basin	(" "	2,060 Sq.Km.).

PHYSICAL REGION



1. CENTRAL PLAIN.
2. JIRIBAM & TIPAIMUKH PLAIN.
3. NORTHERN HEIGH MOUNTAINOUS TRACT.
4. S. MOUNTAINOUS TRACT.
5. W. MOUNTAINOUS TRACT.
6. W. INTERMEDIATE MOUNTAINOUS TRACT.
7. E. INTERMEDIATE MOUNTAINOUS TRACT.
8. UPPER BARAK BASIN.
9. CHINGAI & JESSAMI BASIN.
10. TUIYANG & KHUNOKHONG BASIN.
11. TARET & CHICAPHULA BASIN.

FIG. 11

1) The central plain is an alluvial plain formed coinciding with the central district. It represents a homogeneous physical character surrounded by the hills in all sides, has an area of 1,900 Sq.Km.(approximately).The central plain is the granary of the state where all the activities of the state are existing.

2) The Jiribam and Tipaimukh plain is formed on the flood plain with an area of 400 Sq.Km. in the south western corner of Manipur where the Barak river has its hairpine. This plain is located below 500 metres above the sea level and within the heavy rainfall zone. The area is thickly forested since the communication line is very poor.

3) The Northern high mountainous tract is demarcated above the 1,500 metres countour. It is characterised with conspicious thrust peaks like Tinupu, Iso, Koupru and Siroi and steep slopes. This unit is the highest elevated unit in Manipur from where all the rivers of the state are origniated.

4) The Southern mountainous tract consists of the three basins - Khuga, Tuivai II and Tuiyang through which the Manipur river flows with the deep gorge and meet Chindwin river of Burma. It lies within the heavy rainfall belt, the landscape isvvery undulated varying from 500 to 1,500 metres and has an area of 2,626 Sq.Km.

5) The Western mountainous tract(area 3,200 Sq.Km.) is located below 100 metres of contour coinciding with the Tipam series and Tropical semievergreen vegetation within the heavy rainfall belt, Bamboo is grown extensively over these.

6) The western intermediate tract covers the Irang and Laimatak basin with an area of 2,800 Sq.Km. in the Barail series. It is located on an average elevation of 1,000 metres above the sea level. It slopes down towards south west, has the potency of power, horticulture and pasture.

7) The Eastern intermediate mountainous tract is marked off by the central plain in the west, watershed between Thoubal river and Tuiyang and Taret basins in the east, high mountain in the north and again watershed of Kakching and Tuiyang river in the south. The rivers drain to the central plain.

8) The upper Barak basin is highly dissected by the small tributaries of Barak and represents a very high erosional surface. This area is highly inaccessible due to steep river gorge and slope, dense forest and moreover it is far from the thickly habitate areas.

9) Chingai and Jessami basin covers an area of 820 Sq. Km., represents below 1,000 contour along the course of the river in the extreme north of Manipur. It is also densely forested, quite inaccessible, if one has to go from Imphal it is better to go via Kohima.

10) Tuiyang and Khunokhong basin is located at the western part of Manipur. It is surrounded by the watershed in the north and east and sloping down towards the Kabow valley. Here also communication is very poor, it covers dense forest and the surface runoff is high as the rivers are originated from the high mountains.

11) The Taret and Chicaphulan basin is also demarcated with the watershed line both north and west and Indo-Burma border to the south and east. It has an area of 2,060 Sq.Km. Like the previous unit it has the same river system flowing to the south east and joined the Chindwin river. This unit is rich in forest resource, specially Teak and Agarwood.

CHAPTER III

POPULATION STRUCTURE

The development of an area is largely dependant upon the quantity and quality of the people who inhabit. It is essential to assess the spatial characteristics of population. In this chapter the growth of population, spatial density pattern, sex and age structure and composition of population have been studied to understand the social morphology of the region and its possible impact on the economy, regional structure and the levels of development.

POPULATION GROWTH :

Period to 1901, no reliable population data is available and it is difficult to analyse the population growth pattern of early period which have witnessed many wars and devastations. The analysis of growth of population is primarily based on census data for the period from 1901 to 1971.

The given Fig. no.12 and Table VI show clearly the decadal growth and population in term of percentage variation and compound growth rate.[1] The changing pattern of growth rate helps in dividing the total span into the two periods,

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1. Geometrical growth or compound growth rate - $P_1 = P_0 (1 + r)^t$

P_1 = Current year
P_0 = Base year
r = Growth rate
t = Time period between base year and current year.

TABLE VI

MANIPUR
GROWTH OF POPULATION
(1901-71)

State/Dist.	Year	Persons	P.C. Decade variation	Growth rate in p.c.	Rural	P.C. Decade variation	Growth rate in P.C.	Urban	P.C. Decade variation	Growth rate in p.c.
Manipur	1901	284465			212231			72234		
	1911	346222	+21.71	1.98	271572	+27.96	2.5	74650	+3.34	3.31
	1921	384016	+10.92	1.04	304013	+11.94	1.13	80003	+7.17	6.96
	1931	445606	+16.04	1.50	359802	+18.35	1.7	85804	+7.25	7.02
	1941	512069	+14.92	1.40	412353	+14.60	1.37	99716	+16.21	1.51
	1951	577635	+12.80	1.21	574773	+39.38	3.38	2862	-97.13	2.99
	1961	780037	+35.04	3.05	712320	+23.93	2.17	67717	+2266.07	3.72
	1971	1072753	+37.53	3.24	931261	+30.73	2.75	141492	+108.95	7.65
	(1901-71)			1.91			2.14			.97
M.North Dist.	1951	47304								
	1961	72039	+52.29	3.76						
	1971	104175	+44.61	4.3						
	(1951-71)			4.03						
M. West Dist.	1951	32966								
	1961	36518	+10.77	1.03						
	1971	44976	+23.16	2.11	89408			8706		
	(1951-71)			1.57						
M.South Dist.	1951	44068								
	1961	65104	+47.74	3.99						
	1971	98114	+50.70	4.2	89408			8706		
	(1951-71)			4.1						
M.Central Dist.	1951	412115			409253			2862		
	1961	557786	+35.35	3.1	490069	+19.74	1.82	67717	+2266.07	3.72
	1971	763260	+36.84	3.2	662894	+35.26	3.1	100366	+ 48.21	4.01
	(1951-71)			3.13			2.44			1.95
M.East Dist.	1951	41182								
	1961	48590	+17.99	1.67						
	1971	62229	+28.07	2.5						
	(1951-71)			2.1						

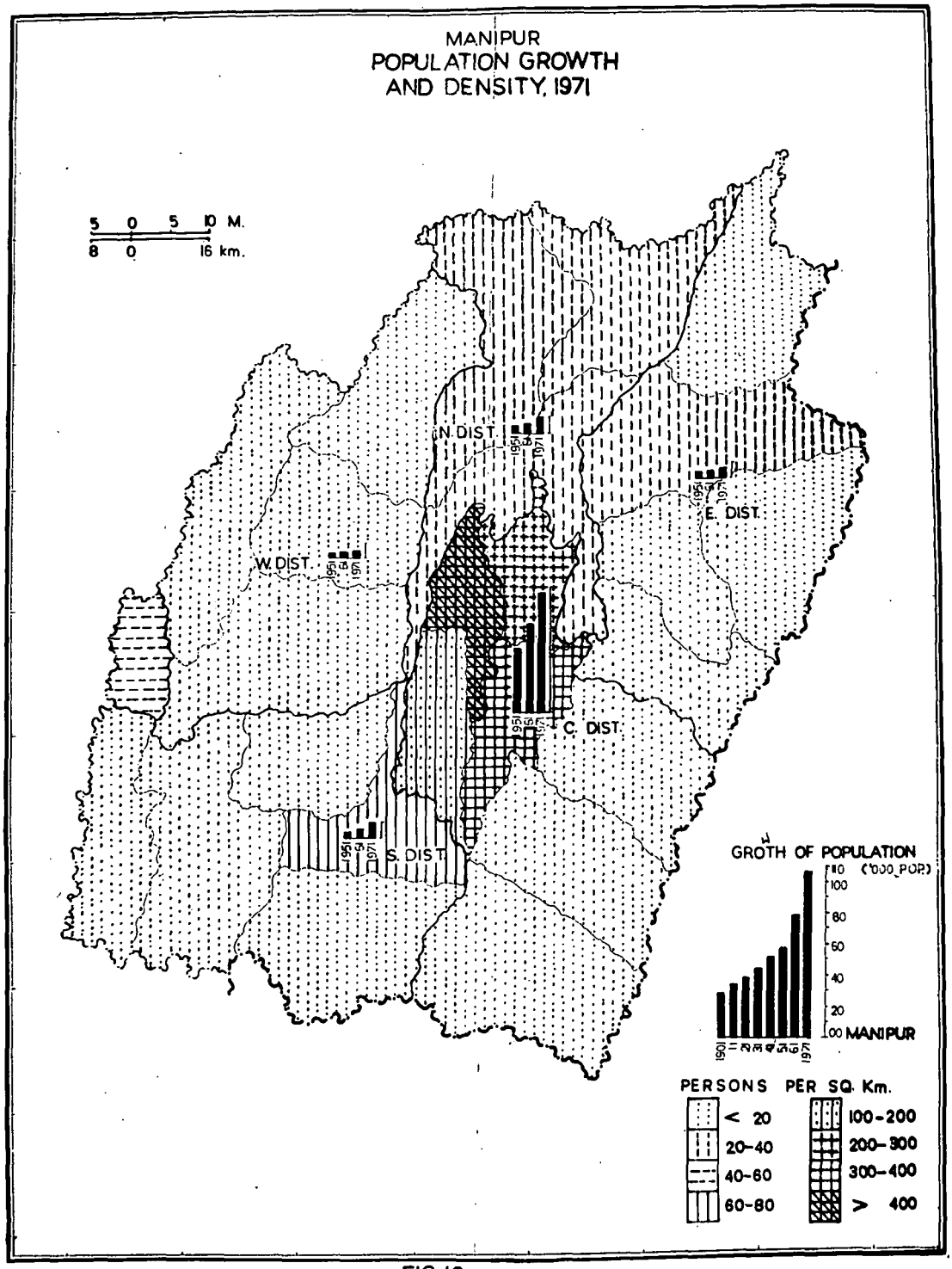
MANIPUR
POPULATION GROWTH
AND DENSITY, 1971
5 0 5 10 M.
8 0 16 km.
N. DIST.
E. DIST.
W. DIST.
C. DIST.
S. DIST.
1951
1971
GROTH OF POPULATION
('000 POP.)
110
100
80
60
40
20
00
MANIPUR
1961
1971
PERSONS PER SQ. Km.
< 20
20-40
40-60
60-80
100-200
200-300
300-400
> 400

FIG. 12

i.e. 1901 to 1951 and 1961 to 1971. Upto 1951 the region had experienced continuous increased but after this, 1951 to 1961 decade witnessed a steep annual growth rate by 3.05 growth rate. This is because of eradication of diseases, improved medical facilities and migration from neighbouring states. But on the whole, the annual growth rate for seventy years is found to be 1.91 percent. Here population projection can be made, though the fertility,birth rate and others data are not able to furnish, if the growth rate is increasing at the rate of 3.24 percent. The population projection value is thus got 1,523,080 and 2,028,938 for 1981 and 1991 years respectively.

When examined the spatial pattern of population (on the basis of districts, data is available only from 1951 - 1971) growth, it is found(see Table VI) that the North, South and Central districts are faster 3 percent growth rate than the East and West districts. The main reason of this might be due to internal migration from the hills to the plain areas and from the neighbouring states to their respective clan groups.

The average growth rate (2.14) of rural population is marked high compared to this general and urban population growth. It shows that the rural population in Manipur, during the last 70 years, increased with the

maximum percentage. Till 1971 there was only one town, the proportion of urban population was small though it grew abruptly in 1961 and 1971.

POPULATION DISTRIBUTION :

The distribution of population in Manipur is uneven primarily due to environmental factors. According to 1971 census nearly 68.35 percent is concentracted in the plain of central valley which has only one tenth of the entire area of Manipur but the population of hills is sparse in its distribution. It is clear from the given dot map(see Fig no.13 showing population distribution with the dot value of1,500 persons) that there is two groups of population distributional pattern. The central populated area is largely dominated by the Manipuri or Meithei or Meitei but in the hills, where the population is sparse, tribes(Naga andKuki) are predominantly inhabited.[2] This has been the habitation pattern since the early times. The dense population is found due to its fertile soil, well communication, economically sound compared to the hilly parts,socially well built and politically it is the centre. In the hills the sparse population is caused on account of isolated position because of

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2. Here the author means that there is no difference between Meithei and Meitei though the spelling is different. The first one is according to T.C.Hodson and the latter is according to the inhabitants.

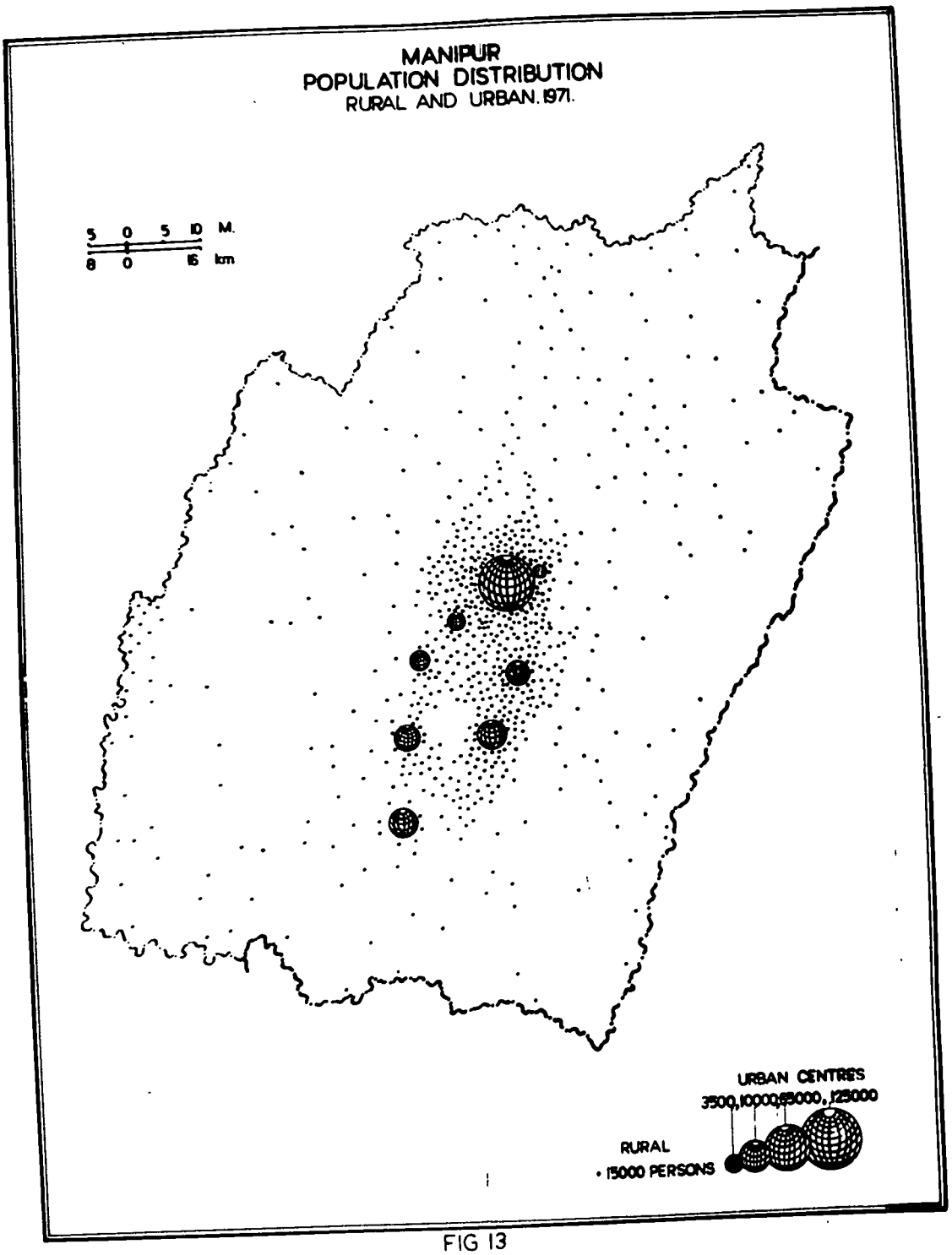
MANIPUR
POPULATION DISTRIBUTION
RURAL AND URBAN. 1971.
5 0 5 10 M.
8 0 16 km
URBAN CENTRES
3500, 10000, 50000, 125000
RURAL
• 15000 PERSONS

FIG 13

physical terrain, inaccessibility and lack of social mobility and self sufficient economy.

DENSITY :

The regional density pattern shows a marked diversities within the state, particularly between the plain and hills in 1971 the state average density is 48 persons per Sq.Km. with 42 persons in the rural and 3,083 persons in the urban and 314 persons in the plain and 18 persons in the hills. This contrast of population components reflect to have dissimilarity, disparity and imbalance in the economic development of the state.

The pattern of density can be divided into three areas.(1) The high density areas is located only in the central plain Imphal East, Imphal West, Thoubal and Bishenpur subdivisions with density varying from 200 to 500 persons per Sq.Km. It is due to fertile land, transport and communication facilities and good overall economy compared to hilly tracts.(2) The moderately density areas with 20 to 80 persons per Sq.Km. are Jiribam, Churachandpur, Ukhrul, Mao East, Mao West and Sadar hills subdivisions. The factors responsible are chiefly due to the accessibility of transport network and location of district head office or block office which influence the surrounding areas in marketing and other economic activities.(3) The low density areas have population

TABLE VII

MANIPUR

Some Characteristics of Population

1971

District/Sub Division	R/U	Density	R P	Literacy in P.C. M	F	Sex.	Sch. Castes ~~figures~~ in P.C.	Sch. Tribes in P.C.	L.Q. for Sch. Castes	L.Q. for Sch. Tribes
M.North Dist.	T	30	22.65	16.86	5.78	950	0.11	79.39		
Mao West Subdiv.	R	24	20.80	16.39	4.41	876	0.0	48.80	0.0	1.56
Mao East Subdiv.	R	32	17.03	13.84	3.18	1013	0.01	97.26	0.0	3.12
Sadar Hill Subdiv.	R	37	21.31	20.03	9.28	955	0.29	87.17	0.19	2.79
M.West Dist.	T	10	21.81	16.02	5.85	1015	0.09	97.82		
Tamenglong N.Subdiv.	R	7	24.15	18.05	6.10	990	0.06	97.01	0.03	3.11
Tamenglong W.Subdiv.	R	8	18.98	13.63	5.34	1038	0.01	99.77	0.0	3.20
Tamenglong Subdiv.	R	16	26.92	19.56	7.39	963	0.04	96.38	0.02	3.09
Nungba Subdiv.	R	11	17.49	12.96	4.52	1068	0.22	98.46	0.14	3.15
M.South Dist.	T	21	34.68	22.68	11.99	976	0.32	93.75		
	R	19	32.54	21.55	10.99	979	0.20	95.31		
	U	5765	56.66	34.34	22.31	947	1.45	79.69		
Tipaimukh Subdiv.	R	19	42.60	26.69	15.90	950	0.0	98.99	0.0	3.17
Thanlon Subdiv.	R	10	22.29	16.41	6.27	1003	0.03	99.88	0.01	3.20
Churachandpur N Subdiv.	R	17	25.36	17.55	7.80	1019	0.0	99.07	0.0	3.17
Churachandpur Subdiv.	T	69	40.17	25.54	14.63	962	0.64	87.90	0.42	2.82
	R	57	36.36	23.51	12.85	965	0.45	90.26		
	4	5766	56.66	6.44	4.19	947	1.45	77.69		
Thinghat Subdiv.	R	10	25.27	18.27	6.99	995	0.08	97.92	0.05	3.14
M.Central Dist.	T	136	34.64	24.61	10.02	984	2.07	7.31		
	R	113	30.77	22.68	22.82	984	2.44	7.56		
	4	2991	53.01	33.15	19.86	983	0.33	6.16		
Imphal East Subdiv.	T	396	36.87	25.63	11.24	999	1.67	2.51	0.08	1.09
	R	341	33.61	24.14	9.53	997	1.95	1.61		
	4	2848	53.91	33.56	20.35	1014	0.18	7.32		

ranging from 7 to 20 persons per Sq.Km. The lowest density is found out at the border of north east and west i.e. Tamenglong North and Kamjong subdivisions with the density of 7 persons per Sq.Km. The hilly terrain with dense forest covered gives a handicap to the movement and operation of economic purpose for livelihood. And the other low density units are located in the hills having poor facilities of road and communication, electricity, education, marketing etc. Rural and urban densities are also depicting the general picture of population distribution in Manipur. Out of five subdivisions having urban centres, Churachandpur gets the highest density i.e. 5,766 persons per Sq.Km. and other lie between 2,848 to 5,435 persons per Sq.Km. These five subdivisions which are having urban centres belong to the high density areas of 200 to 500 persons per Sq.Km. except Churachandpur with 57 persons per Sq.Km of the population density.

The rural population distribution is almost identical to the total population spatial pattern because of the high share of rural population to the total population of Manipur.

LITERACY :

Though the Manipur was very much keen in learning of fighting and dance in the beginning , the modern

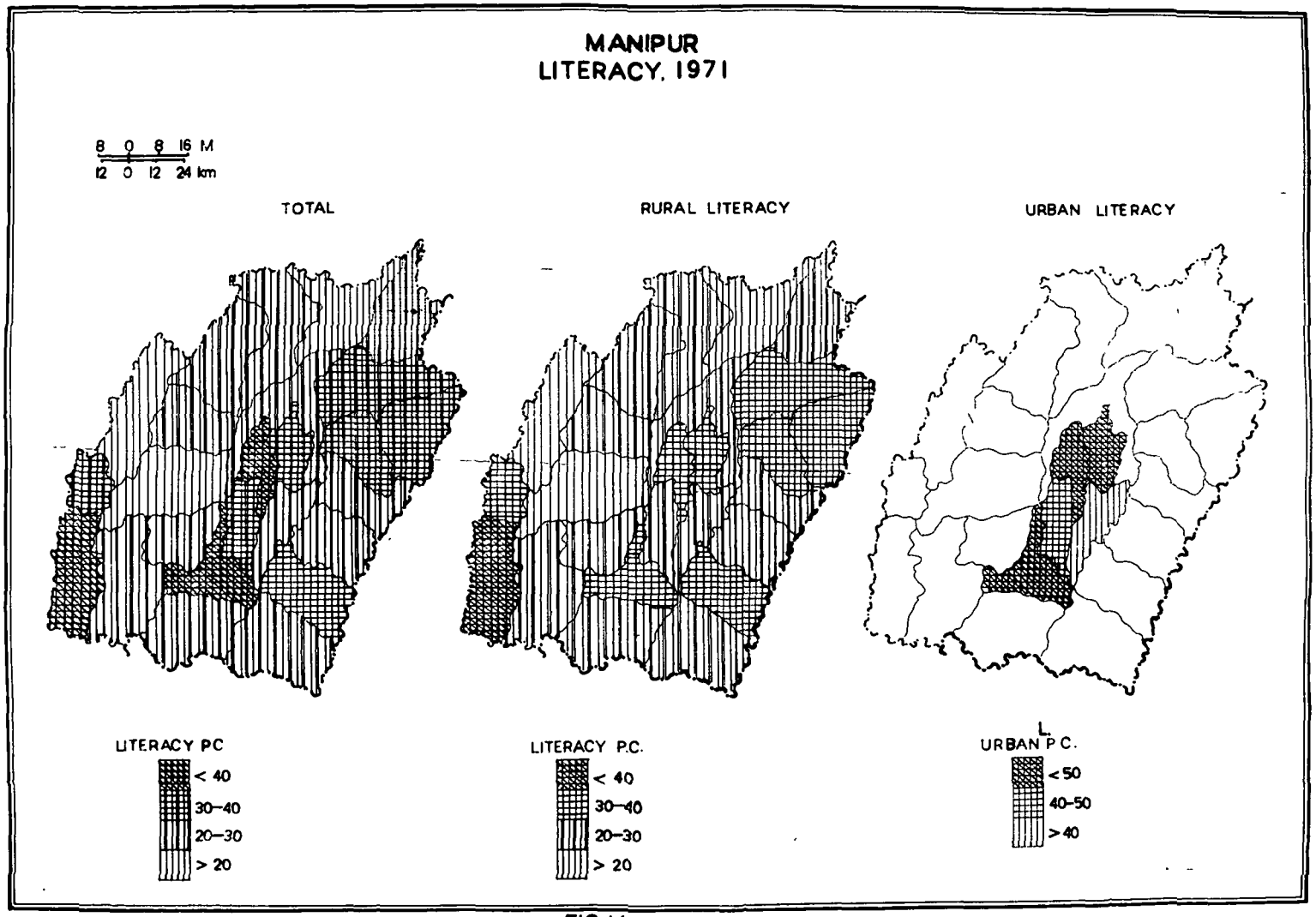
MANIPUR
LITERACY, 1971
8 0 8 16 M
12 0 12 24 km
TOTAL
RURAL LITERACY
URBAN LITERACY
LITERACY P.C
< 40
30–40
20–30
> 20
LITERACY P.C.
< 40
30–40
20–30
> 20
URBAN P.C.
< 50
40–50
> 40

FIG. 14

education has been flourshing since the establishment of school by the British.[3] The growth of literacy percentage can bee seen from 1901 onwards, it is increasing steadily uptil now. The present position of literacy in the state is high(32.9 p.c. with male 23.34 p.c. and female 9.66 p.c.) compared to the neighbouring states of N.E.region. While the all India average is 29.3 percent she is in the 13th position. The percentage of literacy for the plain area is 35 against 29 for the hilly region and 29.8 of rural and 53.4 in the urban. It is well illustrated in Fig. no.14 and Table VII at the subdivisional levels. The highest percentage above 40 percent, in the state is found at three subdivisions - Imphal East, Churachandpur and Tipaimukh - and the lowest, below 20 percent is found at Mao East, Nungba, Tamenglong West subdivisions.

TABLE VIII

Year	--	Population	--	P.C. of Literacy	
1901	--	284,465	--	0.9	(2,658)
1911	--	346,222	--	2.11	(7,106)
1921	--	3,840,116	--	3.8	(14,687)
1931	--	445,606	--	3.3	(14,495)
1941	--	512,069	--	5.3	(25,933)
1951	--	577,635	--	11.4	(65,895)
1961	--	780,037	--	30.4	(2,37,276)
1971	--	1,072,753	--	32.9	(3,53,090)

---

3. In 1872 A.D. a school was established in Manipur with the suggestion of major general W.P. Nuthall ; perhaps this may be the first modern school opened in Manipur.

Here one can find regional variation of literacy but the difference of hills and plain is less, specially to East and South districts. And the central plain has high literacy percentage due to more education. But due to lack of educational institutions, communication, forest covered and poor economy most of the hilly subdivisions are comparatively low.

The rural literacy is also more or less giving the same picture but in case of urban literacy (Fig. no.13) there are three categories on which Imphal East, Imphal West and Churachandpur subdivisions fall above 50, Bishenpur between 40 to 50 and Thoubal below 40 literacy percentage, in fact their literacy is very high as all the facilities are available for education.

SEX RATIO :

It is very interesting to note in the population characteristics of Manipur that the sex ratio decline after sixty years of span to 980 females for every 1,000 males in 1971. The main causes of this might be due to an increased male birth rate during 1968-70, mortality of males is higher than the females and increased of male population by immigration through Govt. post and labourer.[4]

In 1971 the state has the same ratio both rural and urban also. According to the census given data of 1971, Nungba subdivision (West district) gets the highest ratio (1,038) and

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4. Census manuscripts, provisional population Totals of Manipur, 1971, P.1.

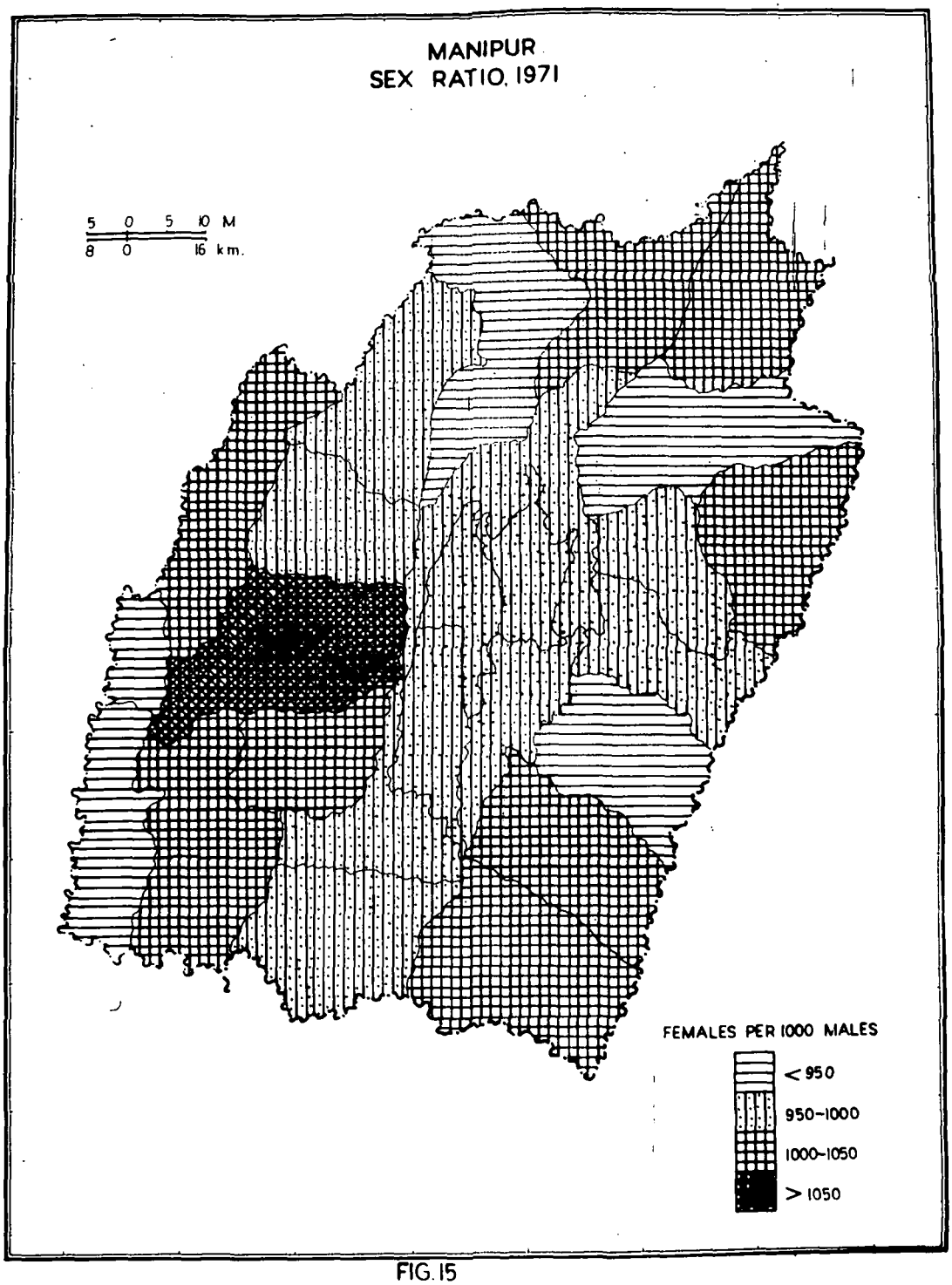
MANIPUR
SEX RATIO, 1971
5 0 5 10 M
8 0 16 km.
FEMALES PER 1000 MALES
< 950
950-1000
1000-1050
> 1050

FIG. 15

Table IX:

MANIPUR
SEX AND AGE STRUCTURE

1971

District.	R/U	Children Boys and Girls (0-14 Years)		Young men and women (15-34 Years)		Middle aged men and women (35-54 years)		Elderly men and women (54 Years & abov	
M.N. Dist.	R	Males	Females	Males	Females	Males	Females	Males	Females.
		22.09	21.50	16.15	15.89	9.35	8.01	3.68	3.30
M.W.Dist	R	21.22	21.58	15.53	16.51	8.28	7.50	4.37	4.16
M.E.Dist.	R	21.91	21.31	16.14	15.73	8.59	8.11	3.76	4.63
M.Central Dist.	R/U	17.65	17.63	12.80	12.97	7.47	6.81	3.69	3.55
	U	3.37	3.26	2.86	2.85	1.71	1.98	0.73	0.83
	T	21.02	20.89	15.66	15.82	9.24	8.79	4.42	4.38
M.S.Dist.	R	20.74	20.10	14.27	14.96	7.34	6.79	3.68	3.21
	U	1.88	1.94	1.56	1.51	0.81	0.59	0.29	0.25
	T	22.62	22.05	15.84	16.47	8.15	7.38	3.97	3.47
Manipur	R	18.76	18.6	13.57	13.74	7.76	7.04	3.73	3.68
	U	2.57	2.49	2.18	2.17	1.33	1.46	0.55	0.61
	T	21.33	21.09	15.71	15.91	9.09	8.5	4-28	4.29

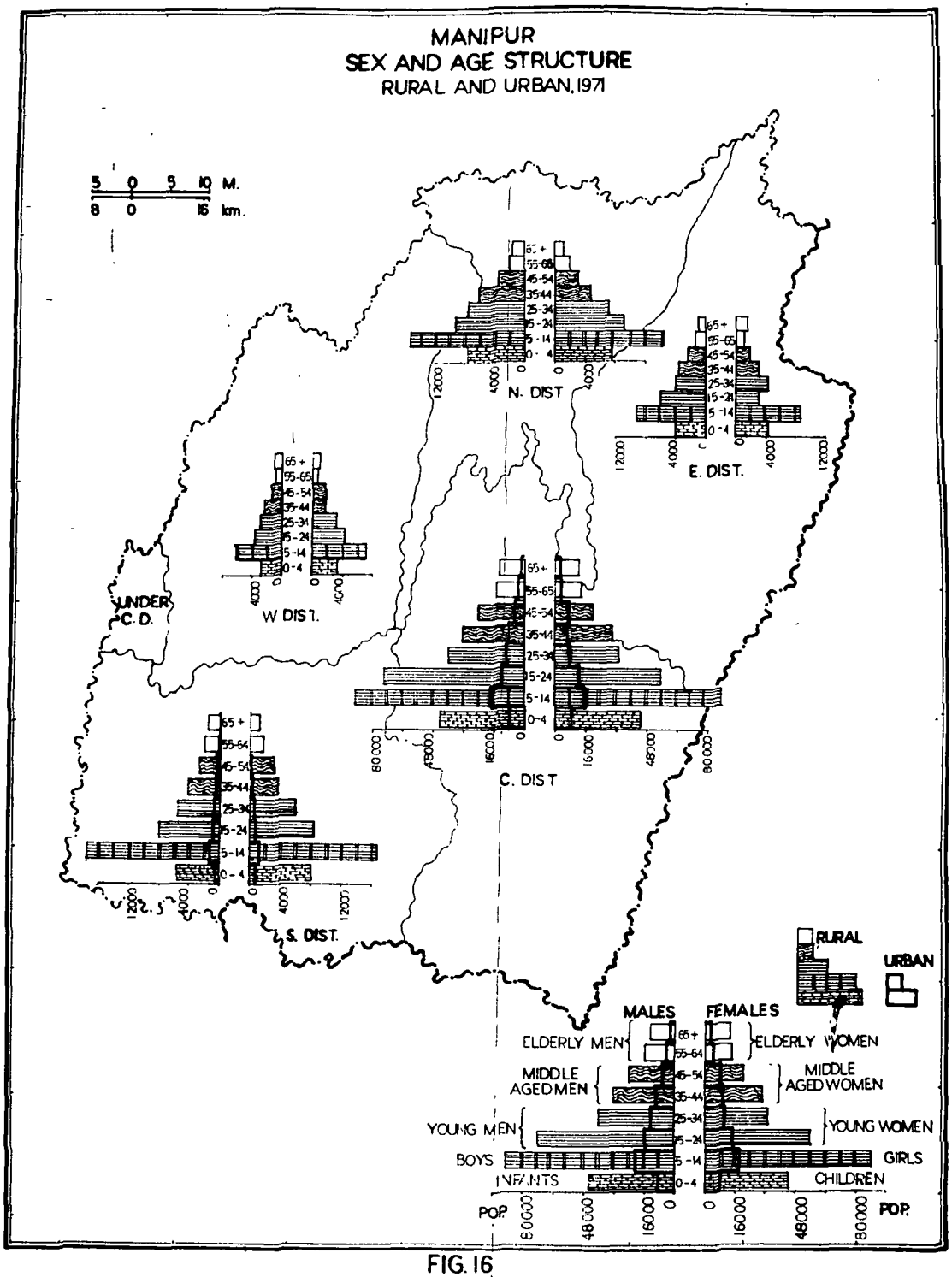
MANIPUR
SEX AND AGE STRUCTURE
RURAL AND URBAN, 1971
5 0 5 10 M.
8 0 16 km.
N. DIST
E. DIST.
W DIST.
UNDER C.D.
C. DIST
S. DIST.
RURAL
URBAN
MALES
FEMALES
ELDERLY MEN
ELDERLY WOMEN
MIDDLE AGED MEN
MIDDLE AGED WOMEN
YOUNG MEN
YOUNG WOMEN
BOYS
GIRLS
INFANTS
CHILDREN
65+
55-64
45-54
35-44
25-34
15-24
5-14
0-4
POP.
80000
48000
16000
0

FIG. 16

other high sex ratio areas, above 1,000 are, followed by eight hilly subdivisions. And between 950 to 1,000 sex ratio is appeared like a shap of flying bird in the map comprising 11 subdivisions of hills and plain (Fig. no. 15) and between 976 to 950 ratio is found in scattered in which Mao West subdivision is the lowest.

Since the spheres of males and females activities is not same everywhere the sex ratio of hills are outnumbered by females. Their nature of preponderence can be possible to say that owing to migration of males folk to the plain for education, business and job opportunities. And on the contrary they confine there itself with the mind of conservation ; over and above the accumalation of govt. employees make outnumbered the male ratio in some particular subdivisions of hills. So far, in the plain the sex ratio is below 1,000 except the urban centres. It means that it has the same factors what is mentioned in the beginning of declining sex ratio.

SEX AND AGE STRUCTURE :

This Fig. No. 16 shows the pyramids of sex and age structure of Manipur which depicts the dynamics and pressure of population. The pyramids are an district levels. As there is so much of variation of population between the hill and plain the superimposed pyramids of central district has bigger broad base even it is double of the scale of the other.

There are four groups of age, of which, high sex ratio is found in the age group of 15 - 34 years but the age group of 0 - 14 years and 35 - 54 years males outnumber the females. The overall picture of pyramids are expressing gradual decrease as one goes up in the age group of 65 and above due to death and migration, leaving the place for job andeducation etc. But the population between the age of 5 - 14 and 15 - 24 are high in all the districts of Manipur as theys stay at home.

Here one can get age group between 0 - 14 years, the infants (0-4 years) proportion is very low may be on account of family planning introduction, however it occupies 42.42 percent recuperated by boys and girls (5-14 years). The age group 15-34 years occupy 31.62 percent, bear the worker population but West, South and Central district are outnumbered by females. Again the hard working force between 35-54 yaars has 17.59 percent only but the male proportion is bigger than the female. So 53.13 percent of the state population is constituted by the age group of 15-54 years who are supposed to be the active workers in which the males is 24.8 percent and female is 24.41 percent. The elderly people consist of 8.57 percent, except East district and the rest have predominant position by males upto 60 years they are able to work and could support the economy. The two superimposed pyramids are meant for the Rural and Urban characteristics of sex and age structure of South and Central districts. They have a similar structure.

RELIGIOUS COMPOSITION (see Fig. no.17) :

There is a great religious diversity in Manipur. Hindu being a leading religion right from the 16th century (see the chapter II, population and religion) till now, occupies 58.96 percent. After Hindu, Christian has the large population (26.03 percent) than, Muslim (6.62 percent) comes third.

As it makes comparision of religious adherence of the hills and plain, most of the subdivisions of plain are shared large percentage by Hindus whereas in the hill by the Christians. In case of Christians population in Manipur it is increasing for every decade as the tribes people are converting from their original religion i.e. from the ancestor god to Christian. But the Hindu population is decreasing, though it is the highest in the state, because of Hindu religion is being neglected by the younger generation. Buddhists, Jains, Sikhs are negligible in every subdivisions of Manipur. Muslim or Sunni Muslim are living in the central plain with a little population (6.61 percent). But other religion and persuation has considerable percentage in every units because between the two streams of Hinduism and Christianism some groups are still believing the ancesteral God, specially in the remote hilly areas ; alongwith, some are worshiping their former religion, Pakhangba, which is supposed to be the original God of Meitei or Manipuri. The Hindu population is composed by the local people Meitei and immigrants like Marawari, Punjabi, Bengali etc. and the Christian population is made up by

TABLE - X :

MANIPUR

RELIGIOUS COMPOSITION

1971

Dist/Subdiv.	Buddhist	Christian	Hindus	Jain	Musliem	Sikh	Other rete giens & persuation.	Religion not stated :
M.N. Dist.	0.21	56.12	19.1	0.0	0.35	.05	22.92	1.12
Maoc West Subdiv.	0.70	30.32	52.32	0.0	0.50	0.10	12.67	2.36
Mao East Subdiv.	0.0	57.41	1.80	0.0	0.25	0.0	39.87	1.13
Sadar Hills Subdiv.	0.01	73.05	11.01	0.01	0.33	0.04	15.39	0.12
M.W.Dist	0.0	77.61	4.90	0.0	0.08	0.04	17.29	0.04
Tamenglong North Subdiv.	0.01	76.47	13.54	0.0	0.18	0.09	9.69	0.0
Tamenglong West Subdiv.	0.03	79.52	5.35	0.0	0.0	0.0	17.33	0.0
Tamenglong Subdiv.	0.0	67.16	3.49	0.0	0.12	0.07	29.30	0.0
Numgba Subdiv.	0.0	88.66	1.36	0.02	0.02	0.0	9.08	0.13
M.S.Dist.	0.08	89.11	5.68	0.0	0.18	0.03	8.97	0.08
Tipaimuk Subdiv.	0.00	99.00	0.93	0.0	0.05	0.00	0.0	0.0
Thanlong Subdiv.	0.0	96.28	0.09	0.0	0.01	0.0	2.59	1.06
ChurachandpurNSubdiv.	0.0	86.18	0.93	0.0	0.0	0.0	10.03	2.83
Churachandpur Subdiv.	0.0	82.13	11.12	0.0	0.03	0.04	3.05	1.09
Thangat Subdiv.	0.76	90.60	1.26	0.01	0.02	0.0	7.31	0.0
M.Central Dist	0.02	5.39	78.96	0.17	9.21	0.11	5.88	0.21
Imphal East Subdiv.	0.03	1.75	83.79	0.0	8.81	0.0	5.36	0.22
Imphal West Subdiv.	0.02	2.08	86.58	0.51	3.45	0.30	7.02	0.0
Bishenpur Subdiv.	0.0	0.99	87.39	0.0	5.01	0.01	6.54	0.02
Thoubal Subdiv.	0.0	0.84	77.60	0.0	19.32	0.0	2.20	0.0
Jiribam Subdiv.	0.0	19.13	55.39	0.02	25.23	0.01	0.18	0.0
Tengnoupal Subdiv.	0.23	45.63	13.58	0.55	0.55	0.62	31.04	5.98
Chandel Subdiv.	0.03	88.42	1.94	0.0	0.59	0.0	7.15	1.85
Chakpikarong Subdiv.	0.0	81.78	2.72	0.0	1.07	0.0	14.38	0.0
M.East Dist.	0.03	91.99	3.33	0.02	0.04	0.05	4.45	0.03
Ukhrul N.Subdiv.	0.0	83.07	0.39	0.0	0.0	0.0	16.51	0.0
Ukhrul Subdiv.	0.07	91.95	5.79	0.07	0.07	0.10	1.88	0.02
Phungyar Phaisat Subdiv.	0.0	95.87	1.34	0.0	0.07	0.0	2.60	0.13
Kamjong Subdiv.	0.0	95.62	0.90	0.0	0.0	0.0	3.45	0.0
Ukhrul South Subdiv.	0.0	99.56	0.43	0.0	0.0	0.0	0.0	0.0
Manipur	0.4	26.03	58.96	0.13	6.61	0.09	7.15	0.35

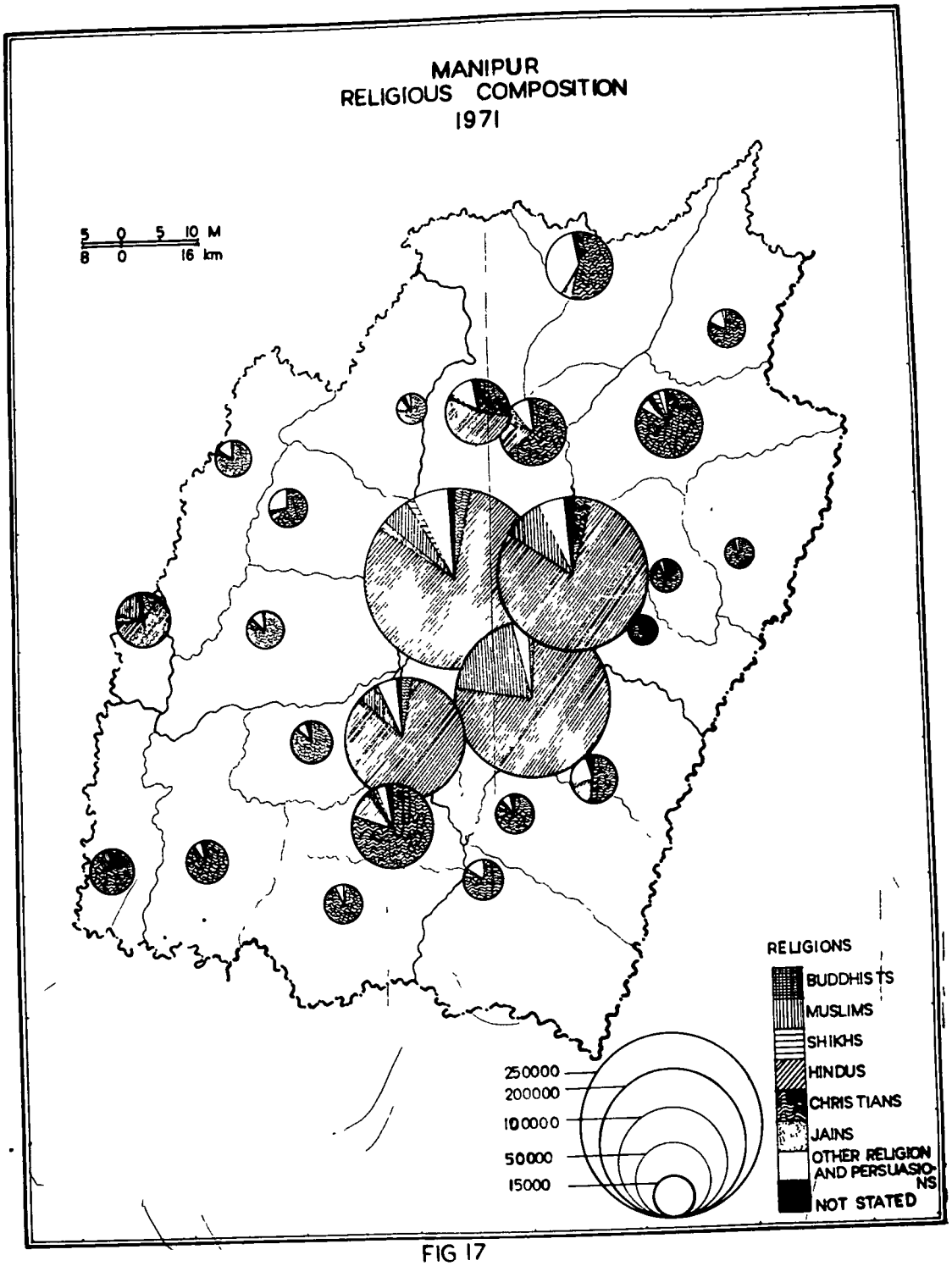
MANIPUR
RELIGIOUS COMPOSITION
1971
5 0 5 10 M
8 0 16 km
250000
200000
100000
50000
15000
RELIGIONS
BUDDHISTS
MUSLIMS
SHIKHS
HINDUS
CHRISTIANS
JAINS
OTHER RELIGION AND PERSUASIONS
NOT STATED

FIG 17

the maximum percentage of Naga and Kuki groups.

LINGUISTIC STRUCTURE :

According to Dr.Greison's linguistic survey of India, the language of this region is included in the Tibeto Burman family. Manipur is now a multilingual state with 84 mother tongues (Census of India,Manipur, 1961). In order to understand the importance of languages an attempt is made to analyse spatially. By selecting 12 principles of mother tongues data are calculated on district level. In Table XI all the percentage figures are presented, of course, it is different from the actual population because of some groups could not understand their mother tongue due to intermingling with other clans. From this table one can say that Manipuri is the outstanding language(63.24 percent) amongst the languages of Manipur. They concentrate in the plain or in the plain areas of central valley and Jiribam. Next comes to Tangkhul(5.36 percent) who are largely populated in the East district.Third important language is Kabui, it occupies 4.78 percent and populated in the West district and central plain areas. The fourth rank comes to Thadou, though it does not have high percentage in any district, it has considerable speakers in all the districts.

The fifth position is occupied by the Nepalies who are presented in every districts but large population are seen in the North district(15.98 p.c.). The remaining important

Table XI Manipur

Population according to Mother tongue . 1971 :

	M.N. Dist.	M.W. Dist.	M.S. Dist.	M.C. Dist.	M.E. Dist.	Manipur.
	100	100	100	100	100	100
Bengali	0.02	0.006	0.29	1.91	0.11	1.4
Hmar	0.06	0.73	20.77	0.26	0.02	2.12
Kabui	6.61	75.68	1.68	1.07	0.01	4.78
Kuki	6.11	1.55	1.05	0.35	5.53	1.34
Manipuri	1.35	0.75	4.37	87.97	1.30	63.24
Mao	18.19	0.0	0.008	.04	0.03	1.8
Nepali	15.98	0.25	0.80	1.07	1.16	2.47
Paite	0.30	0.02	21.61	0.28	0.09	2.22
Tangkhul	4.45	0.02	0.06	0.19	82.52	5.36
Thadou	14.18	9.73	13.58	1.05	5.66	4.12
Vaiphei	2.25	1.05	8.55	0.04	0.32	1.00
Others	30.34	10.11	27.17	2.69	3.19	10.1

languages are Paite, Hmar, Kuki, Mao and Vaipai.

So far as the North and South districts are concerned there is heterogeneous composition but with a small percentage of Paite and Hmar (21.61 and 20.77 p.c.) in the South district and Mao, Nepali and Thadou in the North district are successively occupying the rank.

MOVEMENT OF POPULATION :

The study of migration helps in the analysis of socio-economic development of region. Out of 1,072,753 population in 1971, 37,548(3.5 p.c.) of persons are immigrants of which 31,026 persons are settled in the rural and 6,522 persons in the urban.

In the present study the emphasis is given to the immigrants as it has indirectly influenced the present socio-economic impact of the region and secondary there is real difficulty in making analysis of immigrants. The early histroy of immigration is dealth with in the first chapter but here the emphasis on the recent phase i.e. 1901 to 1971 based on the census enumeration . The Fig.no.18 indicates the phenomanon of immigration to Manipur. Broadly there are two directions. - West and East - through which people passes. Nearly 95 percent of immigrant are migrated from the west directions chiefly from within and outside India(outside India, such as Nepal, Bangaladesh and Cylone etc.). This is due to the pull of economic feasibility in Manipur. Amongst the immigrants Assam(including Mizoram) is the highest being got 34.23

79

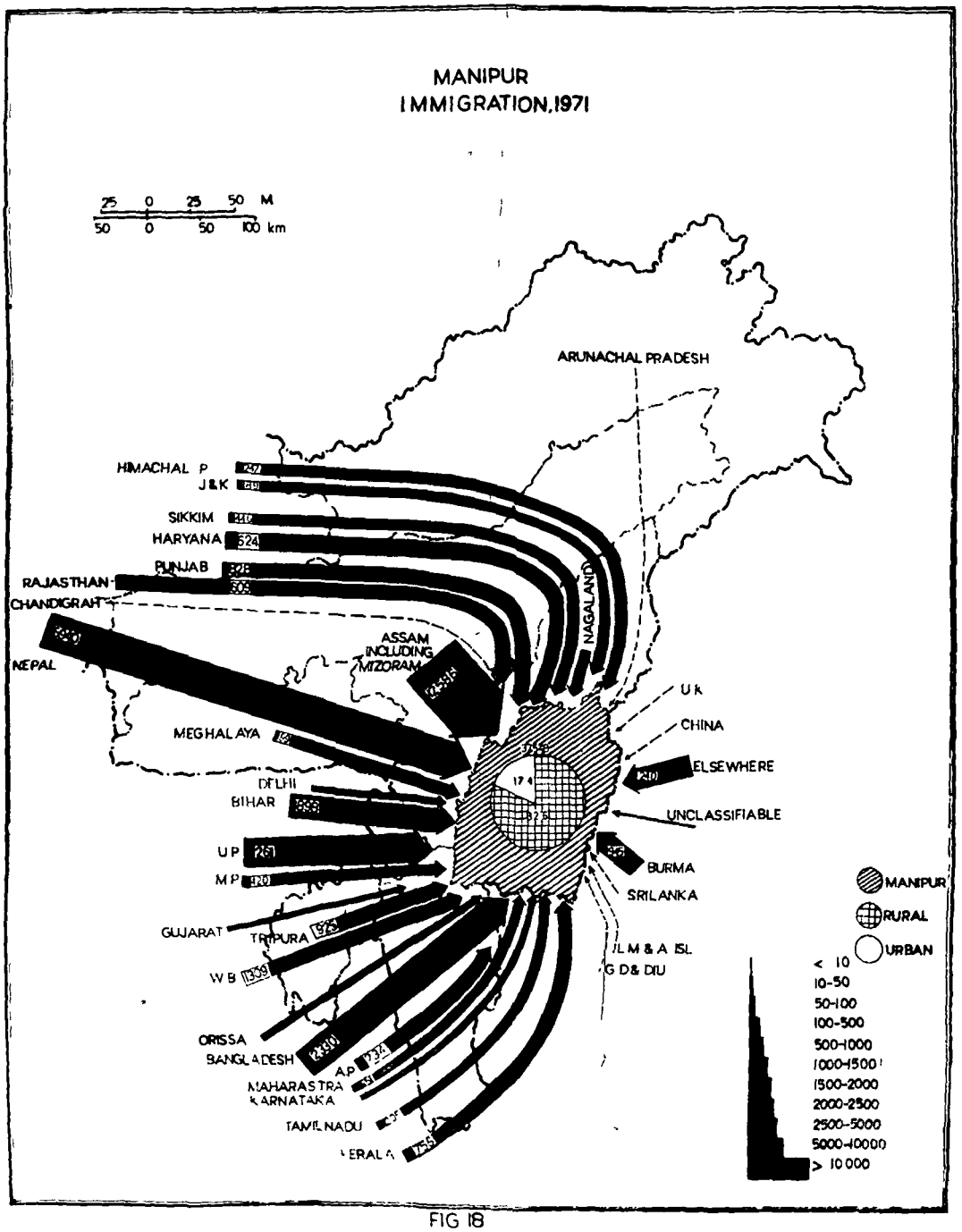
MANIPUR
IMMIGRATION, 1971
25 0 25 50 M
50 0 50 100 km
ARUNACHAL PRADESH
NAGALAND
HIMACHAL P
J&K
SIKKIM
HARYANA
PUNJAB
RAJASTHAN
CHANDIGRAH
NEPAL
ASSAM INCLUDING MIZORAM
MEGHALAYA
DELHI
BIHAR
UP
MP
GUJARAT
TRIPURA
WB
ORISSA
BANGLADESH
AP
MAHARASTRA
KARNATAKA
TAMILNADU
KERALA
U K
CHINA
ELSEWHERE
UNCLASSIFIABLE
BURMA
SRILANKA
L M & A ISL
G D & DIU
MANIPUR
RURAL
URBAN
< 10
10-50
50-100
100-500
500-1000
1000-1500
1500-2000
2000-2500
2500-5000
5000-10000
> 10000

FIG 18

percent and followed by Nepal(14.48 p.c.), U.P.(6.95 p.c.), Bangladesh (6.20 p.c.), Bihar(5.05 p.c.), West Bengal (3.48 p.c.), Tripura(2.46 p.c.), Punjab(2.20 p.c.) and Kerala(2.01 p.c.). The reasons of immigrating to Manipur are manifold in nature may be for propogation of religion, war, political division and sources of economy etc. For example Muslims were brought by the king from the Cachar side and settled in Manipur. Burma Government forced to banish the Indian and took shelter in Manipur. Hindusim and Christianism permit the outsiders to provocate the religous faith, business, job oppurtunity and recruitment of services are allowed to come in Manipur.

The emigration during the last 70 years is very negligible. But the inter district and rural and urban migration is noticeable as the central homogeneous fetile plain is acting like a centripetal force as it has assemblaged all the political, socio-economic activities of the state.

ANYLYSIS OF SCHEDULED CASTES AND TRIBES POPULATION

REGIONAL DISTRIBUTION:

Tribes are living in every places of Manipur. According to the census there are nearly 29 tribes in Manipur, they are broadly divided into Kuki and Naga(see the list of tribes in Table XIII). Large population of tribes are living

in the hills and the different tribes are occupying the different areas in the state. In 1971, out of 334,466 tribes, Thadou has the maximum numbers (59,955) than Tangkhul (57,851); and than Kabui (40,257) and other important tribes, in term of population, are Mao, Paite and Hmar. In 1961 also they had the same position.

In Manipur scheduled castes are negligible it constitutes only 1.52 percent. Lois is the leading one, which as 69.02 percent to the total scheduled castes population and the remaining castes are Namasudra, Patni, Yaithibi, Muchi, Dhobi and Sutradhas. Before 1971 there was no Sutradhas but it has now 28 persons in the state. Except lois all the scheduled castes are from the outside Manipur.

CONCENTRATION OF SCHEDULED CASTES AND TRIBES :

Based on the 1971 census data of subdivisional wise, location quotient values are found out for both Castes and Tribes (see Table VII.).[5] It helps to study the social status and their economic relationships with the region. Fig. no. 19 is clearly indicated that most of the tribes are living on the mountain tracts with 1 to 3.20 L.Q. value and the castes are in the plain with the Manipuri.

---

5. $LQI = \frac{pij/pi}{pj/p}$ where pij = no. of persons in jth category of area i.
pi = total pop. in all the categories of area i.
pj = Sum of the persons of category j in all the n areas.
p = Sum of pi in all the areas.

Table XII

Manipur

Population of Scheduled Castes and Tribes

1961 and 1971 :

Name	1961 S.T.%	1971 S.T.%
Aimal	0.04	0.24
Anal	1.96	1.99
Angami	0.25	0.02
Chothe	0.42	0.56
Chiru	0.73	0.83
Gangte	1.95	1.88
Hmar	6.17	6.96
Kabui	11.73	12.02
Kacha Naga	3.92	3.89
Kairao	0.16	0.48
Kaireng	0.21	0.13
Kom	2.20	1.95
Lamgang	0.75	0.78
Any Mizo	1.10	2.23
Maram	1.98	1.35
Maring	3.11	2.93
Mao	11.57	9.91
Monsong	0.57	0.27
Moyon	0.6	0.40
Paite	6.84	7.42
Purum	0.03	0.00
Ralte	0.03	0.04
Sema	0.0	0.0
Simte	1.13	1.24
Sahte	0.00	0.0
Tangkhur	17.64	17.31
Thadou	19.27	17.91
Vaiphui	3.30	3.68
Zau	2.72	3.00
Unclassfied	0.0	0.36
	100	100

Name	1961 S.C.%	1971 S.C.%
Dhupian Dlobi	0.49	1.59
Lois	68.90	69.02
Muchi	16.17	1.85
Namasudra	3.10	14.04
Patni	5.77	9.18
Sutradhar	0.0	0.17
Yaithibi	5.57	4.08
Unspecified		0.03
	100	100

Out of 25 subdivisions, 16 subdivisions of hills are very high their degree of concentration ; Tengnoupal, Churachandpur and Sadar Hills subdivisions are falling under high and Mao West subdivision is under medium category because these four subdivisions have got higher interaction with the nontribal population through adequate communication links. But the subdivisions in the plain have low concentration as a result of dense population of Manipur. The high concentration of tribes in the hills has made to clear the point that they are well settled and establish their colony there. Also shows their interaction with the outsiders is less ; so due to the nature of isolation, inaccessibility and bereft of sufficient natural resources they have developed particular social mobility and cultural traits which are different from the other. Moreover they follow what their forefather do and operate in the social and economic activities, as a result they want to confine somewhere there. But in this respect the intermigration of educated tribes to the plain do not effect and also non tribals are not willing to be in the hills for the permanent life.

Since the proportion of scheduled castes is very low (1.52 p.c. in 1971) in Manipur their concentration is extremely low but they live in the plain where the economic condition is good with the predominant community i.e.Manipuri.

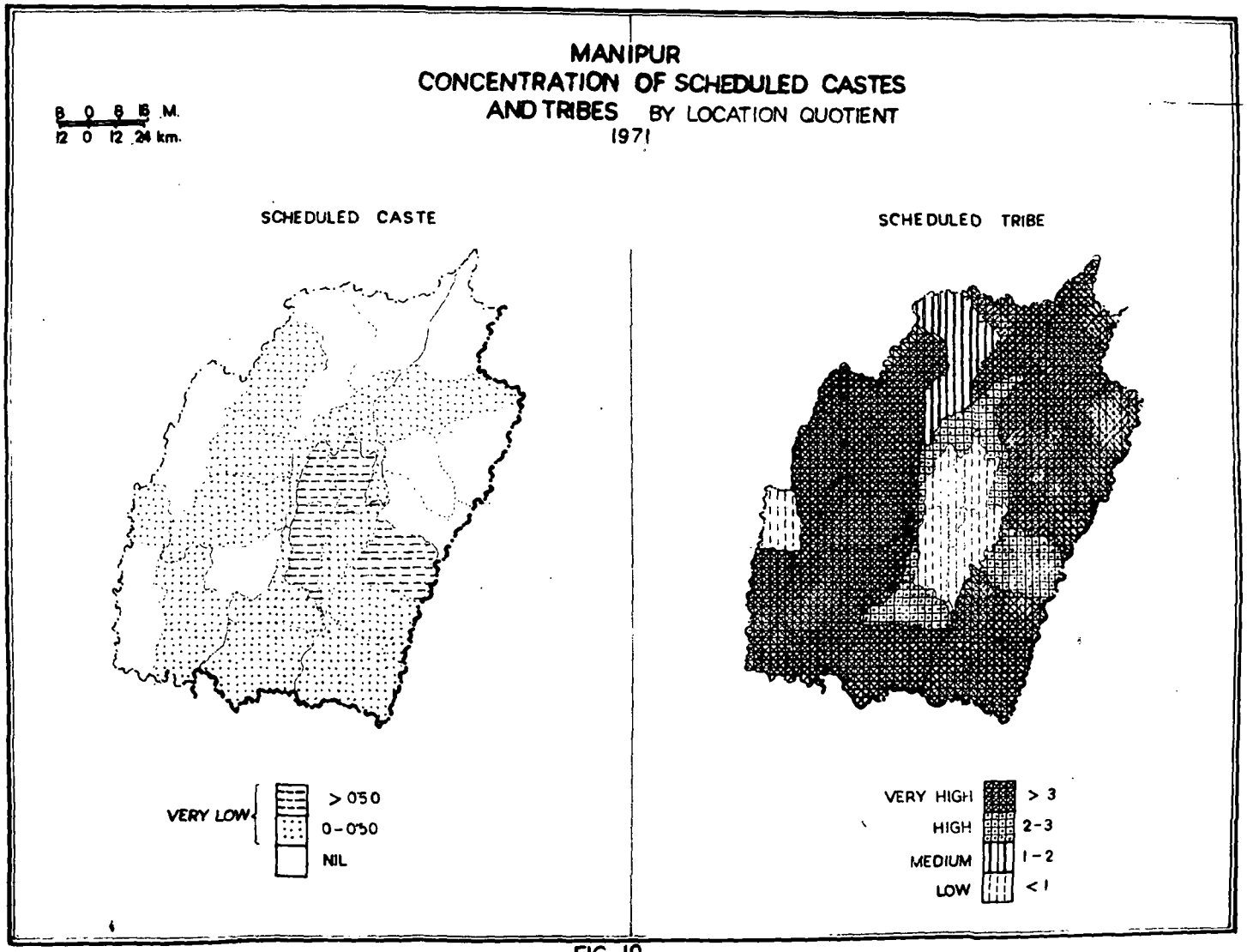
MANIPUR
CONCENTRATION OF SCHEDULED CASTES
AND TRIBES BY LOCATION QUOTIENT
1971
8 0 8 16 M.
12 0 12 24 km.
SCHEDULED CASTE
SCHEDULED TRIBE
VERY LOW
> 050
0-050
NIL
VERY HIGH
HIGH
MEDIUM
LOW
> 3
2-3
1-2
< 1

FIG. 19

SPATIAL PATTERN OF TRIBALS :

On the basis of 1971 census data, tribes combination regions of Manipur have been identified by applying the weaver's combination technique.[6] The data are computed on subdivisional levels and produce the combination of tribes with their relative strength.

From this Fig. no.20, On can easily say the regions of the outstanding tribes or communities with their combination in the hilly areas of Manipur. The East district can be called Tangkhul region where all the five subdivisions have been dominated by Tangkhul.

The Tangkhul is a Naga tribe have a different cultural traits. The next tribe comes to Thadou with the proportion of a little percentage, particularly in Ukhrul south and Komjong subdivision. All the administrative units of West district are dominated by Kabuis. Kabuis being a Naga in the West district have strong position consisting more than 63 percent of population in each subdivision. They were believed to be from the East and South East directions and settled there. The combination are made with Thadou and Kacha Naga.

---

6. Formula $\alpha \sqrt{\frac{Ed^2}{n}}$

Where d = the difference between the actual proportion assigned to an enterprise in a given unit and the theoritical proportion where a given tribe asseciation to be adopted.

n = No. of tribes in a given combination.

85

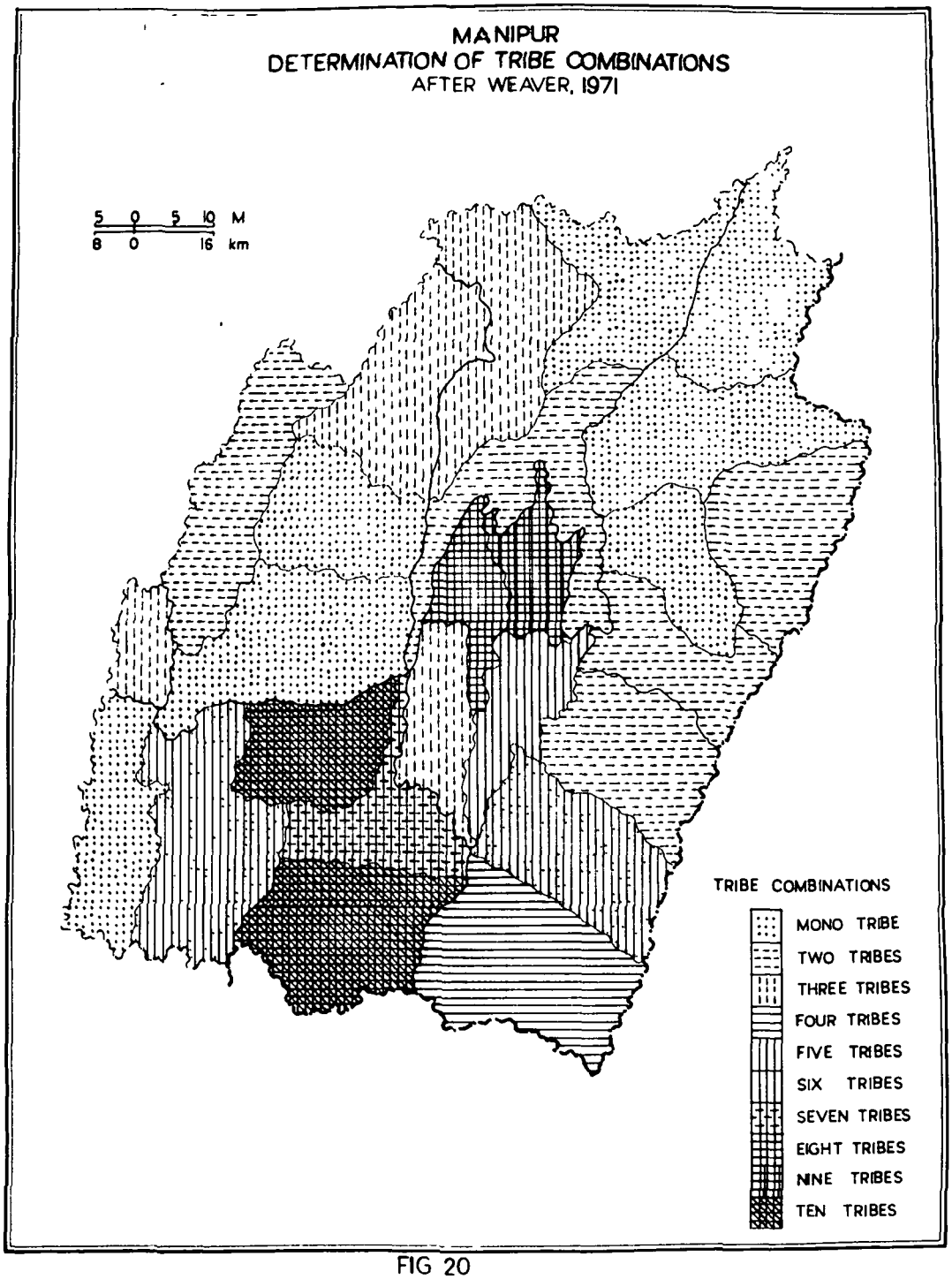
MANIPUR
DETERMINATION OF TRIBE COMBINATIONS
AFTER WEAVER, 1971
5 0 5 10 M
8 0 16 km
TRIBE COMBINATIONS
MONO TRIBE
TWO TRIBES
THREE TRIBES
FOUR TRIBES
FIVE TRIBES
SIX TRIBES
SEVEN TRIBES
EIGHT TRIBES
NINE TRIBES
TEN TRIBES

FIG 20

Table XIII

MANIPUR

Classification of Tribes

Naga Groups -
- (1) Lahupa
- (2) Jankul
- (3) Kolya
- (i) Jangal
- (ii) Mau
- (iii) Maram
- (iv) Upurul
- (v) Threngba
- (vi) Maithaipham
- (vii) Maiyangkharg
- (viii) Tokpa
- (ix) Kachang or Kateha includes Liyang.
- (4) Kanpui
- (i) Sangbu
- (ii) Paeron
- (5) Marrings incluing saibu
- (i) Khulba
- (ii) Churangna
- (iii) Kemsowa
- (iv) Makunga
- (v) Tangspwa
- (vi) Tanglangna
- (vii) Klaya
- (6) Mellomi
- (7) Lapvomi
- (8) Phozamch.

Kuki Groups-
- (1) Kongyai or New Kukis.
  - (i) Thado
  - (ii) Vangson
  - (iii) Changsen
  - (iv) Shimgsol
  - (v) Mangvung
  - (vi) Khlongam.
  - (vii) Chungl
  - (viii) Changput.
  - (ix) Hankib
  - (x) Simmte
  - (xi) Kamhan.
- (2) Old Kukis
  - (i) Kom
  - (ii) Anal
  - (iii) Manfan
  - (iv) Chim
  - (v) Kaireng
  - (vi) Chahte
  - (vii) Purum
  - (viii) Mantak
- (3) Simte
- (4) Siktis as kan hans
- (5) Chussads
- (6) Sinphes
- (7) Paois
  - (i) Shindus
  - (ii) Bangogies
  - (iii) Kumies .

Source - Basic statisties of the N.E. Region. NEC. Shillong .

There is difference in the name of tribes and both the Nag and kuki Groups have been classified into 29 major tribes by the census of India.

There is only one subdivision, Mao East, in the North district getting monotribe and two are represented with two or three tribe combinations. The tribes are Vaiphai, Thadou, Kacha Naga, and Maram and excluding Thadou all are under Naga region in the North of Manipur. In the South district it finds from single to multitribe combinations. Except Tipaimukh (monotribe by Hmar) all are getting six to ten tribe combinations. The combination are contributed by the Kuki stocks like Hmar, Paite, Vaiphai, Mizo, Simte, Zau, Gangte, Thadou, Kom and Ralte. The reason of this Churachandpur is the only big hill town available all the facilities, has been appeared with mixed Kuki groups. Secondly the migratory habits of Kuki with the jhuming cultivation creat no permanent settlement. Thirdly the tribes are originally coming from the south and south east, so they might have amalgamated.

Almost all the tribes are in the plain because tribales are shifting down their home. Kabui has the large population than Thadou and than Tangkhul. In the urban areas Kabui has grown up at six localities - Kakhulong, Keisamthong, Majorkhul, Minuthong, Moirangkhom and Thangmeiband. They came into existance during the early part of the present century or the last part of the 19th century but the Tankhuls are at Dollaland.

In case of Jiribam subdivision, there is three tribe combinations - Hmar, paite and Thadou, because of the influence of Kuki stock area from the South district.

Tengnoupal, Chandel and Chakpikarong subdivisions are also appeared with 4,2 and 6 tribe combinations of Maring, Thadau, Amal, Zau, Chothe and Moyon.

They are also under Kuki group. Thus from the above discussion one comes to know that the entire northern part of Manipur East, North and West districts are largely dominated by the Naga tribes. In majority they have much interaction with the plain people rather than the Kuki, So their education, economic and standard of living are above the Kuki groups. Whereas Kuki groups are also dominating in the Tengnoupal, Chandel, Chakpikarong, Jiribam subdivisions and South district but less concentration comparatively. From the Kuki groups Thadow is the only one uplifting their economy, education because it presents in every places and also has large population among the tribes in Manipur.

When examined the correlation co-efficient between the literacy and scheduled tribes of Manipur with the hypothesis that the development is dependent on education.[7] The correlation is found to be very weak i.e. value - .28 and test score is found 5.88 with the significance at 99 percent level. This means their causal relationship is increasing while the other one is decreasing.

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7. Formula - $r = \dfrac{Exy - \frac{Ex\ Ey}{N}}{\sqrt{Ex^2 - \frac{(Ex)^2}{N}}\ \sqrt{Ey^2 - \frac{(Ey)^2}{N}}}$

Manipur has steady and rapid increased of population since the last 70 years as a result of migration and natural growth. There is more influx of population to the central plain from different direction. The distribution of population in the hills is dominated by the Naga and Kuki groups with the Christian religion. While in the plain Manipuri or Meithei or Meitei are densly populated where the Hinduism dominates. The scheduled caste population is very small but the tribal population is very important in the hills and plays important social role and influence. Generally, there is much contrast and imbalance in the population structure of the hills and plain areas of Manipur. Which is multilingual, multi religious, multiethnic and multicultural in nature. As such the social pattern of today is much indicative of possibilities of invironment social tension and economic disparities which may also affect the permanency of any government. The proper care is needed to remove spatial disparities and an approach is needed for a balanced regional development of hills and plain of the state.

CHAPTER IV

ECONOMIC STRUCTURE

The present chapter deals with analysis of the existing economic structure of the region with a view to see the potentiality of economic resources in relation to the various parameters. No one region is poor and potential development depends upon the level of economic development and available technology. There is initial difficulty of making a meaningful analysis because of the paucity of data and inaccuracy ixisting relation to them. It is not possible to present a systematic treatment of the varied aspects of economic structure within a framework of quantitative models.

A. WORKING FORCE AND DEPENDENCY RATIO :

By and large Manipur is a region where the rural and agriculture population dominate. The participating force has declined by 10.15 percent from 1961(45.89 p.c.) to 1971(35.74 p.c.) may be due to the change in the definition of workers, an outburst of education and higher percentage increase by young population on account of possible decline in child mortality rate.[1] The ratio of workers in Imphal East

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1. In 1971 census a worker is a person whose main activity is participation in any economically productive work by his physical or mental work, that means, a person is categorised as a worker or non worker on the basis of how he or she engages himself or herself mostly. But in 1961 census, those persons who were basically workers with reference to their main activity, but were economically active even though for a very small fraction of their time, were recorded as workers.

Imphal West, Thoubal, Bishenpur, Jiribam subdivisions is falling between 28 to 31 percent as the urban population contributes less percentage of workers over and above well link of communication, availability facilities on its congenial plain areas account to give less workers. But most of the subdivisions of hills are getting between the range of 35 to 60 percent of workers since the whole economy of line is dependent on heavy engagement of agriculture workers. The percentage of male and female workers of the state are found to be 66.18 and 33.82 percent(to the total workers) respectively. But the female workers is higher than the male at Mao East, Tamenglong, Tamenglong West subdivisions and East district. It shows that female is taking active part in the agricultural activities and also in these units the sex ratio is high.

The proportion of non workers in Manipur is nearly double(65.42 p.c. of the workers in 1971, see the Fig.no.21 abd Table XIV) and it is the general pattern everywhere with minor spatial variations. All the urban centres have high non workers percentage (above 70 p.c.) which is again shared by the large percentage of females.

This high proportion of non workers to the total population cause high dependency ratio, i.e. 189.25 in 1971 (Fig. no.21). But the dependency ratio in the six subdivisions - Imphal East, Imphal West, Thoubal, Bishenpur,

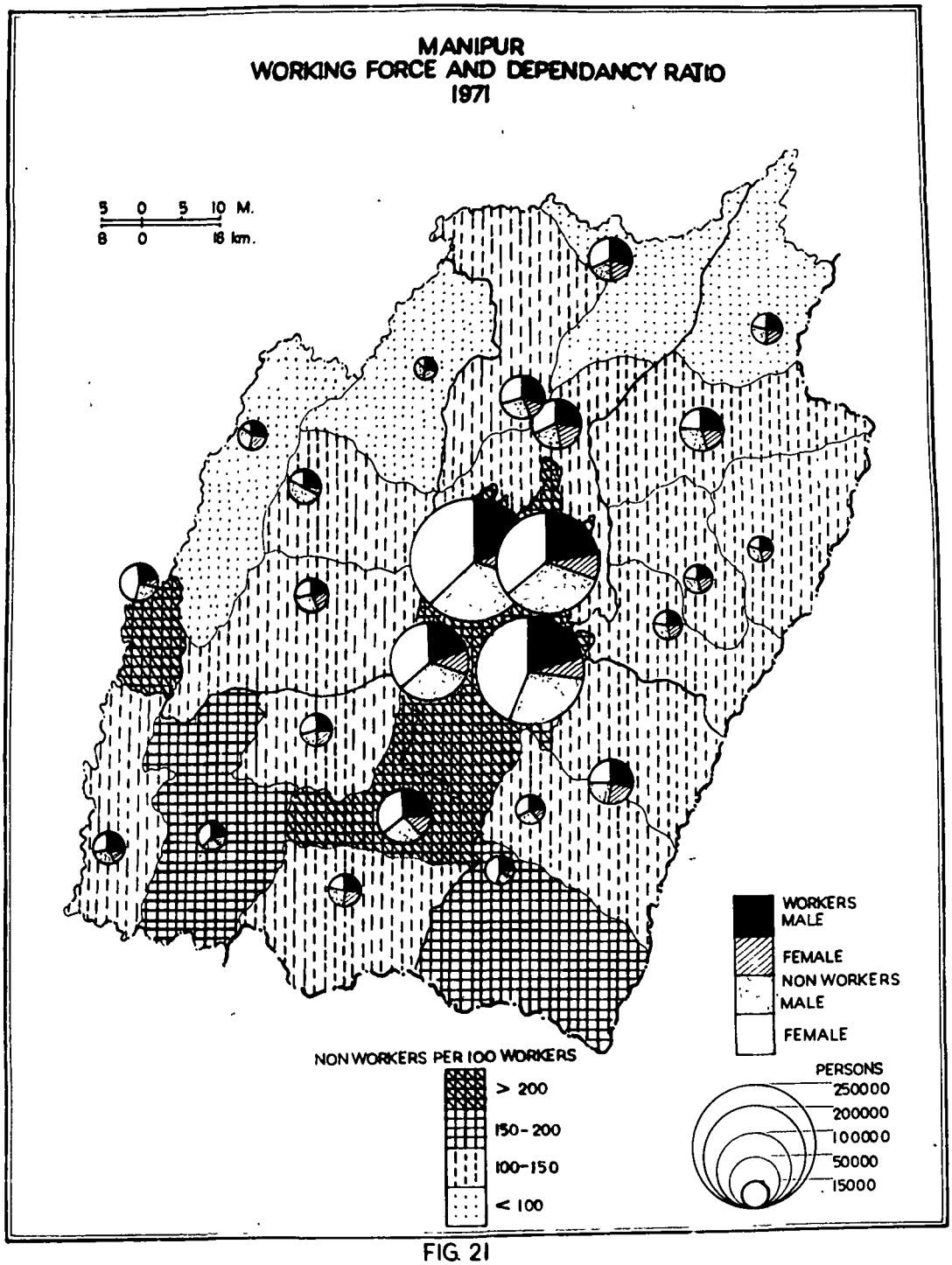
MANIPUR
WORKING FORCE AND DEPENDANCY RATIO
1971
5 0 5 10 M.
8 0 16 km.
WORKERS
MALE
FEMALE
NON WORKERS
MALE
FEMALE
PERSONS
250000
200000
100000
50000
15000
NON WORKERS PER 100 WORKERS
> 200
150-200
100-150
< 100

FIG. 21

94

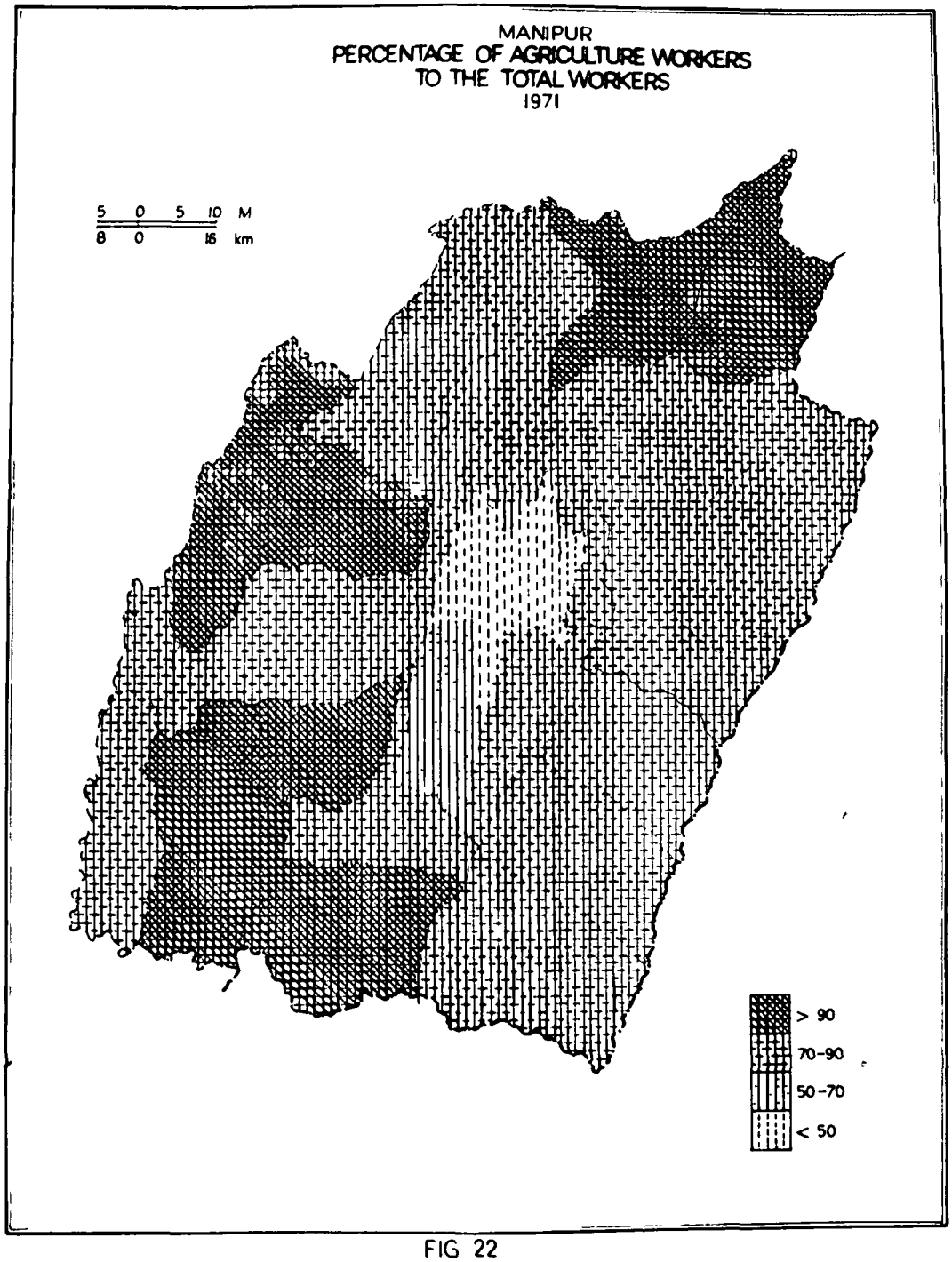
MANIPUR
PERCENTAGE OF AGRICULTURE WORKERS
TO THE TOTAL WORKERS
1971
5 0 5 10 M
8 0 16 km
> 90
70-90
50-70
< 50

FIG 22

Churachandpur and Jiribam which are having urban characteristics and located in the plain area, get above 200 and fifteen subdivisions of the hill lie between 100 to 200 ratio. The rest four subdivisions - Mao East, Mao West, Tamenglong North and Tamenglong West are below 100 dependency ratio.

The factors of getting low dependency ratio in all the subdivisions and hills are firstly due to agriculture in which both the male and female can participate with their favourite jhum and terrace cultivation. Secondly since there is maximum share of uneducated population they have no alternative way except to engaged on work as much as they have the ability. Whereas in the plain the dependency is high mainly because of inclusion of urban centres, pressure of population at limited cultivable land to absorb and increase of literacy etc.

AGRICULTURE WORKERS :

A chropleth map(Fig.no.22) is prepared to show the strength and vitality of agriculture workers of Manipur,based on 1971 census at the subdivisional level. As it knows very well that Manipur is primarily an agricultural state possessing 70.64 percent of agriculture to the total working force and 24.42 percent to the total state population. It is the only economic life where there is a human being in the space dimension of Manipur.

As revealed by the Fig.no.22 and Table XVI there are four categories - medium, high, very high and predominantly high workers. Imphal East, Imphal West are classed as medium getting below 50 percent, Bishenpur as high being got 68.76 percent and fifteen subdivisions including Thoubal and Jiribam are under very high by participating 70 to 90 percent. But seven subdivisions - Mao East, Ukhrul North, Thanlon and Thinghat etc. are possessing tremendous agriculture workers. The main reason behind this there is no other earning or efforts for livelihood are available except this ; so naturally whomsoever there have to take part necessarily. But some are a bit low where the workers can be minimised to a certain extent with the result of flat alluvial land and concentration of huge population with many economic activities. No doubt, thoubal and Jiribam subdivisions have more & workers than other subdivisions of plain as there is least economic activities except agriculture.

The simple correlation coefficient between the Net sown area and Agriculture workers has been calculated by establishing the hypothesis that engegment of agriculture is largely dependant on the availability of cultivated area.[2] The relationship is found negative because the r value is .68 at 99 percent of confidence limit. It means

---

2. Correlation coefficient formula - op. etc.

that pressure of agriculture is increasing whereas the net sown area is limited within the region.

OCCUPATIONAL STRUCTURE :

For an analysis, the nine categories of working services have been grouped into three - primary activities, secondary activities and tertiary activities.[3] The facts and figures are represented by Fig. no. 23. and Table XIV. In fact the population of workers is not high but it is predominated by primary activities in which cultivators occupies high percentage as the state is primarily rural and agricultural in character.

Primary Activities :

Out of the total workers 370,863., primary activities occupies 71.29 percent and the regional contribution is accounted from 85 to 90 percent in the North, East and South districts. The central district has, due to the concentration of many economic activities, got 60.87 percent but those three subdivisions - Tengnoupal, Chandel and Chakpikarong - those are in the hills have very high percentage like other hilly units. In this primary sector except cultivator all are almost nil. This clearly shows that the entire state economy is largely dependent upon the agriculture.

---

3. Primary activities includes cultivators, Agricultural labourers, limestock, fishing, forestry, hunting orchards, allied activities, mining and quarrying.

Table - XIV :

MANIPUR

OCCUPATIONAL STRUCTURE

1971 :

Dist/Subdiv.	R/U	Workers %	Non Workers %	Dependency ratio. %	Primary %	Secondary %	Tertiary. %
M. North Dist.	R	50.21	49.79	99.14	89.69	0.95	9.37
Mao West Subdiv.	R	46.64	53.35	114.38	86.42	1.57	12.7
Mao East Subdiv.	R	55.88	44.11	78.94	92.58	0.37	6.99
Sadar Hills Subdiv.	R	47.81	52.18	109.15	88.98	1.66	9.3
M. West Distt	R	49.27	50.92	102.92	90.09	0.87	9.04
Tamenglong N.Subdiv.	R	53.44	46.55	87.12	91.85	0.26	7.85
Tamenglong W.Subdiv.	R	51.96	48.03	92.42	95.44	0.12	4.4
Tamenglong Subdiv.	R	35.45	50.28	141.81	85.02	1.51	12.85
Nungba Subdiv.	R	44.93	55.06	122.53	89.86	1.21	8.95
M. South Dist.	T	37.05	62.94	169.88	87.31	1.70	10.99
	R	38.56	61.49	159.68	89.77	1.1	9.12
	U	22.14	71.90	351.76	42.73	12.78	44.49
Tipaimukh Subdiv.	R	42.78	57.21	133.70	88.04	3.99	7.87
Thanlon Subdiv.	R	37.45	62.54	166.96	92.77	0.12	6.89
Churachandpur N.Subdiv	R	47.39	52.60	40.97	96.33	0.23	3.39
Churachandpur Subdiv.	T	29.53	70.46	138.99	77.78	2.38	19.85
	R	31.25	68.74	219.68	83.5	0.67	15.83
	U	22.09	77.90	332.76	57.27	12.78	44.49
Thinghat	R	48.43	51.52	106.28	95.71	0.21	4.01
M. Central Dist.	T	30.10	69.89	232.20	60.87	19.06	20.07
	R	30.78	69.21	224.80	68.54	16.68	14.78
	U	26.84	73.15	272.46	19.8	32.03	48.89
Imphal East Subdiv.	T	30.58	69.41	226.92	50.78	30.69	18.53
	R	30.98	68.01	222.77	57.11	28.27	14.62
	U	28.49	71.50	250.98	14.08	44.73	41.19
Imphal West Subdiv.	T	28.60	71.31	248.62	38.63	26.34	35.03
	R	29.81	70.18	235.43	52.00	23.54	24.46
	U	26.25	73.74	280.82	5.98	33.19	60.83
Bishenpur Subdiv.	T	30.29	69.70	230.14	73.28	15.32	11.40
	R	30.59	69.40	226.82	76.76	14.64	8.60
	U	28.39	71.60	252.26	20.12	19.86	30.02
Thoubal Subdiv.	T	28.77	71.22	247.50	82.84	7.83	9.33
	R	29.07	70.92	243.44	84.12	7.43	8.45
	U	25.28	74.71	295.48	65.62	13.19	21.19
Jiribam Subdiv.	R	28.59	71.40	249.66	77.27	5.06	3.88
Tengnoupal Subdiv.	R	49.60	50.39	101.61	82.76	1.39	15.85
Chandel Subdiv.	R	42.09	57.90	137.54	87.46	0.28	0.26
Chakpikareng Subdiv.	R	34.80	65.19	187.32	84.69	0.8	0.66
M.East Dist.	R	48.65	51.34	105.54	85.86	.78	13.36
Ukhrul N Subdiv.	R	50.35	49.64	98.60	92.95	0.54	6.46
Ukhrul C.Subdiv.	R	48.70	51.29	105.30	82.37	0.90	16.64
Phungyar Phaisat Sd.	R	47.16	32.83	112.00	87.42	0.66	11.84
Kamjong Subdiv.	R	48.49	51.50	106.18	87.85	1.02	10.81
Ukhrul N. Subdiv.	R.	47.34	52.65	112.22	86.9	0.08	12.98
	T	34.57	65.42	189.25	71.29	12.23	16.46
Manipur	R	35.78	64.21	179.46	77.06	10.11	12.83
	U	26.55	73.44	276.62	20.29	31.05	48.66

99

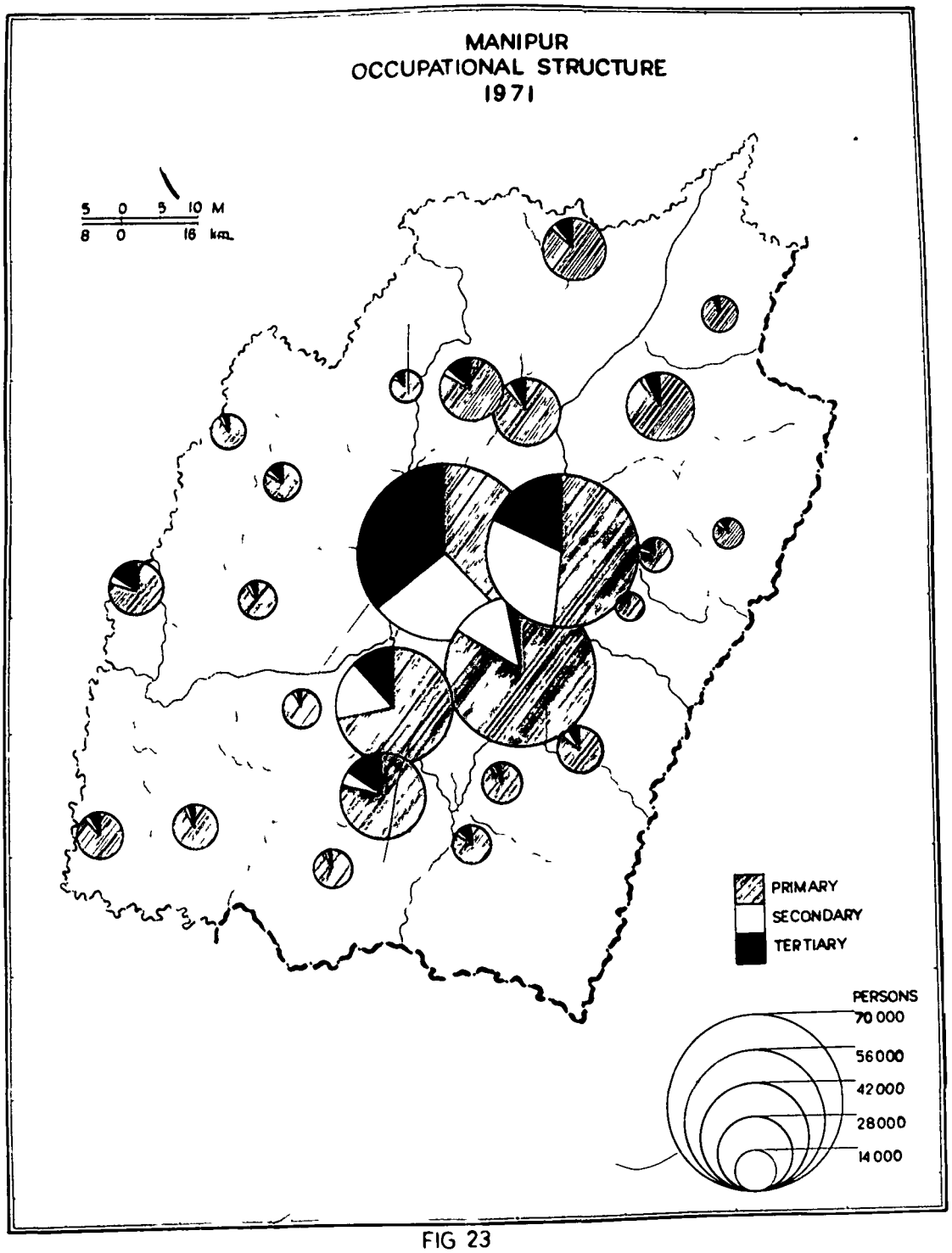
MANIPUR
OCCUPATIONAL STRUCTURE
1971
5 0 5 10 M
8 0 16 km
PRIMARY
SECONDARY
TERTIARY
PERSONS
70 000
56000
42000
28000
14000

FIG 23

Secondary Activities :

It is the weakest economic activities in the state being got 12.23 percent. Here also it can be ascertained that the difference of economic activities between the hills and plain as well as rural and urban. For instance, Imphal East, Imphal West, Bishenpur, Thoubal and Jiribam subdivisions have relatively high proportion of population engaging on household, non household industries and constructions. Amongst them Imphal East subdivision accounts for the highest by receiving 30.69 percent. In the plain there is a maximum of females in household industries like weaving, knitting and embroidary work but the other two services non household and constructions are performed mostly by males. The percentage of secondary activities is very low in the hills as the families have devoted to the cultivator but not to the labourer. Compared to the rural workers proportion, urban proportion is high, 31.05 percent, in Manipur when most of the urban centres are heavily engaged on by constructions work and other than household industry.

Tertiary Activities :

It is also having less proportion of population now in the state being got 16.46 percent as total, 12.83 percent in the rural and 48.66 percent in the urban. When examined it is

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Secondary activites includes household industry, other than household industry and constructions.

Tertiary activities includes trade and commerce, transport, sortage and communications and other services.

found that there is a continuous range, without much variation, in the twentifive (25) subdivisions of the region. Even though those subdivisions which are in the plain represented high percentage than the hills because all the services of tertiary sector are operated as the communication and commodities are edequate. But some of the subdivisions of hills which are well connected and located at the district headquarters are getting between 10 to 20 percent. The state, as a whole, has large population perticipation to other services of tertiary activities because of official people and educational institutions. The occupational structure displays the inbalances in term of economy and employment.

When one looks into the rural and urban components, urban is constituting higher (48.66 p.c.) percentage than the rural (12.83 p.c.). The highest is found at Imphal West subdivision as 60.83 percent and the lowest is found at Thoubal subdivision. It indicates where there is higher urbanization the tertiary workers is also correspondingly high.

Based on 1971 census data the quantitative relationship of literacy and workers is found out by simple regressional analysis.[4] Assuming the literacy as independent and worker

---

4. Regression formula - $y = a + bx$

$$b = \frac{Exy - \frac{ExEy}{N}}{Ex^2 - \frac{(Ex)}{N}}$$

$$a = \bar{Y} \pm b\bar{x}$$

REGRESSION

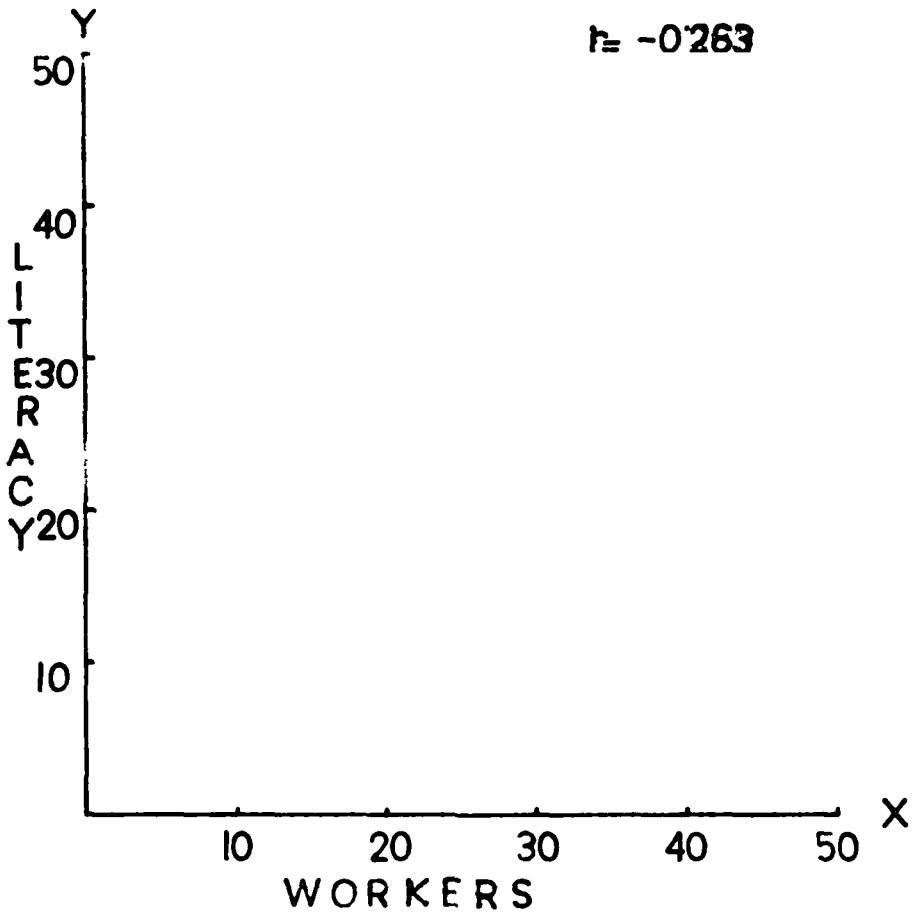

FIG. 24

as dependant variables because the hypothesis is that working is influenced by the literacy or it is dependant on it. It is found to be negatively significant at 98 percent level of confidence. Fig. no.24 clearly shows that the points are concentrated in such a way to form one line. This give the impression that in Manipur there is strikingly suffering from unemployment problem. As to say precisely, though the literacy percentage is steadily increasing, the government is still unable to give job to the educated people.

B. AGRICULTURE :

Before the new land revenue and land reforms Act. 1960, the land tenure system of Manipur was in the form of zamindary system. Though Manipur is comperatively very small state, this system was responsible for deteriorating the tenants farmers by collecting rent without doing anything while the tenants did not have even the minimum facilities for living merely on the subsistance level. After the independence, the than Manipur state Durbar extended the Assam land and revenue regulation of 1886 to Manipur in order to deprive it. Secondly in 1952, after the integration of the state, the union govt. of India, exercise of the powers conferred by section 2, of the part 3 states (Laws) Act, 1950, extended to Manipur the same regulation with some minor changes. Thirdly the parliament

enected the Manipur land revenue and land reforms Act in 1960. According to this the present ownership and tenants are exercised.[5]

LAND USE PATTERN :

The present study of land use pattern is based on 1976. The data is collected at the block levels from the rural development office, Manipur.[6] As there is not comprehensive cadesteral survey in Manipur these figures of land use are not fully reliable but one can throw into light the pattern of the land use of Manipur from this approximate data.

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5. The salient features are (1) it extends to the whole of Manipur except the hill areas (2) the state is to mantain constantly on enquiry into the people of agriculture (3) assessment of land revenue should be based on the profits of agriculture. (4) it confers permanent, heritable and transferable rights on land (5) Land must be personally cultivated, excepting being made in case of persons suffering from mental or physical disability, widows, members of Armed Force etc. (6) provides for resumption of land by a land owner from his tenants for personal cultivation upto a limit, depending on the size of the holding of the land owner (7) provides for transfer of ownership of land to the tenants in respect of land which cannot be resumed for personal cultivation by the land owner (8) provides for security of tenure to the tenants and for determining equitable and reseonable rent. (9) Fixes a ceiling of 25 acres (10.12 hects) for a family of five persons, with provision for additional five acres for each member in case numbers exceeds, subject to a maximum of 50 acres (20.23 hects) (10) provides for prevention of fragmentation of holdings and (11) Provides for payment of compensation to land owners for nonresumable land in respect of which ownership is transferred to tenants, of an amount equal to thirty times the full land revenue payable for the land.

6. The land use data of whole South district and Mao West subdivision/block is not available so the total figure of whole Manipur of different categories is very difficult to give.

TABLE XV (a)

Land use pattern

1.	Forests	1,515,400 (Area in heet)	67.75 (p.c.)	
2.	Cropped land*	350,786 "	15.67	"
3.	Urban sites	29,311 "	1.30	"
4.	Pasture and	157,893 "	7.05	"
5.	Barren land			
6.	Current Jhum	183,208 "	8. 19	"
		2,236,600	100	

*Out of 190,000 hects. of paddy field, 110,500 hects is in the central dist. and 79,500 hects in the South, East, West, North districts and Tengnoupal, Chandel and Chakpikarong blocks.

Sources - Agriculture Department and Forest dept. of Manipur :

The above table gives an idea that nearly 68 percent to the total geographical land is covered by forest and nearly 23.86 percent is under the extensive and intensive operation of various crops but it is supporting the entire economy of the region.But unfortunetly the area brought under paddy cultivation is estimated nearly 2 lakhs hect. areas of which roughly 80 thousands hect. acres is in the hills where there is mountain valley, terrain and river basins of mostly in the form of terrace cultivation and the remaining 1.2 lakhs hectars is available in the plain. Besides the paddy field the area under operation of crops is extensively occupied by Jhuming (nearly 8.19 p.c.) cultivation fallows and culturable waste.

TABLE XV (b)

MANIPUR

An Approximate land use data
1976.

Block	Net sown area %	Fallows and Cultura-ble Waste %	Nonagri culture uses and Barren land %	Parmanent pastures	Forest	Mese Trees.
Imphal West I	46.55	7.26	17.53	1.06	16.19	7.31
Imphal West II	62.89	18.99	11.31	4.52	1.57	0.68
Thoubal	72.33	9.07	17.66	6.48	0.67	0.67
Bishenpur	39.33	15.74	39.32	-	3.62	1.96
Imphal East	48.19	18.06	11.72	3.28	12.04	4.00
Jiribam	61.37	16.05	11.72	2.88	6.49	1.44
Ukhrul	6.26	22.61	49.2	-	21.82	0.07
Phurgyar	7.29	26.19	22.4	8.62	34.48	1.29
Kamjong	5.25	60.14	15.63	3.11	15.56	15.56
Kassom Khullen(U.S.)	9.53	31.84	27.58	-	31.03	-
Chingai(U.N)	5.61	8.93	65.63	-	19.78	0.01
Chakpikarong	10.63	36.87	8.1	-	43.79	0.57
Chandel	9.98	97.14	44.67	3.38	24.67	0.12
Tengnoupal	5.09	9.15	42.23	6.53	29.79	7.36
Tamenglong	1.90	10.74	67.68	0.55	18.12	0.95
Nungba	1.15	11.2	35.28	0.61	26.62	5.09
Tamei(T.N.)	1.29	10.81	63.86	0.48	18.25	5.28
Tuesem(T.N.)	0.80	11.98	50.62	0.23	29.33	7.05
Mao Maram	6.07	29.43	12.39	0.60	25.14	1.25
Sadar Hills	4.20	27.17	15.48	6.57	50.12	6.57

South District and Mao West block data are not available,
Hence total figure of Manipur can't be able to represent.

Source - Manipur, Rural Development Office, Imphal.

Again the land use pattern of Fig. no. 25 is showing the regional difference of land utilization with the physical factors such as topography, climate, soils and human factors like the length of occupancy, density of population, social and economic status.

Net Sown area :

It represents the geographical extent of cultivated of shown land with crops and orchards in a particular year. The ratio of it is found differed from blocks to blocks, there are two distinct regions i.e. plain and hills areas. This mainly due to the difference of topography and soil characteristic. The six blocks - Imphal East, Imphal west I and II, Thoubal, Bishenpur and Jiribam are constituting 40 to 73 percent for cultivation of crops. Actually these small cultivated areas of six blocks of plain feed all the entire population of Manipur. The blocks of hill possess very low percentage of cultivated land.

All Fallows and Culturable Weste Land :

It is the ratio of current fallow, old fallow and culturable waste land refer to the poor type of land.[7] it is find that not much potential of land is available in the plain areas now but there is land in the hill which can be brought through

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7. Current fallow - represents cropped area which are kept fallow during the current year i.e. if any seedling area is not cropped in the same year it may be treated as current fallow. Old fallow - This is the land which were taken up for cultivati

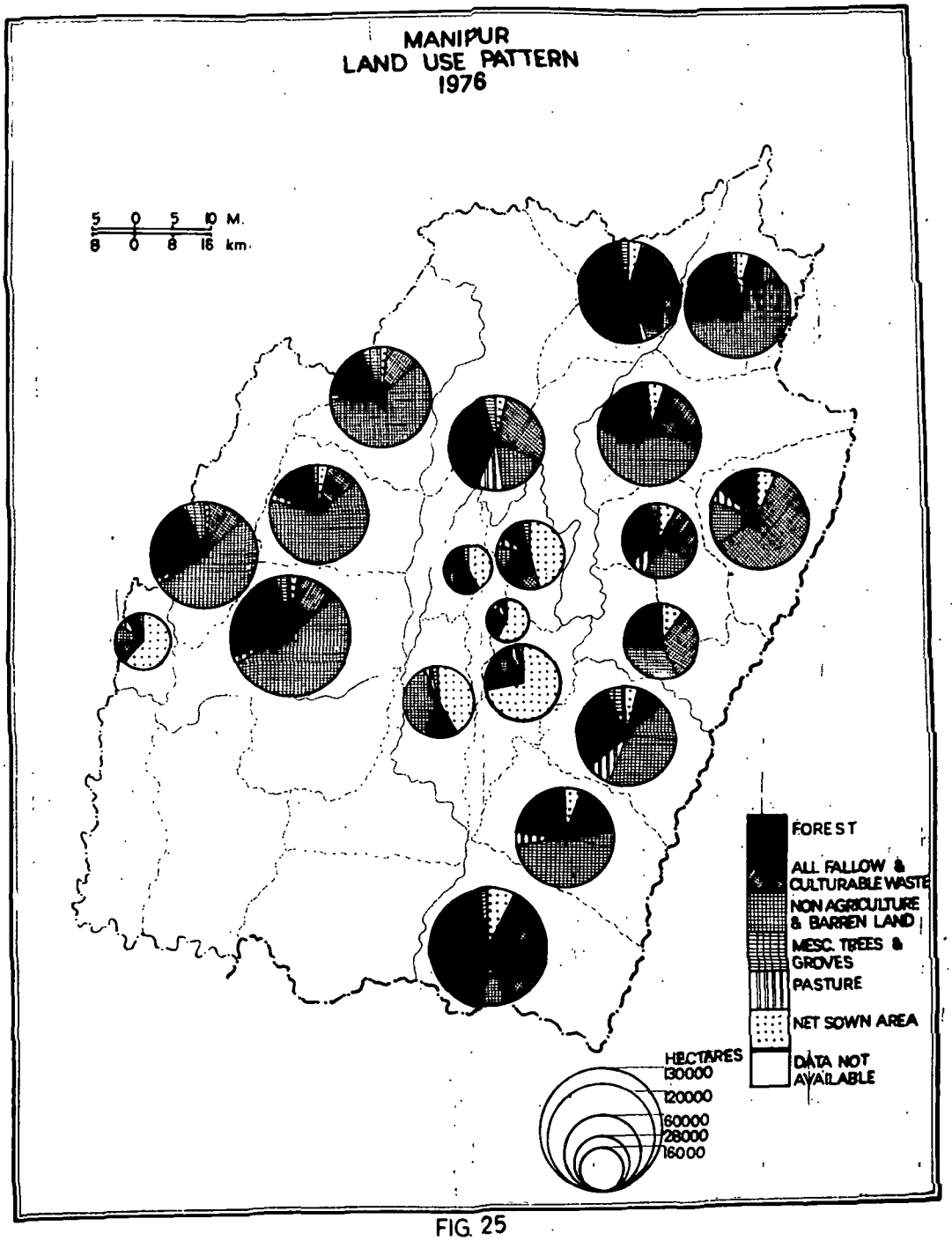
MANIPUR
LAND USE PATTERN
1976
5 0 5 10 M.
8 0 8 16 km.
FOREST
ALL FALLOW & CULTURABLE WASTE
NON AGRICULTURE & BARREN LAND
MESC. TREES & GROVES
PASTURE
NET SOWN AREA
DATA NOT AVAILABLE
HECTARES
130000
120000
60000
28000
16000

FIG. 25

reclamation of soil, clear of shrubs and scientific techniques of operation.

Non Agriculture and Barren Land :

It covers a wide range of uncultivated land because of rough terrain and exposed rocks devoid of productive soil in the hills. While in the plain areas the proportion is less as the house building, rivers, roads are the main contributing agents.

Pasture and Mesc. Trees :

The percentage of this two categories is relatively low in Manipur as the cattle rearing and afforestation are not so much advanced and large part of it is covered by non-agriculture and forest pasture (it includes grazing land and meadow or not). The design of wild cattle rearing in the hill or forested areas is giving unequal distribution with low percentage to the total area but to every blocks of the plain the percentage lies between 1 to 4 Mesc. Trees and groves covers land under casuring trees, thatching grasses, bamboo bushes and other groves for fuels, has little proportion but it is significant in economic value since quite a large number of houses roofed with thatches and used wood (fuel) very much in day to day life.

But are temporarily out of cultivation for a period of not less than one year and not more than five years. May be due to pro ty of cultivators, inedequate wupply of water, Malarial climate, sitting of canals and rivers and also unremunerative nature of forming.

Culturable Waste - includes lands available for cultivation whether taken up or not taken up for cultivation and not cultivated during current year and the last five years or the other Such lands may be either fallow or covered with shrubs and Jungles which are not put to any use.

Forests :

The maximum percentage of all blocks is shared by the forest. Almost all the blocks of hills receive high share of forest but very small proportion in the plain. Forest covers vast tract of hilly areas where the forest is under legal enectment of state or private, areas of shrubs and thick grazing land .

LAND USE POTENTIALITY :

The potentiality of land in Manipur can be predicted from the Fig. no. 26 although the data of some blocks are not available.[8] And so far from the index table XVI also one does get the impression that Imphal East, Imphal West, Thoubal, Jiribam and Bishenpur blocks do not have any chance to extend the cultivable area at present. Because their ratio is very low. i.e. between 10 to 40 ratio. Mao East or Mao Maram block is also following to them with 94.51 ratio. But the blocks which are in the hills have good potentiality of land if the proper check of soil erosion, reclamation or any scientific treatment are undertaken. Still they are having the problems as such with due reasons of sparse population, extensive use of land and very less exploitation work.

---

8. Formula $\frac{\text{All fallows + culturable waste}}{\text{Net sown area}} \times 100$

TABLE XVI

MANIPUR

Agricultural Statistics

Block	Intensity of cropping.	Land use potentiality.	Man land ratio in hect.	Carrying capacity in hect.	P.C.of Agri.to the Total Workers.	Index of Crop diversification.
Imphal West I	120	15.65	0.14	0.75	38.07	91.64
Imphal West II	109	30.21	0.11	0.97		47.06
Thoubal	121	11.2	0.20	0.86	82.7	44.54
Bishenpur	105	40.04	0.18	0.88	68.76	96.03
Imphal East	130	37.47	0.09	0.61	50.22	46.64
Jiribam	112	26.17	0.72	0.30	76.79	20.35
Ukhrul	100	361.07	0.76	0.62	92.75	18.45
Phungyar	108	959.35	0.51	1.25	87.4	45.50
Kamjong	100	1149.25	0.94	2.21	87.85	45.32
Kassom (Khullen(U.S.)	101	118.93	1.15	2.81	86.85	21.96
Chinglai(U.N.)	109	159.32	0.56	1.96	92.95	43.84
Chakpikarong	122.72	346.84	1.40	4.78	84.59	48.01
Chandel	183	172.04	0.99	2.69	87.46	47.54
Tengnoupal	110	180.09	0.29	0.07	82.02	44.99
Temenglong	100	565.80	0.14	0.69	85.36	20.69
Nungba	106	968.0	0.10	0.25	89.83	18.36
Tamei	101	834.37	0.17	0.35	91.85	20.99
Tuesem	101	1475.98	0.10	0.21	95.44	27.98
Mao Maram (Mao East.)	108	94.51	0.81	0.30	92.54	23.41
Sadar Hills	165	646.56	0.09	0.19	88.95	46.82
Mao West.	..	..	0.25	0.63	86.29	26.42

Data for South District is not available.

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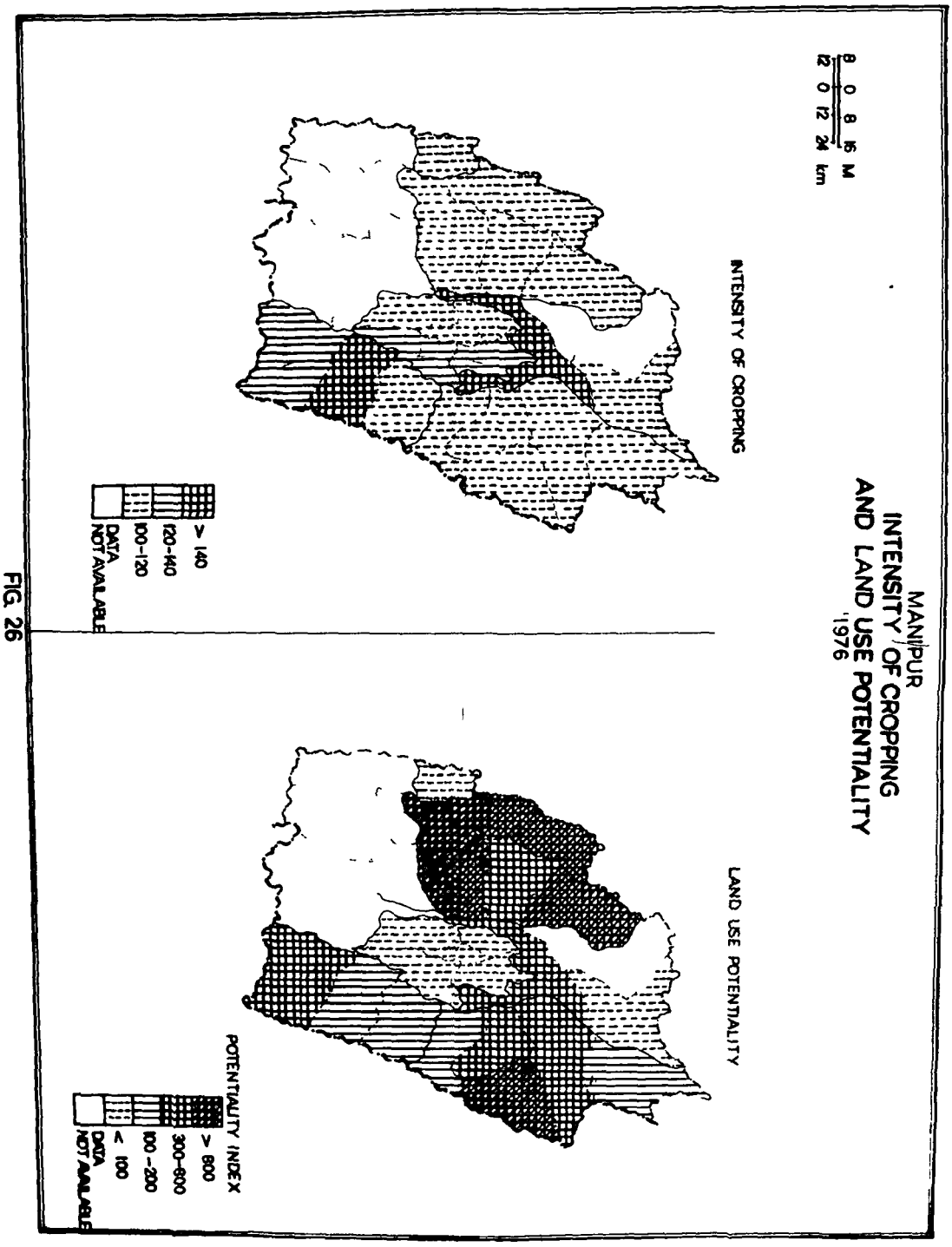
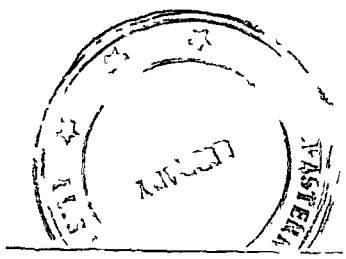

MANIPUR
INTENSITY OF CROPPING
AND LAND USE POTENTIALITY
1976
8 0 8 16 M
12 0 12 24 km
INTENSITY OF CROPPING
> 140
120-140
100-120
DATA NOT AVAILABLE
LAND USE POTENTIALITY
POTENTIALITY INDEX
> 600
300-600
100-200
< 100
DATA NOT AVAILABLE

FIG. 26



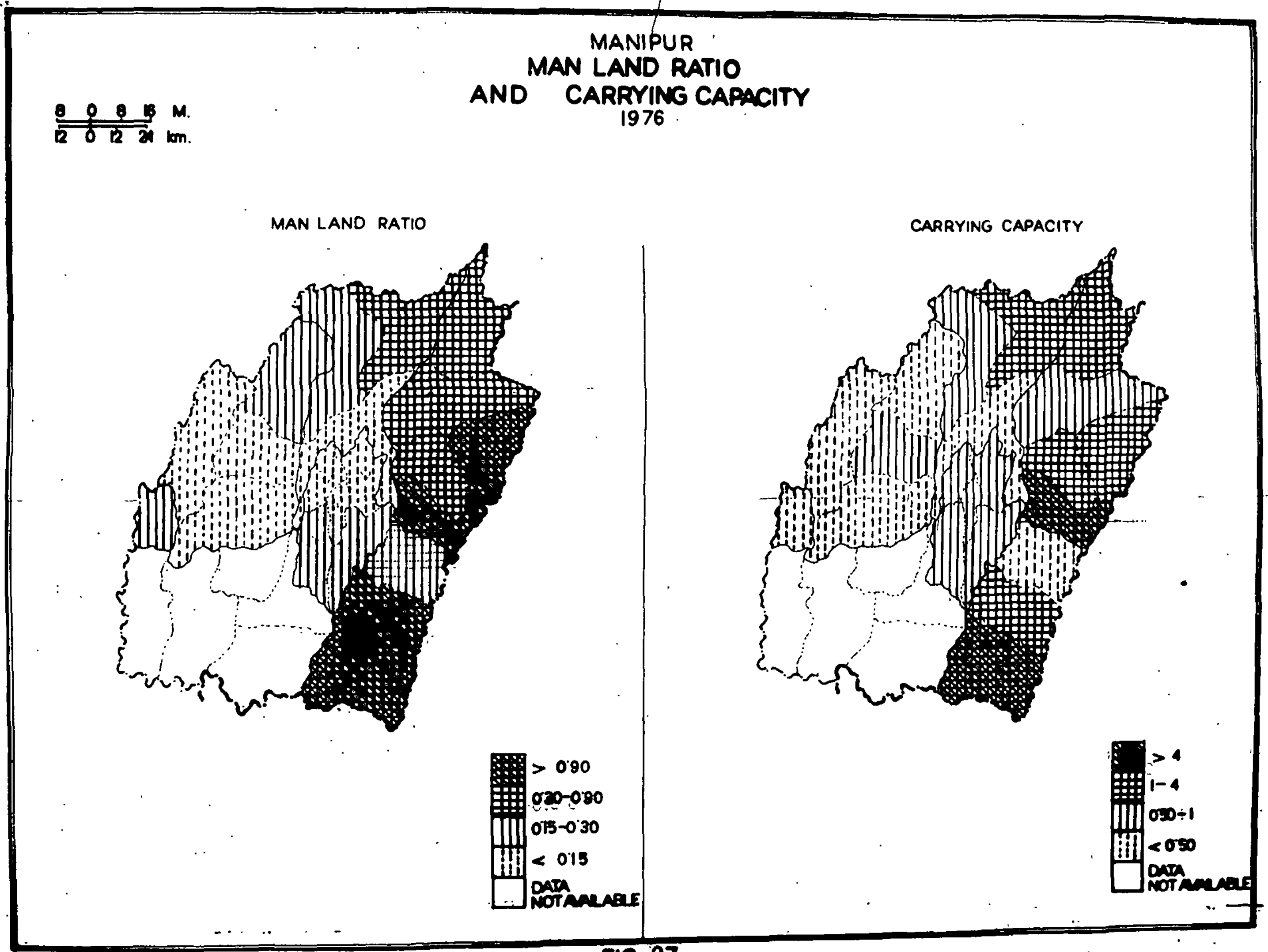

MANIPUR
MAN LAND RATIO
AND CARRYING CAPACITY
1976
8 0 8 16 M.
12 0 12 24 km.
MAN LAND RATIO
> 0·90
0·30-0·90
0·15-0·30
< 0·15
DATA NOT AVAILABLE
CARRYING CAPACITY
> 4
1-4
0·50-1
< 0·50
DATA NOT AVAILABLE

FIG. 27

MAN LAND RATIO :

Actually it is the agriculture density which expresses the pressure of total population on cultivated land.[9] It is an important indicators of the agriculture structure of the region and has both social and economic implication. Since there is vast tract of uncultivated land Manipur is very poor for getting area of cultivation. Hardly one hectares as per crop land is found in Manipur. The man land ratio (Fig.no.27) has shown clearly that almost all the administrative units of the region get less than one hectare per head without having much variation. But one can find roughly the eastern half of the region comprising ten blocks are relatively higher than the rest may be because of less population and available cultivated area is slightly more there. Even though the ratio is manifesting if there is more cultivated land the population is dense otherwise sparse. It indicates that there may be high degree of social tension in matters of agriculture.

CARRYING CAPACITY :

It means the pressure of agriculture population on cultivated land and manifestes how much of land in term of hectares can be borne by an agriculture in the state (see Fig. no.27).[10]

---

9. Formula - $\frac{\text{Net sown area}}{\text{Total population.}}$

10. Formula - $\frac{\text{Net Sown area}}{\text{Agriculture population.}}$

Similar to the case of man land ratio it is also underlined the same pattern covering higher carrying capacity at the eastern part of Manipur. Approximately one can visualise and predict that in Manipur the carrying capacity would be between 4 to 6 persons for every hectare of cultivated land.

So from the point of view of the pressure of agriculture and total population on cultivated land it can be highlighted that the shortage of area for cultivation is a big problem in the development of state. Where the population is in the dynamic at the growth rate of 3.26 (compound growth ratio) and the space of land for cultivation is limited. Therefore various remedial programmes can be launced in order to undertake soil reclamation in hilly areas of Manipur where there is feasibility to be experienced and improvement of the agriculture.

INTENSITY OF CROPPING :

The crop intensity refers to the land use efficiency, it is the out come when the net sown area is resown or recropped in a year with the facilities like water,fertilizers, tools and good farming practices.[11]

In fact, Manipur is in the take off stage of practicing intensive type of cultivation specially in the central plain. There is a good scope of developing irrigation system

---

11. Formula = $\frac{\text{Gross area}}{\text{Net Sown area}} \times 100$

For instance, one crop is grown on a field either Kharif or Rabi crop in a year, the index of crop intensity is 100 and termed as single cropping, if it is procured two crops in a year than it is termed as double cropping with an index of 200, and same case in the multiple cropping also.

but, so far, only the minor irrigation like diversion weires, temporary earthen dam and mountain gift drainage are operating which may bring nearly 10 to 12 thousands of hectares in a year. In term of fertilizers consumption and using of high yeilding varieties Manipur has marked to be one of the highest consumption of fertilizers in the N.E. region receiving 7.31 Kgs of N. P_2 Os, Ko per hectare in 1974-75. The increasing consumption for every year can be seen from the record of Agriculture dept. Manipur.

Year		Consumption of fertilizers.	
1974-75	-	2,382.871	M.T.
1975-76	-	3,702.539	M.T.
1976-77	-	4,149.851	M.T.

And the distribution of H.Y.V. has reached upto 1,100 tonnes of paddy, 20 tonnes of Maize, and 250 tonnes of wheat during the 4th plan.

As given in the Fig. no.26 and Table XVI it is understood that the hgihest index are found at Chandel and Sadar Hills blocks because their cultivated land (mostly terraced) is very small but permanent water of mountain gift drainage serves their irrigation purpose. But most of the blocks of hilly tracts get very low index since they are still highly in favour of Jhuming. The plain areas are now under the constant attempt of double cropping with the keen interest of

farmer. Imphal East, Thoubal and Imphal West blocks are leading at present. But after the completion of loktak multipurpose project nearly 24,000 hects. may be brought under lift irrigation, by that time, Bishenpur blocks may be one of the advance unit in agriculture. Besides these there are six major and minor projects undertaking now namely, Khoupum dam, Singda dam, Barrage across Imphal, Thoubal, Iril and Khuga rivers. After completion of these, one after another, Manipur could ride out her food poverty. Apart of forcasting, the present position of Manipur is striking between 100 to 112 intensity of cropping index. This shows that the intensification ofcrops is below the all India level inspite of her natural advantegeous and planned efforts.

CROPPING PATTERN :[12]

Like other parts of India, Manipur also practices the agriculture according to the seasonal rhythm and the cropping pattern varies. There are two types of crops Kharif and Rabi crops, both are fed by the monsoonic rainfall. The fragmented field pattern and nature of topography give four types of cultivated land - Jhuming land on the hill slopes, Terrace land (the transition of Jhum and Plain), plain land on the

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12. This study of cropping pattern of Manipur has been worked out from the available data (area under crops) at block levels in 1976. The analysis is entirely based on Weaver's crop combination technique and Bhatia's crop diversification method.

For Weaver's formula - see the population structure, Chapter III Tribe combination. And formula of crop diversification is

$$\frac{\text{Total sum of all crops}}{\text{No. of crops.}}$$

flat surface and the marshy and swampy land on the lake shore and Jheels where the paddy is grown with many local and H.Y.V. Apart from this, many other crops like maize, wheat, bajara, pulses, oilseeds, vegetables, spices, sugarcane, jute, tobacco and cotton are grown.

CROP COMBINATION REGION :

From the given map (Fig.no.28) one came across that quantitative picture and the regional pecularities of crop combination in the smallest administrative units of Manipur. There are only three crop combination regions - Mono culture, Two crop combination and Three crop combination as the rainfall, soil characteristics and practice of cultivation are not having much differences in the region.

Monoculture :

Paddy crop is the main staple food of the inhabitants. It is the most predominant crop grown from the alluvial soil to red loamy soil under the sub tropical and humid climate. There are ten blocks which are fallen under paddy monoculture and covering 66 to 96 percent of land. Paddy is grown excellently on the homogeneous alluvium central plain with the favourable climate. The impact of social i.e. conservative to cultivate the paddy with the indegenous implements is also important factor.

Two Crop Combination Region :

There are six blockss of two crop combination -

Table XVII :

Ranking of Crops in percent
1976.

Block										
Imphal West I.	92.64 R.	1.90 W.	1.42.M.	1.35Veg.	1.35.Oc.	0.67.Os.	0.54.S.	0.47OF.	0.33.p.	0.13.F.
Imphal West II	86.44 R.	7.68 F.	4.80 os.	0.48.w.	0.35.p.	0.24.M.	-	-	-	-
Thoubal	79.38 R.	9.70 S.	3.60 os.	1.65.M.	1.52.p.	1.43.W.	0.83oc.	0.77Veg.	0.39.F.	0.22.F.
Bishenpur	96.03 R.	0.95.oc.	0.76.os.	0.71.p.	0.71.Veg.	0.47.S.	0.23.F.	0.07.T.	0.02.M.	0.02.F.
Imphal East	86.21 R.	7.07.os.	1.55.S.	1.43.Veg.	1.19.p.	0.69.F.	0.52.OF.	0.47.M	0.38oc.	0.23.W.
Jiribam	58.04 R.	10.63Veg.	6.38.os.	6.38.F.	3.19.p.	3.19.Fb	2.65.OF.	2.65.OF.	1.32.oc.	0.79.S.
Ukhrul	50.06 R.	20.13.M.	16.41.F.	5.68.Veg.	3.15.os.	3.15oc.	0.88.p.	0.50.W.	-	-
Phungyar	67.37 R.	23.64.M.	2.36.p.	2.36.veg.	2.36.F.	1.18.os.	0.70.F.	-	-	-
Kamjong	55.13 R.	35.52.M.	3.70.F.	3.62.p.	1.48.veg.	0.48oos	0.05.S.	0.05.T.	-	-
Kassam khulen	66.64 R.	9.65. F.	6.43.oF.	5.15.M.	3.54.veg.	3.21.F.	2.89.oc	1.28.p.	0.41.os	0.06s
Chinghai	77.38 R.	10.31.M.	4.29.veg.	3.43.F	2.06.ONF	0.85.oc.	0.51.p.	0.51.os	0.42.T	0.17.oF
Chakpikarong	74.60 R.	21.48.M.	3.24.p.	0.33.F	0.30.os.	0.06.veg.	0.01.F	0.01.S	-	-
Chandel	88.98 R.	6.11.os.	1.23.M.	0.91.F	0.83.p.	0.74.veg	0.53.oc	0.31.S.	0.19.T.	0.08.OF.
Tengnoupal	85.24 R.	4.75.os.	3.06.M.	2.34.OF.	2.13.Fb.	1.17.veg	1.06p.	0.42.W.	0.36.S.	-
Tamenglong	50.74.R.	13.35.B.	13.35.oc	5.34.F.	3.20.J.	3.20.Rg.	2.67.M	2.67.Veg	1.92.p.	1.86.Fb.
Nungba	50.00 R.	17.42.oc.	12.28.B.	6.92.F.	5.71.Rg.	2.5.Fb.	2.5.Veg.	2.07.M	2.07.p.	1.42.J
Tamei	43.96 R.	17.38.B	16.40.oc	6.23.F	3.28.veg.	3.21Rg.	2.36.p.	2.23.Fb	1.64.W.	0.78.os.
Tuesem	54.76 R.	19.66.oc.	9.52.F.	4.34.veg.	2.58.M	1.96Fb.	1.65B.	0.93.W.	0.72.oF.	0.62.Rg.
Mao Maram	43.24 R.	36.03.M.	7.20.p.	7.20.oc.	4.15.F	2.07.veg.	0.05.os	0.03.Fb	-	-
Mao West.	52.34 R.	41.30.M	4.10.W	1.35.os	0.70.p.	0.58.oc.	0.57.veg	0.19.F.		
Sadar Hills	50.55 R.	15.43.M	13.30.W	4.43os.	2.21.p.	2.21.veg	2.21.OF.	1.37.F.	1.00.Fb.	0.66.S.

Data for South district is not available

Letter symbols used in the study

Letter symbols used in the Stu

in English.

R= Rice.
J= Jowar.
Rg= Ragi.
Fb= Fibers.
B = Bazara.
M = Maize.
oc= Other Cereals.
Veg=Vegetable.
os= Gilseeds.
S= Sugarcane.
oB=Other food Crops.
ONF= Other non food Crpps.
W= Wheat.
P= Pulses.
F= Friuts.
Veg= Vegetable.

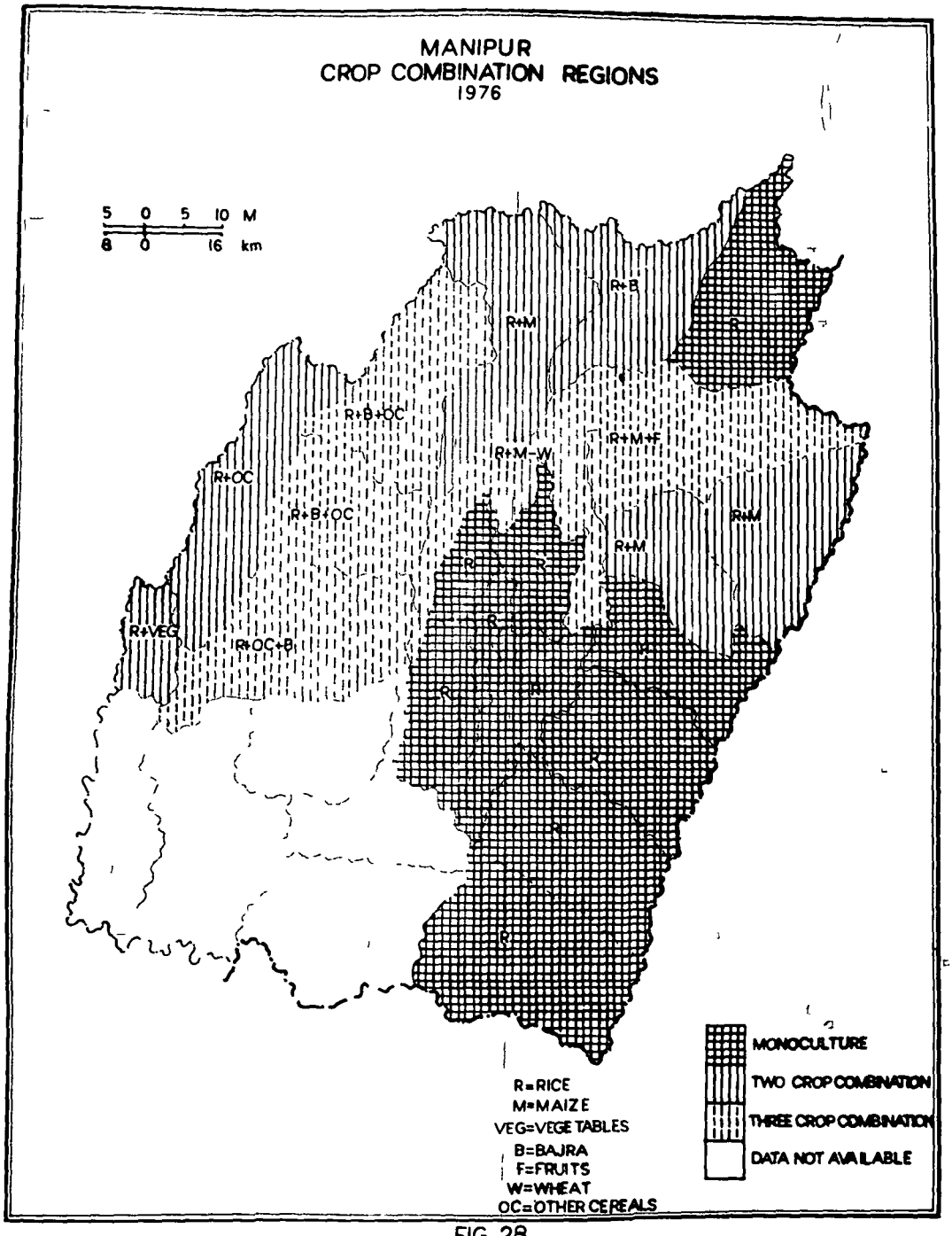
MANIPUR
CROP COMBINATION REGIONS
1976
5 0 5 10 M
8 0 16 km
R+B
R+M
R+B+OC
R+M+F
R+M-W
R+OC
R+B+OC
R+M
R+M
R+VEG
R+OC+B
R=RICE
M=MAIZE
VEG=VEGE TABLES
B=BAJRA
F=FRUITS
W=WHEAT
OC=OTHER CEREALS
MONOCULTURE
TWO CROP COMBINATION
THREE CROP COMBINATION
DATA NOT AVAILABLE

FIG 28

Jiribam, Tamenglong West, Mao East, Mao West, Phaisat and Kassam Khulen. All the blocks are represented their combination i.e. paddy with maize or bajara or other cereals or vegetables. Here the crops are following to paddy with marked difference of their percentage except Mao East and Mao West because the cultivation of maize or millets are very much along the terrai and mountain slopes or valley. These are specially done by the Nepaliqs. One can notice of the two groups of people who prefer their choice of cultivation in the hills. That is the hill tribe people always go for paddy whereas Nepalis or immigrants cultivate maize and millets.

Three Crop Combination Region :

The crop combination is so formed mixing paddy with other cereals and Bajara or maize and fruits or wheat. Five blocks Tamenglong, Tamenglong North, Nungba, Sadar Hills and Ukhrul blocks are come under this. In every combination the paddy comprises more than 50 percent. Here the concentration of paddy is less because in such dissected mountain areas, fruits, vegetables and maize are also grown. The crop combination map has given that cereal crops are very important rather than other crops and paddy is the most outstanding crop among them as it provides grain for human ingestion and straw for livestock food. But the next rank share to crops viz. wheat, maize millets, fruits and vegetables.

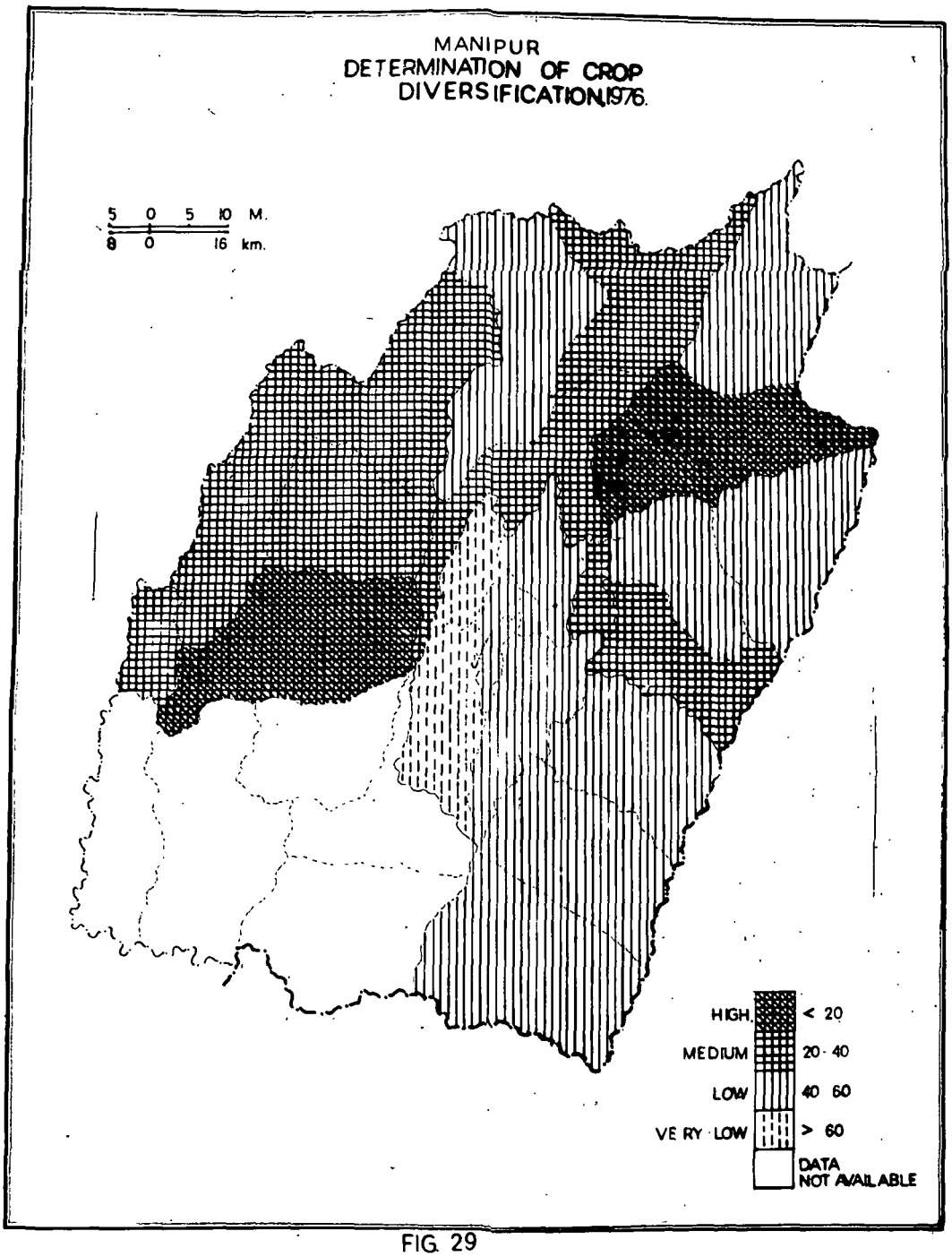
MANIPUR
DETERMINATION OF CROP
DIVERSIFICATION 1976.
5 0 5 10 M.
8 0 16 km.
HIGH
MEDIUM
LOW
VE RY LOW
< 20
20 - 40
40 60
> 60
DATA
NOT AVAILABLE

FIG. 29

EXTENT OF CROP DIVERSIFICATION :

The crops are cultivated or planted depending on the varied natural environments. Here in Fig. no.29 the crop diversification is found in four categories - very low, low, medium and high. High diversification is found in two blocks - Nungba and Ukhrul because there the attention of cropping is given to maize, vegetables, fruits and other cereals to a slightly grater extent. Medium deversification is also in the hilly areas because only a few patches of land are brought under wet paddy cultivation and dry land they use for varies crops those are suitable to plant there. Low and very low categories are found both hills and plain. In the plain intensive of paddy cultivation is now going on ; so to have diversification to other crops is not desired by the farmer and moreover they want to follow only their traditional pattern. In the same case, hilly people also do not want to avoid the indigenous practice which are done since the time immemorial.

According to the natural environment and social factors one could say in Manipur that this high diversification does not lead to a proper agricultural development because the hilly areas with their edaphic, rainfall and topography characteristics are associated with the primitive methods. The diversifications in the central plain also do not affect favourably to the development although it gives specialization at one side it does not uplift the overall economy of agriculture of the region.

LIVESTOCK :

In region like Manipur where the characteristics are obviously rural and agriculture, livestock rearing is a major economic activity, its importance and resources can't be over-emphasised. It consists of cattle, buffalo and other domesticated animals. According to 1961 census, the total livestock figure was 1.23 millions but in 1972 it came upto 1.5 million. Thus the livestock population exceeds the human population.

COMPOSITION :

According to their importance there are two types of animals, Cattle, Buffalo, Sheep and Horses ponies which prefer to use their products and physical strength for work and Mithunes, Goets, poultry, and pigs are used mostly for food whatever they produce and possess with them. But the most importance lies on cattle and buffalo for agriculture work.

In the state, poultry has the highest population receiving 66.62 percent, next comes to cattle which has 19.6 percent, third goes to pigs 9.37 percent, and fourth is represented by buffalo accounting 3.97 percent (see Fig. no. 30 and Table XVIII). Of the five districts, Central district has maximum cattle and buffalo population (224,202 and 24,263) for the cultivation purpose. A large number of buffaloes are used in cultivating of marshy and swampy land in the plain. Cows and the buffalo give duel economy i.e. one side for ploughing and another side for milking. And the rest four districts ie North, South, East and West have good number of cattle and buffalo population

ranging 14,000 - 34,000 and 4,000 - 13,000. The purpose of keeping bovine in the plain and hills is different. In the hills bovine are wild reared, though some are kept near to them for eating but in case of buffalo, most of them are used for dragging, transporting and carrying the wood trunk in the jungle.

According to 1972 census there are 34 heads of bovine for every 100 persons in Manipur. Since the population is relatively low in the East, North and West districts their average value is 45,44 and 40 respectively. But Central and South districts are below the regional value due to pressure of huge population and moreover the farmer has started to use ploughing machine. In case of South district it might be due to low population both human and bovine.

The climatic condition of Manipur is favoured in rearing of pigs and poultry it is the second importance economic activity of animals. Pig has 144,062 population in every districts, it is reared not less than 2,500 because eating of it is quite increasing now a days. Poultry, of course is very small animals, it has 1,008,299 population in the state. It is largely concentrated in the central district and all the districts have above 10,000 population as it is the poor man's industry and meets only the household requirements.

TABLE XVIII

MANIPUR

Livestock Population

1972

	M.North Dist.	M.West Dist.	M.South Dist.	M.Central Dist.	M.East Dist.	Manipur
Cattle	12.2	8.96	7.21	32.38	7.69	19.6
Buffaloes	4.62	9.78	3.11	3.50	6.59	3.97
Sheep	0.17	0.05	0.16	0.03	0.00	0.07
Goats	0.86	2.15	0.47	0.40	0.06	0.62
Pigs	12.74	19.70	12.07	3.86	13.07	9.37
Others	0.29	1.46	0.55	0.46	1.30	0.65
Poultry	69.17	64.84	76.41	59.34	71.25	65.62
Total	100	100	100	100	100	100
Livestock Density Per Sq. Km.	81.00	35.00	48.00	124.00	44.00	69.00
Cattle & Buffaloes for every 100 persons	44	40	23	33	45	34

Others includes Mithuns, Horse and Ponies

Poultry includes Cocks, Hens, Chickens and Ducks.

Source - Vety. and Animal Husbandry Department, Manipur, 1972.

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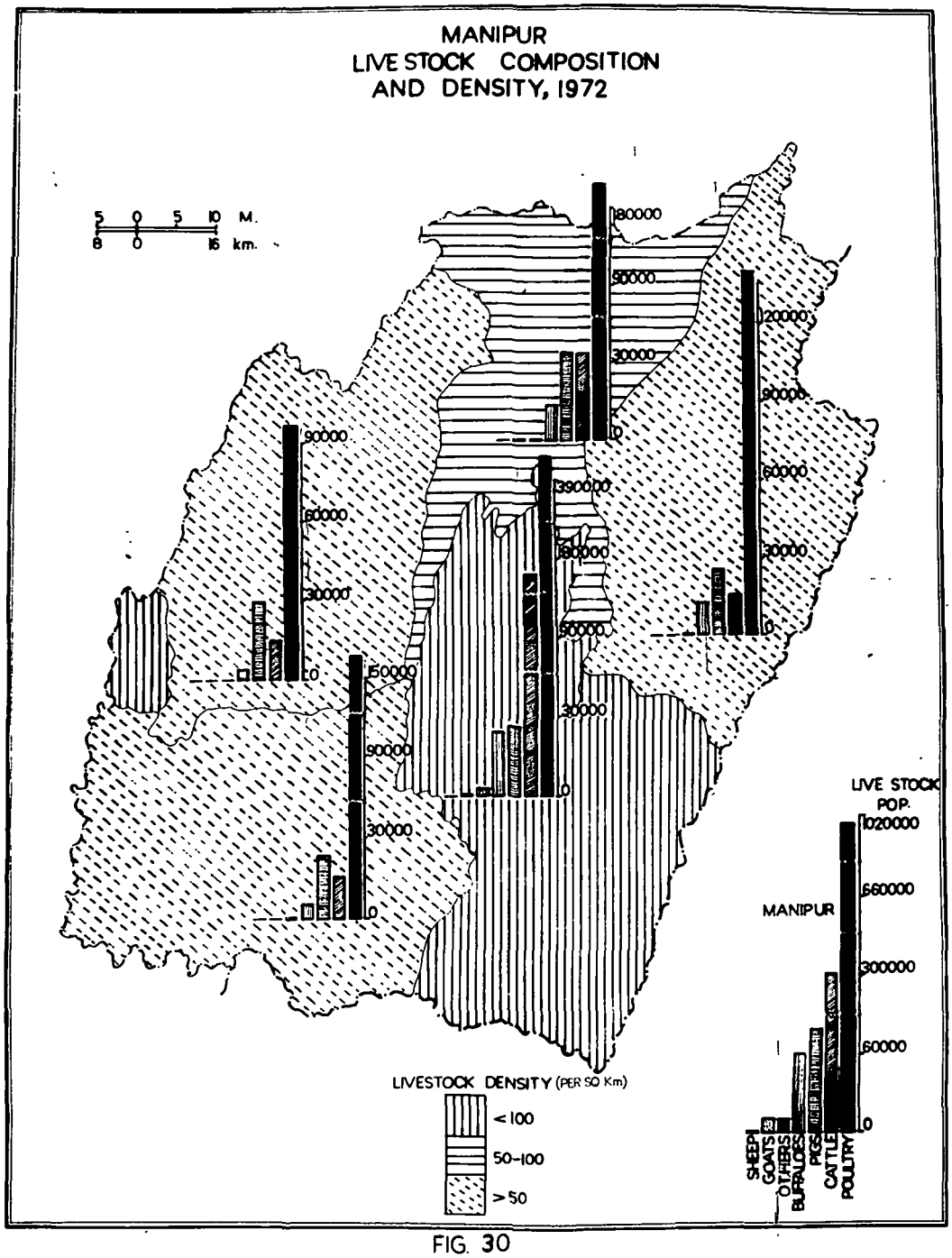
MANIPUR
LIVE STOCK COMPOSITION
AND DENSITY, 1972
5 0 5 10 M.
8 0 16 km.
180000
50000
30000
0
20000
90000
60000
30000
0
90000
60000
30000
0
390000
180000
90000
30000
0
150000
90000
30000
0
LIVE STOCK
POP.
1020000
660000
300000
60000
0
MANIPUR
SHEEP
GOATS
OTHERS
BUFFALOES
PIGS
CATTLE
POULTRY
LIVESTOCK DENSITY (PER SQ Km)
< 100
50-100
> 50

FIG. 30

Sheep, Goats, Mithunes and Horses are very few in their numbers. They have not much economic value so far compared to bovine pigs and poultry.

LIVESTOCK DENSITY :

The regional density of livestock is seen in Fig.no. 30.There are three classes depicting the densities. Like human population density of livestock also concentrates in the Central district (excluding Tenognoupal, Chandel and Chakpikarong) mainly because of almost all the inhabitants are nonvegetarian, they keep animals for cultivation and consider one of the economic sources. The next district, between 50 to 100 density of lifestock, is North district has the large population of poultry, pigs and cattle and than below 50, East, South and West districts are falling might be the consumption of livestock is high. And so poultry constitutes large number in every districts. The reason is, it is flourishing as it supports to the rural economy life of Manipur.

C. FOREST ECONOMY :

The previous discussion of forest in the physical setting chapter (II) referes mainly to the major ecological types. It gives hardly any exposure to the contribution made by forests to the states economy. It tries to summerise some of the economic prospects and existing situation in the region.

According to the forest department of Manipur in 1976, out of 15,154 Sq. Km. total forest area bamboo occupies 3,268.43 Sq.Km. in the Barak river basins, grass blanks 146.57 Sq. Km. scattering here and there and 117.39 Sq. Km. is composed by tree forest of which 587.65 Sq. Km. is coniferous and 11,151.33 Sq. Km. is nonconiferous (broad leaved). These forest areas are governed by three legal status - reserved covers 1,377 Sq. Km., protected 4,171 Sq. Km. and unclassed 9,606 Sq. Km.[13]

The state has an economic importance in forest, although it is mixed type, fetch the revenue 15.23 lakhs in 1975-76. She has 1.1 hectares per capita of forest area which is greater than all India figure (0.14 hect.). By now, the state has 4,118 Sq. Km. of forest in use, 7,621 Sq. Km. is potentially exploitable area and 3,415 Sq. Km. is in other forest area. The importance forest areas are found in the north eastern and south eastern corners along the Burma borders and the River Barak basins in the West. The northern and southern hills are not so significant for timber except fire wood and other species.

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13. Reserved forests are the property of the Govt. with recorded rights of the tribal as to Jhuming, Wood rights, Hunting rights and Grazing rights. In protected forests, Govt. declare certain species of trees as protected thus and in these types of forests the tribals have got the rights for jhuming, hunting, cutting and grazing open Reserves and Unclassified forests wherefrom except by permission of the civil authority, no extraction of forest produce for settle by the tribals is allowed. The tribals however, have the rights as to Jhuming etc. in this type of forests. Besides these categories of forests there are some other forests. The tribal residing in these forests are given full rights to enjoy forest produce within ½ miles redius from their respective villages. These types of forests are called hill village reserves. The Govt. do not interfere in these forests.

In the transitional areas of valley and mountain oak tree is the only valuable species which bears a good potential for Tasar industry.

Bamboo is grown extensively in the Western forest area, along with Timber, Agar, Canechal moogre are also found. Forest along Burma border yield interior Teak and Caderela Toona and Khasiping are obtainable from the ukhrul forests. Other valuable species are Cinnaman, Orchids, Sirohililly, Lilium napa Lensio, Irish bakerli, Vanda Cerbuba and Cypripadium specerianum etc.

The forests can offer a good scope for forest based industries like paper and pulpindustry, match factory, sawmill, chipboard or hard board plant (based on bamboo) small plywood mill, manufacture of bamboo blinds and working units, small industries such as pencils, venurs and sliced articles. But at present the sources of income are mainly from the wood and forest products. The detail products can be seen both the value and quantity from the following table XIX.

Forest products (1971) :

Wood	Quantity in 1000/m^3	Value Rs. in 1000
Timber (in cu.m.)	7.646	427.016
Round wood	5.890	162.485
Post & Poles	0.225	14.928
Fire Wood (qlt)	310.950	189.044
Minor forest products		
Bamboo (Nos)	757.986	29.134

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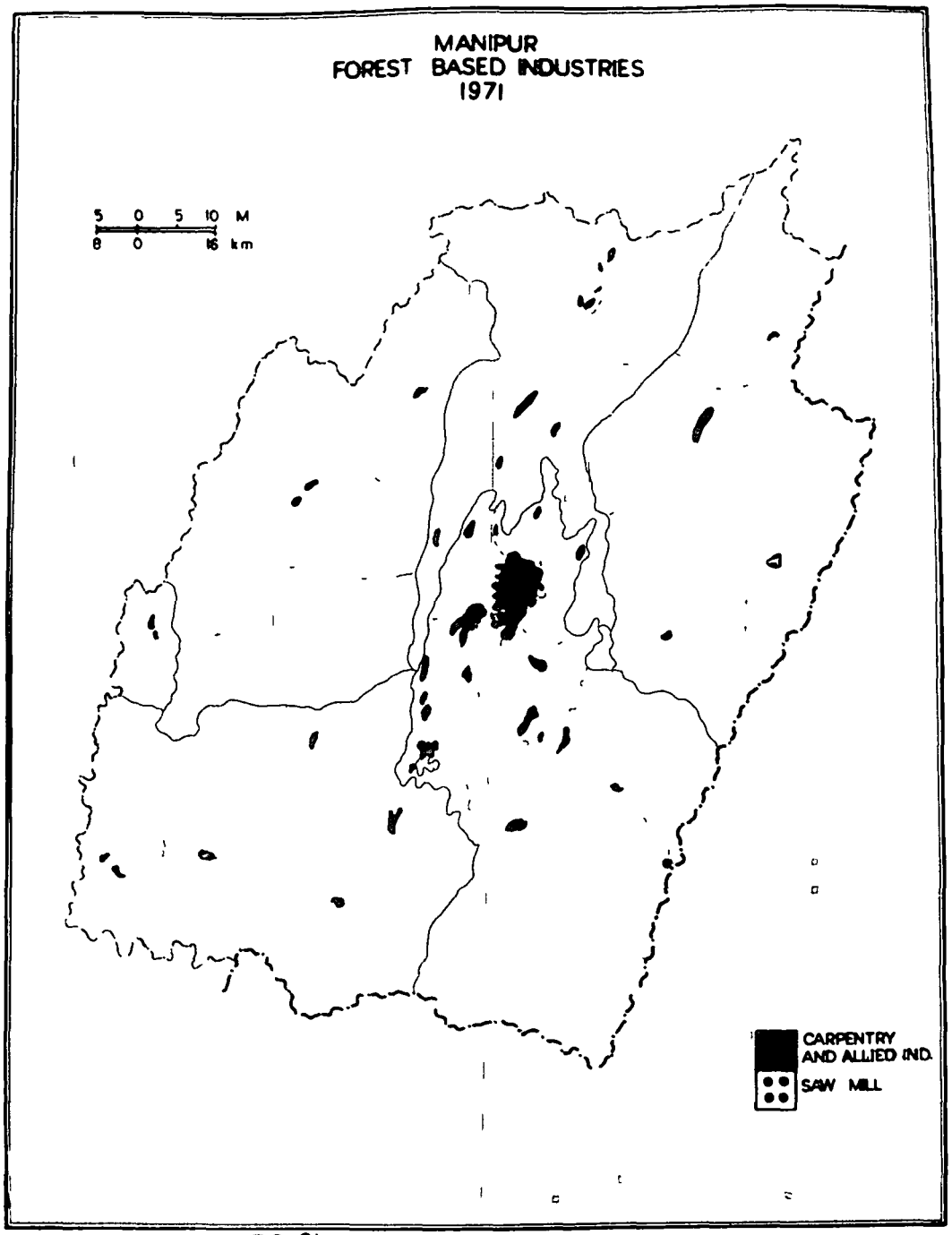

FIG. 31 SOURCE FOREST ATLAS OF MANIPUR

Dal chini (qlt)	25.206	151.238
Agar wood (qlt)	6.556	118.009
Cane (Rm)	7.979	1.521
Thatching grass	-	9.308
Others M.M.F.P.	-	427.256

Source - Statistical handbook of Manipur, 1975.

Manipur has not developed much of her forest based industries to a great extent due to the inaccessible, lack of technical know how, shortage of financial aid and attitude of illicit cutting of trees with continuous Jhuming under the pretext of personal use. So far forest based industries is concerned, there are broadly two types - saw mill and carpentary and allied industry (Fig. No. 31). Saw mills, 90 percent is located around the Imphal town and the rest are at Moreh and Moirang. These location are selected on the basis of convenient transport as well as marketing facilities. Saw mills are running with electrical sawing machine. The timbers are to be transported first from the interior part of jungle with the help of baffalo than carried by lories towards the saw mills. Timber are many varities. The following table gives their potential outern in a year.

Saw timber 10,003 m. per year.

Ply wood size timber 110,000 m^3 per year.

Pine wood saw timber 24,000 m^3 " "

Broad leaved pulpwood 117,000 m^3 " "

Coniferous pulpwood 9,063 m^3 " "

The carpentary and allied industry are seen in many parts of Manipur where there is a block offices or district headquarters with the facilities of transport. It includes chiefly furniture making, bamboo and can works, small portable and stationery units etc. The wooden furnitures making are proccessed with the supplied from the hand pulling saw mills or pit saw mills. Running of carpentary workershop and wooden furnitures making are visible in every villages of rural areas if there is a good demand of finished articles.

D. MINERALS :

In mineral resources Manipur is in the process of investigation but from the preliminary assessment of geological survey of India its potential is significant to some extent with the occurences of limestone, nickel, copper, lignite, asbestos and salt. But the estimated amount of deposited minerals are occured within the Disang series as it was formed during the lower and middle Eocene - Upper cretaceous time (Fig. no. 32).

LIMESTONE :

The deposition of limestone is estimated near about 8.03 million tonnes in Manipur. Limestones are found at Ukhrul area, Hundung area, Khonggai area, Lambui area and other minor deposits such as near Kassom in the Ukhrul subdivision and new Mongbung in the Churachandpur subdivisions. The given

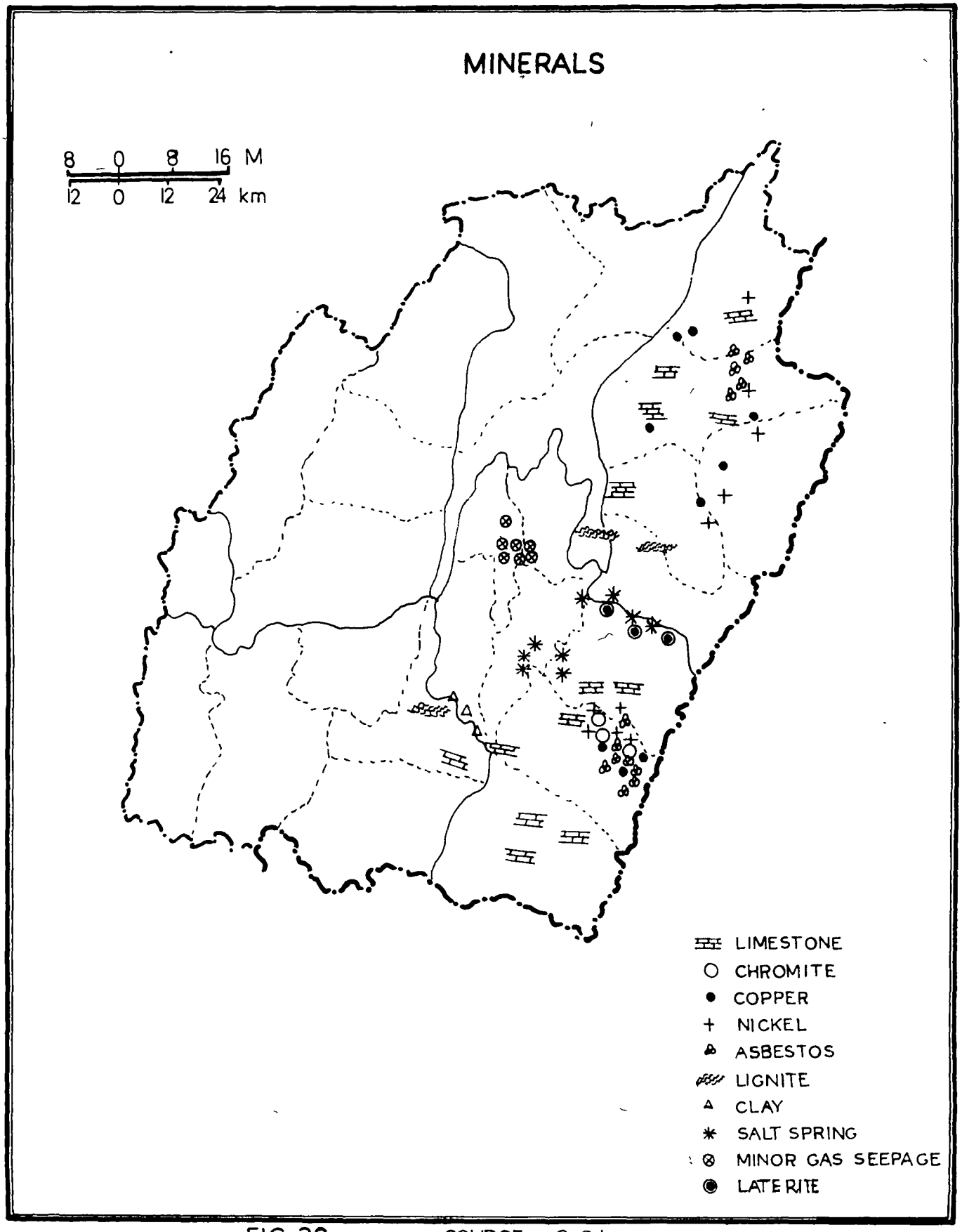

FIG. 32 SOURCE: G S I

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table XX has shown the average grades of limestone with their respective areas.

TABLE XX

	Cao%	insoluble%	R_2O_3	Mgo.	Est. amount
Ukhrul areas	Band I Upper Band V lower 43.18	15.50	4.55	1%	5.70 m.
	44.70	15.50	4.00	1%	
Khonggoi	47.74	10.71	2.37	1%	0.26 m
Mova	50.65	7.5	1.08	1%	0.045 m
Hundung South	51.13	6.41	1.30	1%	0.17 m
Hundung North	46.01	12.68	3.80	1%	1.77 m

The limestone are fine grained showing varying shades of grey and brown generally massive and highly jointed at places. At Ukhrul and Hundung north poorer grademateriais are consisted with 42 to 43 percent of Cao, so for improving the grade higher insoluble are to be blended with the high grade limestone from other areas. R_2O_3 ratio is low in which alumina iron content is also varied, this can be increased by adding corrective materials like alumina clay and bauxite. It is reported that the available limestone deposit in Manipur can sustain one cement factory for about 45 years with 300 tonnes per day capacity.

NICKEL :

It is available within the serpentinite rocks and

occurs at Nepali basti, Kwatha, Humine areas. In 1963, Alwar and Banerjee (Geologist) gave the report that the concentration of metallic nickel in the soil varied upto 0.9. And in the Moreh areas it contains 4,000 parts per million of nickel and the surface weathered surpentine rock contains 0.24 to 0.9 percent nickel in a combine state. It requires further investigation for detail information.

COPPER :

Three grades of copper are reported - Nickeliferous Copper and Sulphids, Chalcopyrite and Chalcocite with Cuprite and Malachite with varied proportion. It occurs at Namgau, Kongal Thana, Ningtha, Kwatha, Humine, Sadangchine hill and Kanglotongbi. The quantity of deposted copper is not given, detail investigation are needed.

LIGNITE :

The occurances of lignite has been reported at Kongvai village, Turloo valley and South district. It is found as their wide spaced lenses associated with clay of various colours. In general the analysis bore holes data phones that the thickness of lenses ranges from0.10 to 0.5 m. down to a depth 925 m. and beyond this economically unuse. The reserve of lignite may be 12,262 tonnes with an associated clay of 2.52 million tonnes.

ASBESTOS :

Although it occurs, economically it does not have significence. Their veius and veinlets of Antigorite and Chrysolite asbestos are reported to be found in the massive serpentinite bearing rocks near Moreh, Nepali Basti and Kwatha. It is also needed further examination.

CHROMITE :

The Chromite has black metallic lustre given brown streak, does not contain any gangue mineral. It is found in the serpentinites of Sirohipeak, near Nepali Basti and Tengnoupal moreh road. The exact amount of deposition of chromite is not yet reported.

SALT :

Salt is the oldest minerals resources in Manipur. It has been using since the early medieval centrury. Salt springs appear to be located along a probable fault zone. There are a number of salt springs at Waikhong, Kikhong, Chandrakhong and Keithelmanbi along the foot hills in the north eastern part of the Imphal valley. Most of the springs are tapped by the local pepole by driving one metre diametre lined wells for manufacture of salt. Their manufacture is in the form of small scale industry.

E. POWER GENERATION :

The state is now pitifully poor in the power development. Before 1950-51, the capital of the state was served by a small hydroelectic plan at Leimakhong near Imphal with two power systems, that is, comprised by one hydel set and one deisel set. The generated capicity was increasing, in 1955-56 it rose 5.13 lakhs Kwh. generated electricity with the consumption of 4.19 lakh Kwh.

And in 1970-71 both the generation and consumption rose to 89.88 and 64.29 lakhs Kwh. then it reached 128.83 lakhs kwh. and 89.23 in 1972-73 (Fig. no.33). The existing operating line stations and working in progress of the development of power in Manipur is presented in Fig. no.33. The total coverage of electric line is 1,671 Km., 11 kv. lines 639 m. and L.T. lines 832 Km. At present there are 11 power generating stations, of which 7 stations are supplying at Imphal and its surrounding area and 4 stations are in the rural effected only at the block headquarters or important centres. The name of the stations are given below.

	Station	Installed capacity	
1.	Imphal diesal power station	2,802	KW.
2.	Leimakhong diesal "	2,070	KW.
3.	Leimakhong hydro "	600	KW.
4.	Thoubal power house	171	KW.
5.	Bulk power from Loktak Hydro - electric project.	300	KW.
6.	Kakching power house	155	KW.
7.	Moirang power house	124	KW.
8.	Ukhrul power house	120	KW.
9.	Tamenglong power house	50	KW.
10.	Jiribam power house	98	KW.
11.	North power house	50	KW.

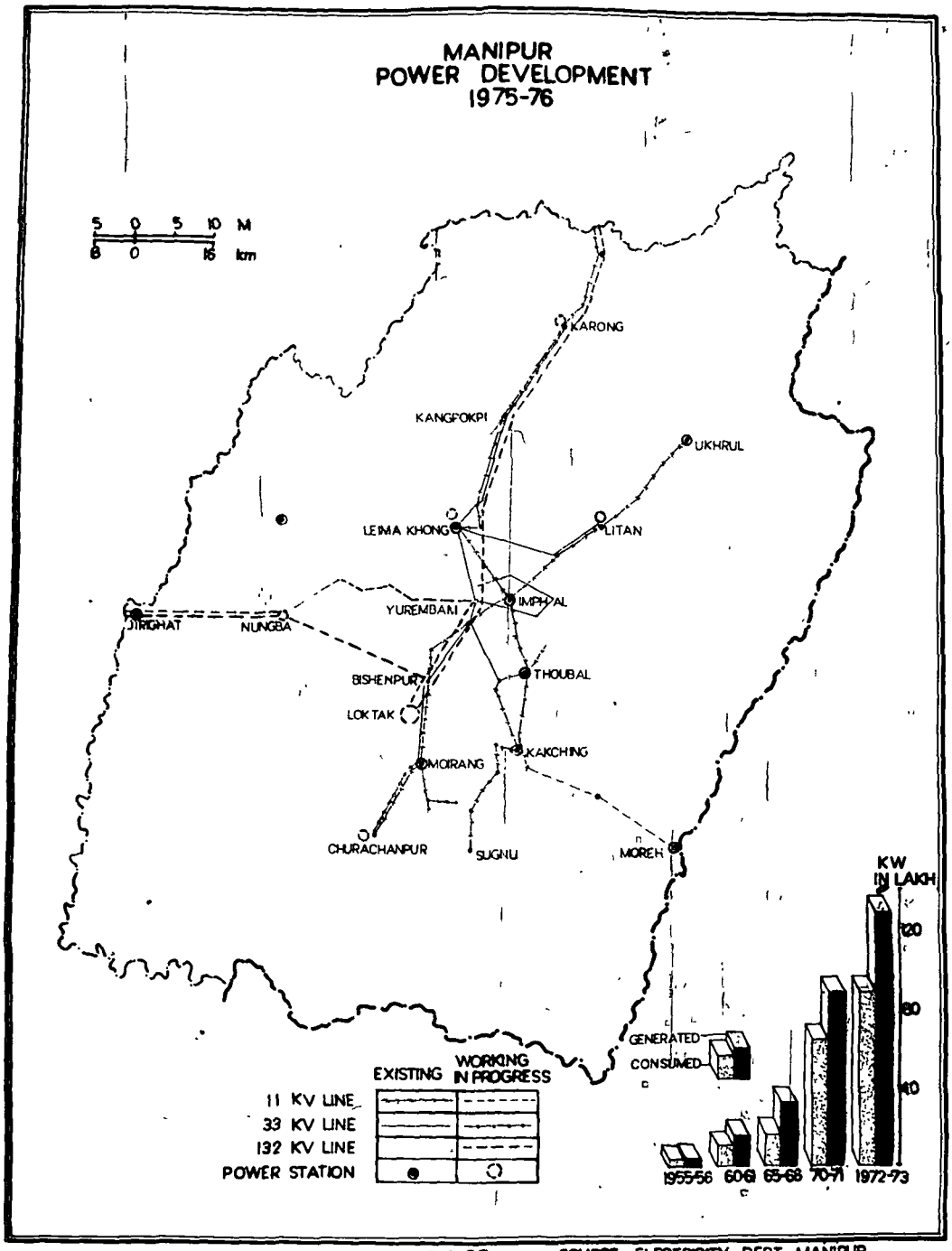

FIG. 33 SOURCE : ELECTRICITY DEPT. MANIPUR.

The state per capita consumption is 11.0 kwh. and the requirements of energy is 150 Mkwh, peak load 5.0 MW and installed capacity is 7.8 MW. There is an acute shortage of power in the state ; for all the consumption of the valley the total requirement of load will be at least 6,000 KW. The Rural electrification of Manipur is far lagging behind because out of 1,949 villages only 217 (11.11 p.c.) villages are electrified and in this 35.3 p.c. of rural population are benefited. Despite the absence of other sources of power, the state will make available cheap abundant power industries, factories, mills, and domestic purposes from the Loktak Hydroelectic project it is going to be completed very soon (probably in 1982). It will generate upto 105 MW. and it comes to this ; then it would insure the development of industry and others in the state and surplus power can be sold to the adjoining states. Besides two more micro sets at New sandal in Ukhrul area and Diphu lock in Tamenglong area are under instalation now. The state is having edequate power potential as the rivers are running along the mountain courses with high gradient. And many more projects could be set up.

F. TRANSPORT NETWORK :

Like the blood arteries and nervous system of human body the network plays a very valuable role. In true sense, it forms the basic infrastructure on which the development of agriculture, industry and social services of the region take place.

Due to the characteristics of topography Manipur is very poor in her transportation and communication. Since a very pretty long time the region has been in the transpott shadow zone of the country being cut off in all three sides East, North and South. In Manipur the movement of people and goods intirely depend on the roads network. Her transport media is determined by the great diversity of terrain ranging from palins,nerrow valleys, undulted mountaines, steep scraps and ridges etc. The nature of traffic varies from place to place accordingly the areal differences in population distribution, settlement pattern and economic activities. So the interplay of several transport system by roads and air way have influenced to the regional development growth.

With the inception of metalled roads and good bridges during the second world war of British regim and after the integration of the Indian union Manipur has improved a lot of her transport and communication systems. As per given record of P.W.D. Manipur has 1,099.4 Km. on surfaced and 1,765.2 Km. on unsurfaced. The route length has increased by about 1,160.00 Km. from 1961 to 1971, of which surfaced roads increased 511.31 Km. and unsurfaced 647.91 Km. It is estimated that the length of the roads per 100 Sq. Km. of area is 13 Km. against all India figure of 36 Km. Fig. No.34 has shown the road network of Manipur.

The existing road network can be classified into national highway, state highway, district road and village road. The given table clearly reveals the road development during the last decade.

Development of Roods of different types. in Manipur state (1961-71), in Km.

Year	Surfaced	Unsurfaced	Total	p.c. increased
1961	588.09	1,117.29	1,705.38	
1966	1,001.06	1,398.98	2,400,04	40.73 +
1971	1,099.4	1,765.2	2,864.6	19.35 +

From this table it realises that there was a great development of roads by increasing 40.73 percent in Manipur during 1961-1966 because the state started her twenty year road development plant since 1961 covering upto 1981. The main artery notional highway no 39 covers 208.8 Km. connects Imphal with Dimapur in the north and goes to Burma towards the south east through Moreh.[14] The state highway covers nearly 773.6 Km. and operates the second Manipur life line, New Cachar Road (224 Km.) connecting Imphal with, through jirighat, the Surma valley (Cachar district).[15] It meets all the district headquarters by

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14. Imphal - Mao road was completed in 1881. It was latter extended to Dimapur in 1893 to connect with Brahmaputra valley through Naga hills.

15. New Cachar road - It is the old communication road, it was improved in 1837-44 and further improved very recently and renamed New Cachar Road.

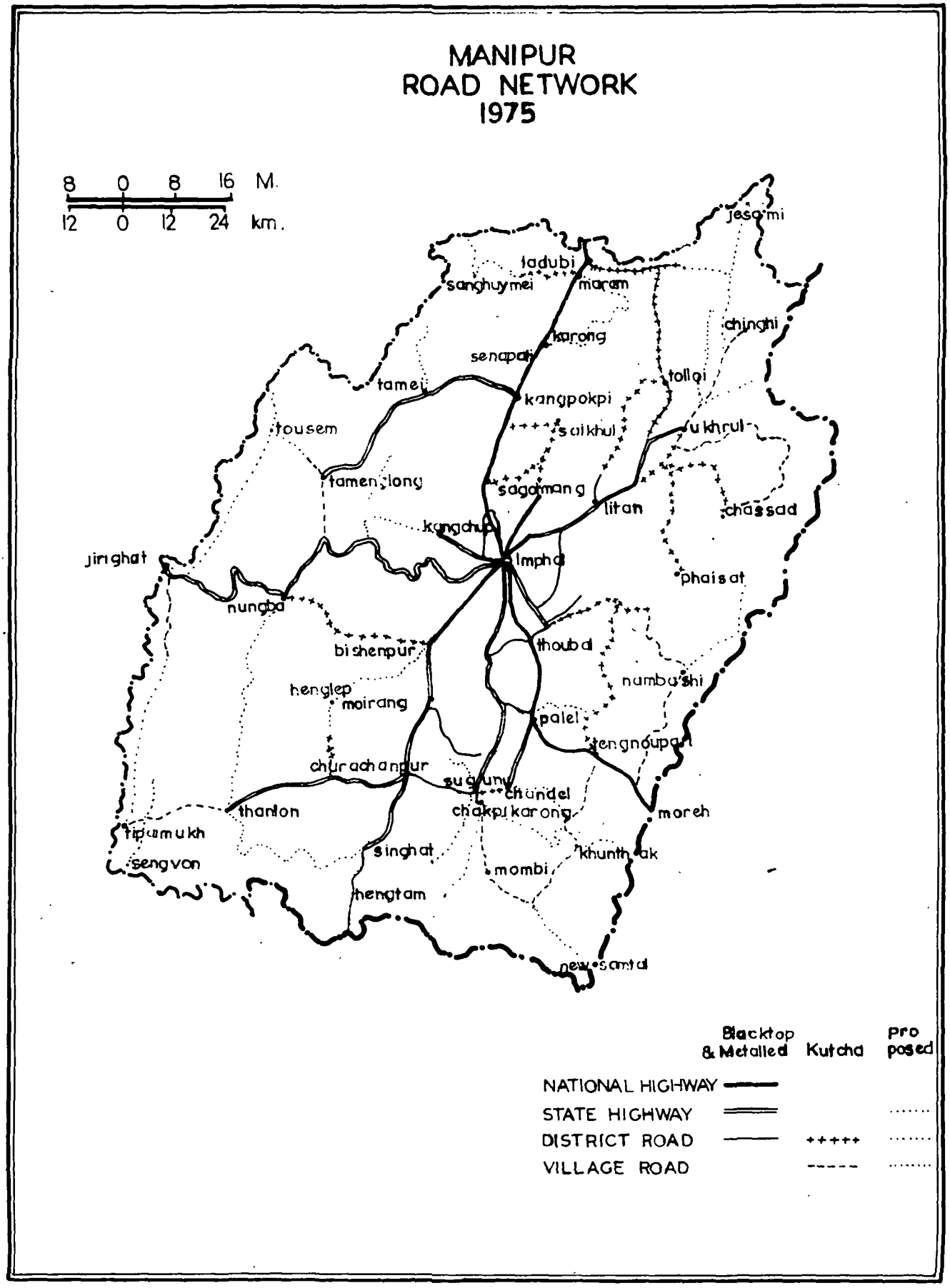

FIG. 34 SOURCE P.W.D. IMPHAL

rediating from the state capital Imphal to Churachandpur, Singhat, Jiribam, Kangchup, Sugnu, Sagolmang, Tamenglong via Kangpokpi, Ukhrul Yairipok, Pallel, Chandal and D.I. road Chingmeirong crossing to Singjamei (P.W.D. 1975). The district road is formed by 57 roads comprising both black-top and metalled and Katcha. It serves like the tributery to the national and state highways in moving of people and goods, Of the 41 villages roads, none of them is metalled but all are Katcha and many of them are under construction and proposed.

From the point of view of their traffic and significence in economic purpose the national and state highways do more function to the growth of regional development than the rest two in the region.

ROAD ACCESSIBILITY AND INACCESSIBILITY :

A map of accessibility and inaccessibility of road has been prepared based on the forest atlas of Manipur 1975. In this map there are four categories - easily accessible, slightly accessible, inaccessible and highly inaccessible. Following to the relief features and road arteries the accessible areas are found dissection, Mao from the north, Singhat to the south and Jiribam from the west Mareh to the east. The remaining four corner sides are classified as inaccessible (to highly inaccessible areas) due to their high undulated mountains and thick jungle.

Table XXI

The Accessibility of individual nodes.
figure in Km.

A. Straight line matrix

	1.	2.	3.	4.	5.	6.	7.	8.	Accessibility Index. Total	Rank
1. Churachandpur	0	60	45	72	29	19	47	32	304	8
2. Imphal	60	0	13	14	26	39	20	35	207	6
3. Nambol	45	13	0	29	11	21	19	21	159	1
4. Lambai	72	14	29	0	40	52	27	43	277	7
5. Bishenpur	29	26	11	40	0	17	24	26	173	2
6. Mairang	19	39	21	52	17	0	29	18	199	5
7. Thoubal	47	20	19	27	29	29	0	16	182	3
8. Kakching	32	35	21	40	18	18	16	0	191	4

B. KM. Matrix.

1. Churachandpur	0	61	48	80	35	19	88	106	437	7
2. Imphal	61	0	13	19	26	45	27	45	236	1
3. Nambol	48	13	0	32	13	32	40	58	236	2
4. Lambai	80	19	32	0	45	64	46	64	350	5
5. Bishenpur	35	26	13	45	0	19	53	71	262	4
6. Mairang	19	45	32	64	19	0	72	90	341	3
7. Thoubal	88	27	40	46	53	72	0	72	398	6
8. Kakching	106	45	58	64	71	90	72	0	506	8

C. Gross Accessibility index.

	X	Y	X + Y	Rank
1.	304	437	737	8
2.	207	236	443	2
3.	159	236	395	1
4.	277	350	627	6
5.	173	262	435	3
6.	199	341	540	4
7.	182	398	580	5
8.	191	506	697	7

Nearly 50 percent of the areas of Manipur is found to be accessible covering the space 0 to 16 Km. from the road, The easily accessible areas are represented the intire central plain touching the point moreh to the east, Tadoubi and Mao to the north and Singhat to the south within 0 to 8 Km. from the road. And the contour of slightly accessible goes forming a belt in between accessible and inaccessible areas. As a matter of fact the new Cachar road starting from the Limatol ranges towards the west is falling under slightly accessible due to the dissected terrain with the dense forest and heavy rainfall.

There are four parts at the four corners of Manipur map which are classified as inaccessible. They are very isolated by more than 16 Km. But north west and south east corner are appeared to be inaccessible within 16 to 32 Km. and the rest two are highly in accessible by more than 32 Km. The important factors of this is due to criss-cross of streams with the dissected terrain and dense covered jungle etc.

THE ACCESSIBILITY OF TOWNS :

Considering as nodes the eight classified towns of Manipur according to the census 1971, an attempt is made to identify the accessibility of individual towns.

The first straight line matrix shows that Nambol gets the lowest accessibility index amongst the towns and the

TABLE XXII

Detour index for road network connecting eight towns in Manipur
(Fig. in km.)

	1	2	3	4	5	6	7	8	Nodel mean.
(1) Charachandpur	0	101.6	102.1	111.1	120.6	82.6	187.2	331.2	148.05
(2) Imphal	101.6	0	100	135.71	100	115.4	135	128.5	116.60
(3) Nambol	106.6	100	0	110.3	118.2	152.4	210.5	276.2	153.5
(4) Lamlai	111.1	135.7	110.3	0	112.5	123.07	170.37	148.83	130.26
(5) Bishenpur	120.7	100	118.2	112.5	0	111.8	221	273	151.02
(6) Moirang	100	115.38	152.3	123.07	111.7	0	248.27	394.4	177.8
(7) Thoubal	187.2	135	210.5	170.3	220.83	248.2	0	450	231.7
(8) Kakching	331.2	128.57	276.19	148.8	273.07	500	450	0	301.1
Regional mean of 8 models mean									176.25

second Km. matrix shows both Imphal and Nambol towns are scoring equal accessibility index with the changing rank order (Table XXII).

Again gross accessibility index is prepared by the above two accessibility index. Assuming the hypothesis if one factory is suppose to be built to serve these eight towns where it will be. Here the most accessible node of the network is found at Nambol because it gets the lowest accessibility index and the highest rank order among the towns. So Nambol can be selected site in relation to other towns, which are all given equal implication that same number of people will want to travel to and from each.

DETOUR INDEX :

The overall characteristics of route system can also be analysed by finding the detour index on the important urban centres of central plain.[16] The table XXI precisely reveals that Kakching has the greatest sinuosity of the route and Imphal is the lowest senuosity. Imphal being the centre or core area of the state Manipur, has done multifunctional activities. Its connectivity index is also found out to be as 0.76 which is the two third of the maximum.[17] The central plain or central

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16. $D.I. = \frac{\text{Shortest route distance between A and B.}}{\text{Shortest distance between A and B.}}$

17. $C \frac{e}{\frac{1}{2} n (n-1)}$ Where e is the no. of links as edges in the network and the denominator is the maximum no. of links possible.

valley is the most accessible area in the state where one can examine the boundary network of this homogenous plain area it is found 1 Km. as the compaction index.[18]

AIR TRANSPORT :

It is the another means to have transport and communication link this land locked Manipur with the western regions. There is a regular flight services with Calcutta, Gauhati and thrice a week with Silchar. Every year 15,000 to 24,000 pessengers are flying and fetch the operational revenue of Rs.10 lakhs to 30 lakhs from mails, fright and pessengers. When the surface routes are blockade or not in service during the rainy days airways gives the real advantageous, although it is dependent on weather condition, to have commuication with the outside regions. In any development programme of political, social and economic status air transport takes the virtual responsibility in Manipur.

G. INDUSTRIES :

Industrialization is the key of the economic upliftment of a region. Basically and industrial development is dependant upon the raw materials, power technology, transport, marketting, capital, management and human resources. In respect of industry the state is very poor and disadvantageously placed due to the limited infrastructure and absence of other

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18. $L/B = \frac{\text{Length of long axis of cell}}{\text{Length of short axis of cell.}}$

facilities such as power, transport, capital and technical know how. However, she is proved of her existing cottage industries and experienced through the self interest and individual interpris.

In the industrial structure of Manipur there are registered factories and unrigistered units.[19] Both in the rural and urban areas, unrigistered small scale industries are widely distributed. The large and medium scale industries are almost nil. But with the initiation of the government certain industries of this kind have been launced to establish. Alongwith, many incentives are also being offered to the practice of new small scale type and household understries.[20] The present study of industrial landscape of Manipur can be described from the point of view of large and medium industries and village and small industries.

LARGE AND MEDIUM INDUSTRIES :

Some are on the way of setting up and some are in the scheme. Keeping in view of the availability of agriculture, forest and mineral resources, these industries are undertaken by the government in the absence of interprenurs from within

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19. Factories are registered under section 2 m (i), 2 m (ii) of factory Act. 1948.

20. (1) Regulation of small scale industries, (2) License for setting power looms, (3) industrial estates, (4) supply of materials (5) import facilities, (6) cradit facilities, (7) marketing assistance, (8) training programme and (9) subsidary on power consumption.

and outside the state. They are included cement factory, pulp and paper mill, spining mill, sugar and distallery plant, starch factory, cornflake factory and ply wood making plant. The Khansari sugar factory of wangbal at Thoubal subdivisions was established with a crushing capacity of 60 tonnes per day. It has 2,000 acres of sugar cane cultivation land but it stops production due to the shortage of power and raw material. One spinning mill at Loitang Khuno- is under the progress of setting up with a capacity of 25,000 spindles. It may meet the maximum demand of yarn of the state handloom industry and able to give employment to a good number of people. It has been decided to set up a cement factory at Litan on the basis of limestone deposits available in Ukhrul and Hundung of the Manipur East district. This factory may able to produce cement 300 tonnes a day. Pulp and paper mills of 100 to 120 tonnes per day capacity are proposed to be set up at Karong (North dist.) and Chadighat (Jiribam). The former one is pine based and the latter is bamboo based. And one starch factory of maize is also proposed with a view of vast development of Handloom industry for which starch is necessary.

Though the government has done so much so of venture, many problems are beset since the state has not enough facilities and infrastructures in the unstable lagislative assembly of Manipur. If it is tackle very carefully with the

coherant and simultaneous programmes of development the problems could be diverted.

VILLAGE AND SMALL INDUSTRIES :

It consists of Handloom, Handicrafts, Sericulture and Small scale industries. In 1975-76 there are 370,863 workers in the state of which male takes part 245,435 and female 125,428 workers.

HANDLOOM INDUSTRIES :

The culture of handloom is an indespensible establishment in every houses of Manipur, it is the traditional and oldest industry of Manipur. The handloom industry has been playing a vital role to the rural economic structure and development of the region by contributing the highest position amongst the village and small industries. More than three lakhs of persons engage on this and there is hardly any house which does not have handloom establishment. It has four - kinds powerloom, fly suttle loom, throw suttle loom and Loin loom. According to loan census from 1,556 to 1,959 there were 200;249 handlooms (loin looms 113,433), throw suttle looms 50,282 and fly suttle looms 36,534).[21] Now it might have came up upto 2.5 lakhs handlooms in the state.

During the old age, before the mill made cotton arrived, cotton (mostly short staple) was available from the local pro-

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21. Directory of Industry, Govt. of Manipur.

product and the process of dyes and prints were done with indigenous method.[22] Specially female groups are taking lion share in weaving and experimenting all short of things. They weave all the requirements of the family as their responsibility.

Now a days handloom industry has flourished to a great extent with the assistance of Government. She introduces wraping drums, sheet reeds, seats of wire healds, semi automatic loom, improved fly suttle looms, imported the yarn to supply and goes for artistic design and extention. The important products are Bed shed, Ningthouphee, Lamthang Khulhal, Moirangphee, Khamenchappa (like sawl), Phegaphanak, Phanekmapannaiba (gown) Dhoti and Napkin etc. The products of handloom is a great demand in the market of India and abroad, it is exported through the sale depots of Calcutta, Delhi, Bombay, Gauhati, Dimapur emporium.

Handicrafts :

It is another qualification of Manipur in having superb artistic quality and intricate designs. It includes embroidary, metal ware, can and bamboo works, doll making and rolled gold and ornamental works etc. As a household enterprise and source of livelihood embroidary and knitting goes along with weaving. The meitei women are very skill and expert in this

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22. Dyes was done with earthanine, rhodanive from Kusumbi, Yellow and reddish from turmeric, black from young leaves of teak, brown from the bark of a tree called sahikuhi.

task. And it is very common in the manipuri society that every festivals or functions performed are accompanied with intricate design and comely embellishments drasess. The other services of this sector are performed by the manfolk. Cane and bamboo and doll making are forest and agrobased produce the articles which are large demand in the markets.

Sericulture :

Sericulture is also an old industry enterprise in the village. Now it has came into the limelight with the discovery of the utility of oak for Tasar in 1970-71. There are four types of silk available in Manipur - Mulbery, Eri, Muga and Tasar. Manipur is fortunate of possessing favourable climate for growing of different varieties of food plants for the silk worm namely Castor, Mulbery, Tumitla and Oak (Uyung), Mulbery, Muga and Eri are old culture but Tasar industryiis rising up with a good potential of future economic life. Nearabout 2 lakhs acres is grown oak on the foot hills of Manipur. Many steps have also been taken by the state opening 26 subcentres at various parts of the region.[23] And for Mulbery, Muga and Eri also 11 subcentres are opened under the Sericulture department to rejuvenate the culture.

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23. The Oak shrubs are the food for Tasar silk worm which after eating leaves on the shrubs in the open for about a month forms cocoon which is the raw materials for production of Tasar silk. The entire stock will be utilised in the centralised Tasar ruling and spinning factory to be established in Imphal and small nucleus in Takyelpat Industrial Estate is already constructed.

Small Scale Industries :

Next to handloom, small scale industries lies the significant of economic and source of employment. But it lacks the modernization. The small scale industries covers a wide range of activities including forest based, agro-based, manufacturing and other services.[24] It has also both the registered and unregistered, most of the small scale industries of the Imphal are registered and those are in the rural almost belong to unregistered operated by the head or member of the household. Some of them use power, machine and diesel oil but most of the small scale industries are run by mannual labour. The services may be mill, printing, small machinery works, photo processing, tailoring, carpentry and artisans etc. The following table gives an account of, of course it can't be represented for the whole region, registered factories from 1961-71.

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24. It has been defined as one with a capital (infixed assets) investments of more than Rs.7.50 Lakhs irrespective number of persons employed.

TABLE XXIII

No. of registered factories.

Industry	1961 -	71 -	1973
Rice mill	50	104	136
Oil mill	6	34	35
Saw mill	4	11	13
Surki (prick powder).	1	-	3
Gur factory	-	-	1
Small machinery	1	-	1
Gun factory	1	1	1
Manuf.Lumepipe (Steel & concrete)	1	4	1
Repair and maintenance of motor vehicle	1	5	6
Dal mill	-	7	12
Flour mill	-	30	30
Hand made paper	-	1	1
Printing	-	2	4
Others	-	2	7
Total :	25	203	251

Source - Manipur, Directory of registered small scale industries, Imphal, 1975.

It reveals that agrobased units number is more than other units and also found that an average one rice mill has three employee with the capital investment of Rs.15,000. Unlike this, flour mill has 2 persons and Rs.7,500 oil mill 3 persons and

Rs.15,000 and pulses mill 2 persons and Rs.5,000. The saw mills and factories have 10 to 20 persons employed though their unit is very few.

From the above analysis it is known that there is a dissimilar character in the economic structure of the region. This is largely because of its varied physical and social environmental features. For instances, between the plain and hills, there is a difference in terms of workers, cultivators, transporation and industries. Agriculture is the basis of the economy of the region is primitive and subsistance. At present Maniour has a little amount of cultivated land (wet), largely in the central plain and a few patches in the small valleys of the hilly tracts. Rice is the predominant crop here, it possess a very good quantity and quality and intensive cultivation is in the progress. Jhuming in Manipur do not give much importance to the states economy. Rearing of cattle, piggery, poultry and experienced of fruit gardening and orchards have significant economic impact in the region. In respect of forest, as nearly 90 percent of the land is covered, she is rich but in mineral resource, she has poor potency. Transport facilities is very poor due to the hazard of natural landscape and only the central plain is throughly accessible. Utilization of power resources is still remain untapped, it calls for the immediate development of the existing industries in

Manipur. Of the industries handloom, handicrafts, sericulture and Small scale industries are important. Handloom and handicrafts occupy the highest position in the economic structure for its contribution of the states economy. The small scale industry is also taking important role in the industrial landscape but the medium and large scale industries are not yet ready to support the state's economy.

CHAPTER V

SPATIAL DISTRIBUTION OF SETTLEMENTS

The cultural landscape of Manipur has been manifested with two distinct shapes - one is the valley or the central plain and the other one is hill. It is largely due to the physical terrain plus the gap of socio-economic and cultural characteristics that the type and pattern of settlements have emerged on varied. According to 1971 census, the population component of rural and urban is 931,261 and 141,492 respectively. There are 1,969 villages as against 8 towns. And for every village there is an average of 80 houses with the density of 7 houses of per Sq. Km. and 9 villages as per 100 Sq. Km.

A. RURAL SETTLEMENT PATTERN :

EVOLUTION OF SETTLEMENT :

The study of settlement evolution reveals the relative significant of the present existing settlement pattern of Manipur. The regional differentiation of settlements and its distribution have been resulted, within the long span of time, by various factors such as physical, cultural and political etc. The dominance of agriculture activities has further shaped and deeply affected the

rural habitates of the state. The change and pattern is quite dependant on the agricultural spatial pattern and temporal changes.

In this region, the prehistoric stage of human habitation is impossible to trace. The people were mainly huntres, food gathers and lived in caves and bushes. The original inhabitants are believed to be migrated from the neighbouring countries like Burma and China. Their residential colony started with the practice of cultivation. The aboriginal tribes are Meitei, Naga and Kuki who belong to mongoloid stock.

During the early century there is a interminled between the Aryan and Non Aryan in the landscape of settlement specially in the valley of Manipur where the Meitei have colonised it. In due course of time, they have been interacted with many waves of Aryan encroachment from the west and Shan, Pong, Chinese and hill tribes from the east through many war interferences. By and by, their habitation is modified, along - with many technical skills, art, culturs for better economic position have been aquired. The settlements specially in the valley are formed by the assemblage of huts admists the groves of bamboo, bushes and vegetables.

The arrival of British during 18th century has affected greatly to the cultural setting and settlement infrastructures of Manipur. This region experienced numerous changes in the settlement by constructing roads, dividing the area into administrative divisions, opening police stations and government offices in the administrative headquarters.

Following the British administration the region has witnessed significant changes in the settlement, because of rapid development in the growth of educational institutions, medical services, roads, trading centres, industrial units (small scale) and the generation of electricity. It is very interesting to note that the settlement in the valley has grown up to a great extent that nearly 67 percent of the total population is now confined there, it is due to the fact of the natural growth plus the migration from the hills as well as outside the Manipur. And the majority of villages are large in population which are located with well communication links, better facilities of economic activities and social amenities. The settlement of the hill, although scattered and isolated, have also grown up with the aids of block offices by giving them all the possible helps there.

DISPERSAL OF SETTLEMENTS :

There are 1,949 inhabited villages and 44

uninhabited villages in 1971 census. Their distributional pattern on such a hilly region is an important aspect in the rural characteristics of Manipur. Settlements are generally depending on the various factors such as security purpose, caste heirarchy, tribal composition, importance of religion, need for cultivable land and shelter to limstock impact, means of transport and communication and physical features.

Here the simple dot map is showing the dispersal of settlements (Fig. No.35 here one dot represents one village).[1] At the first glance one can see dense settlements pattern is found at two places - one is in the central part of Manipur and the another is in the western fringe, Jiribam plain. These settlements are occured due to the varied physical characteristics. The settlements are dispersed more and more as it goes further and further outwards from the central valley. But in the south of the valley the settlements are sparsely located due to the Loktak lake and Jheels of Ikokpat, Waithu and Isok etc. But in the northern part of the valley, the settlements are closely and densely located as it is free from the water logged, flood havoc and above all many facilities are contributing on such a congenial area. It can also be

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1. The dot map is prepared by compiling physiography and drainage maps with the village location map.

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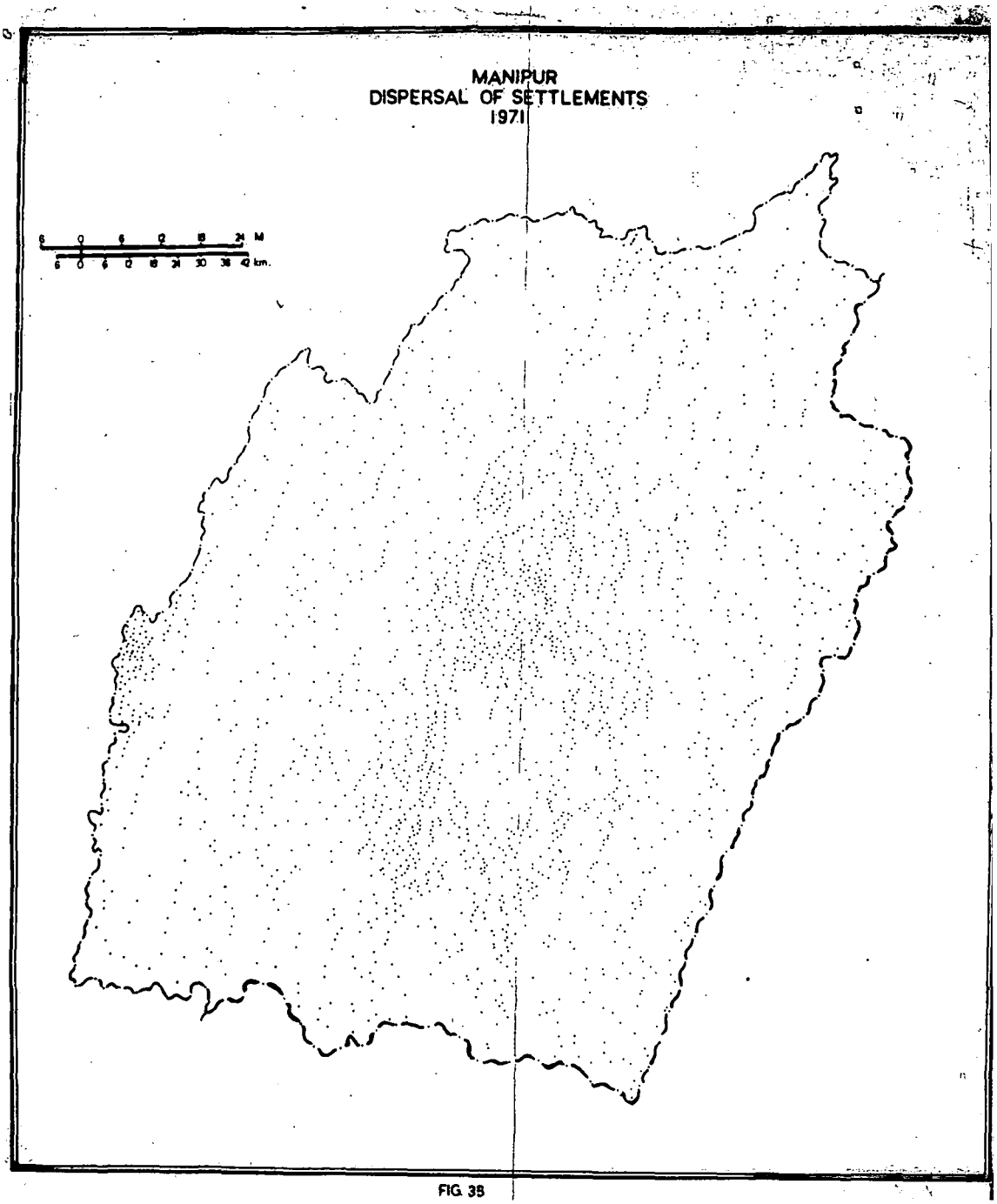

FIG. 35

noted in an around the valley there is a tendency of agregating settlement. One can say that the settlements are more in number around Imphal city as if there is a centripetal force on account of its various services and activities. Mention may be made that in Churachandpur and Sadar Hills subdivisions the village, of course the village by population size may be of small, is also appeared to be concentrated. This is because of the nearest of plain area and facilities available of road network. In the same case Jiribam subdivision, a small patches of plain, is also appearing ; here many migrant people from Cachar districts and others have settled.

The tribals of the hill are mostly urban oriented. The means of coming to the plain is to settle first along the road side and it gives liniar pattern of settlement. The social and ethnic distribution have also contributed to the locational pattern of settlement in the hills e.g. the facets of Christian and non - christian, Nagas and Kukis have given with the well identified settlement. Most of the settlement are formed in liniar pattern either following the mountain ranges or river and along the road side. In all the cases settlements are sprung up along the road side where the feasible communication links are found. Besides this there are villages in the western and eastern parts of Manipur it requires many more miles to reach there. The controling factors of these villages

are mainly due to the land possession of their forfathers, availability of cultivated land, water, security purpose etc. But their condition is very disperse and isolated pattern. It is also noticed that there is a tendency of increasing settlement in the southern half of Manipur cased by the influx of population from Mizoram and Chachar district.

GROWTH OF RORAL SETTLEMENT :[2]

During the last seventy years the variation of rural population in Manipur has been increasing with a little fluctuation. This growth of rural population can be seen from the Chapter III and table IV. The state growth rate is found as 2.14 (compound growth rate) in average. It can be divided into two parts 1901 - 1941 or before independence and 1951 onwards or after independence. Before the independence the rural popuation did not increase much as there was a more concentration of people in the urban centre and epedimic diseases killed many souls in the rural area. But after that the growth rate has raised upto 3.38 percent in 1951 and continued with a little difference till 1971 (2.75 p.c.). Because, the region has undergone peaceful democratic administration without having any distrubences,

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2. Study of rural settlement is based on census data. It was difficult to get survey Maps because of restricted nature, therefore, the locational pattern cannot be descussed with figure.

TABLE XXIV

Some Characteristics of Rural Settlements

1971

	Density of Villages per 100 sq.k.m.	Density of residential houses per Sq.Km.	Houses as per settlement
Mao West Subdiv.	6	5	72
Mao East Subdiv.	5	6	122
Sadar Hills Subdiv.	26	6	24
Tamenglong North Subdiv.	4	1	31
Tamenglong West Subdiv.	4	1	36
Tamenglong Subdiv.	5	2	43
Nungba Subdiv.	4	2	36
Tipaimukh Subdiv.	3	3	97
Thanlon Subdiv.	2	2	63
Churachandpur N.Subdiv.	10	3	28
Churachandpur Subdiv.	26	9	34
Thinghat Subdiv.	6	2	27
Imphal East Subdiv.	36	56	157
I.W.Subdiv.	31	58	186
Bishenpur Subdiv.	11	29	258
Thoubal Subdiv.	27	73	265
Tengnoupal Subdiv.	10	3	31
Chandel Subdiv.	6	9	32
Chakpikarong Subdiv.	5	2	28
Jiribam Subdiv.	26	11	41
Ukhrul N.Subdiv.	4	2	64
Ukhrul Subdiv.	5	5	85
Phungyar Subdiv.	6	2	36
Kamjong Subdiv.	5	1	24
Ukhrulsouth Subdiv.	5	1	30
Manipur.	9	7	80

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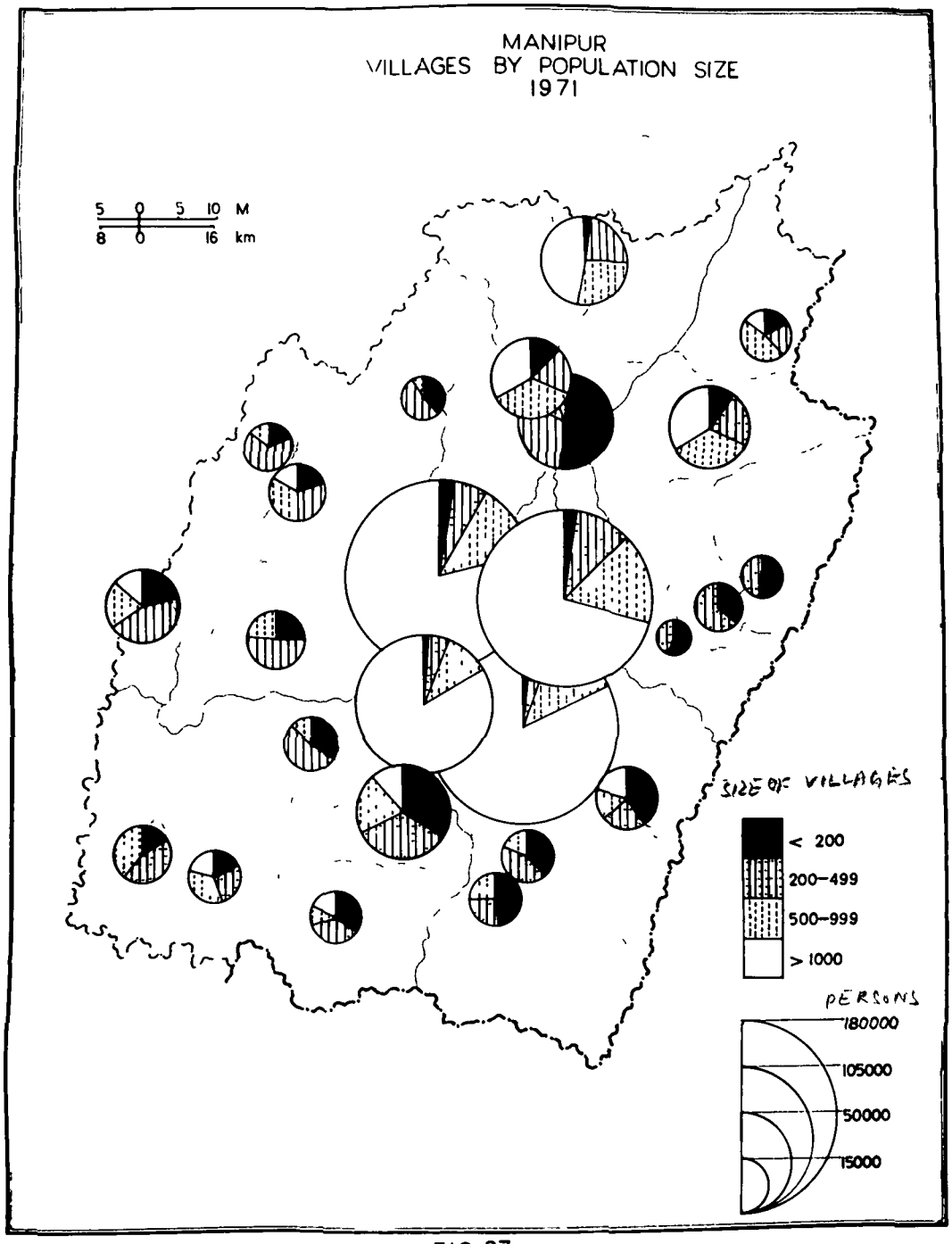
MANIPUR
VILLAGES BY POPULATION SIZE
1971
5 0 5 10 M
8 0 16 km
SIZE OF VILLAGES
< 200
200–499
500–999
> 1000
PERSONS
180000
105000
50000
15000

FIG 37

agitation and conflicts in both internal and external relationships. With the eradication of many diseases and free from the bondage people have stepped forward towards the real rural economic efforts.

There are 83 settlements variation from 1961 to 1971 (before this data is not available). Here one can belief it due to the significant increase of road network and other economic pursuits.

DENSITY OF RURAL SETTLEMENTS :

In the rigion of highly undulated topography like Manipur, the complexity of structure, terrain and drainage and climatic condition have exerted a great influence in the distribution and setting of settlements pattern besides of economic, ethnic and cultural factors. The regional distribution of rural settlements of Manipur is showing in Fig No.36. Here the analysis of the pattern is in the context of subdivisional level and the number of villages per 100 Sq. Km. It is clear that in the contiguous cultivated land and around the Imphal city where there is easy communication links and better economy, the density of villages is very high (above 30). They are Imphal East and West Subdivisions. And the next categories come to Jiribam, Thoubal, Churachandpur and Sadar Hill Subdivisions. Here also, the factors are contributing in the same manner because all are

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located in the plain or around it. Between the 8 to 12 density of villages ; three subdivisions - Bishenpur, Tengnoupal and North Churachandpur are falling. Bishenpur, though it is located in the plain, has been occupied by a large tract of land, Loktak lake and cultivated field. The rest two which are in the hill are comparatively higher than the subdivisions of the hill mainly because of its net work facilities.

But the remaining units, the density is below 8 as due to the ristricted terrain and scarcity of cultivated land. Again in comparision of the West and East, the Western side of Manipur has less density it is due to the heavy rainfall and its unpleasant climate. But the eastern side (comprising ten subdivisions) is falling between the range of 4 to 8 density per 100 Sq. Km.

VILLAGES BY POPULATION SIZ :

The rural settlement pattern can also be viewed by studying population size. For the comparative study four categories of settlement sizes have been formed according to the population size as the six classification of villages of census does not give relevant picture in such a hilly nature. They are 1) Very small village -- Where the population is less than 200 persons.

2) Small village -- Where the population is between 200 to 499 persons.

TABLE XXV

Rural Villages by population and their frequency, figures in P.C. 1971

	200	No. Settle-ment.	200-499	No. Settle-ment.	500-999	No. Settle-ment.	1,000	No. Settle-ment.
Mao West Subdiv.	11.39	37	21.36	20	32.97	14	34.26	5
Mao East Subdiv.	3.10	12	15.88	16	32.52	17	48.48	12
Sadar Hills Subdiv.	53.08	223	29.27	41	8.50	5	9.13	2
Temeng-long N. Subdiv.	41.89	26	51.21	14	6.89	1.	-	-
Temeng-long West Subdiv	19.26	18	66.88	19	14.85	2	-	-
Temeng-long Sub div.	16.37	23	33.15	14	32.81	7	17.59	2
Nungba Subdiv.	25.54	31	49.91	22	24.54	5	-	-
Tipaimu-kh Subdiv.	0.47	1	17.02	8	41.24	9	41.24	4
Thanlon Subdiv.	11.97	10	30.23	11	39.22	7	18.56	2
Churach-andpur N. Subdiv.	39.03	49	50.80	21	10.16	2	-	-
Churach-andpur Subdiv.	31.47	117	36.93	44	20.07	12	11.47	3
Thinghat Subdiv.	39.87	43	36.99	16	9.28	2	13.84	1
Imphal East Subdiv.	1.33	17	9.94	41	17.31	34	71.40	58
Imphal West Subdiv.	1.24	18	4.96	24	16.09	38	77.69	66

	200	No. Settle-ment.	200-499	No. Settle-ment.	500-999	No. Settle-ment.	1,000	No. Settle-ment.
Bish-enpur Sub div.	0.25	12	4.25	11	9.35	12	86.13	33
Thou-bal Sub div.	0.27	4	2.93	14	12.22	29	84.56	62
Teng-noupal Sub div.	40.85	74	23.68	15	14.68	4	20.59	1
Chan-del Sub div.	37.10	37	44.65	17	18.24	3	--	--
Chak-pika-rong Sub div.	46.87	50	28.40	10	24.71	4	--	--
Jiri-bam Sub div.	23.24	60	44.22	33	26.74	8	5.78	1
Ukhrul N. Sub div.	15.75	14	23.40	8	46.97	8	10.85	1
Ukhrul Sub div.	8.93	25	22.81	21	30.92	14	37.29	6
Phung-yar Sub div.	32.95	22	67.04	17	--	-	--	--
Kamjong Sub div.	50.37	39	49.62	13	--	-	--	--
Ukhrul S. Sub div.	50.66	22	49.33	6	--	-	--	--
Mani-pur.	10.52	974	16.14	476	17.70	237	55.62	258

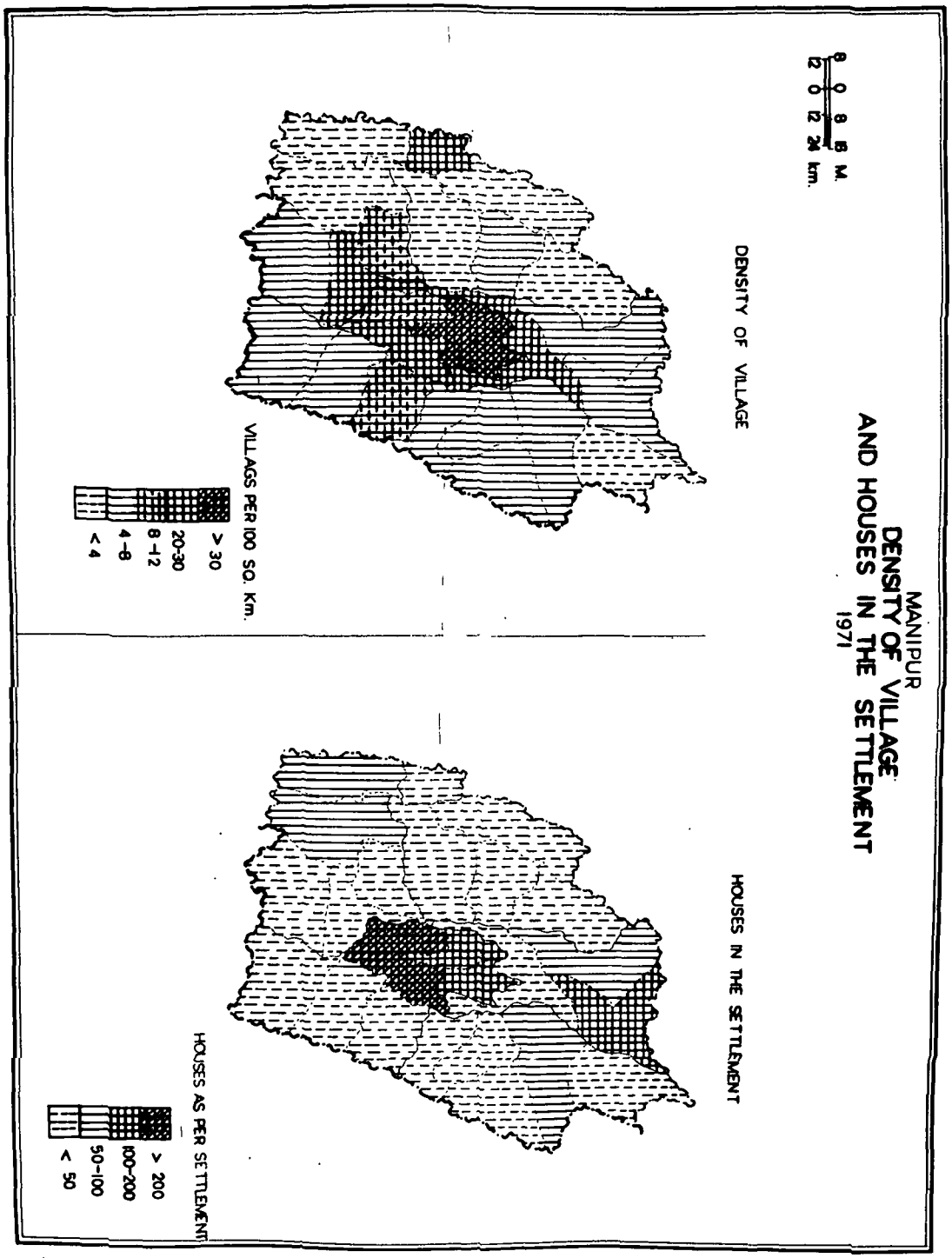
MANIPUR
DENSITY OF VILLAGE AND HOUSES IN THE SETTLEMENT
1971
0 0 8 8 M.
2 0 12 24 km.
DENSITY OF VILLAGE
VILLAGS PER 100 SQ. Km.
> 30
20-30
8-12
4-8
< 4
HOUSES IN THE SETTLEMENT
HOUSES AS PER SETTLEMENT
> 200
100-200
50-100
< 50

FIG. 36

3) Medium village - Where the population is 500 to 999 persons.

4) Large village - Where the population is above 1,000 persons.

Very Small Size Settlement (less than 200 persons) :

The state has the smallest population share (10.52 p.c.) and the largest number of settlements (974) in this category. One can see from the Fig No.37 that there is good proportion of population in the hills and also constitute large number of settlements. One can notice in the hills that the shifting cultivation and clan wise settlement pattern and spliting of villages according to the viable economic reasources on the varied ecological environment seem to be favourable for the predominace of small village. And it does not lead to form a big size settlement. The highest population proportion (above 40 p.c.) are found with considerable villages at Sadar Hills, Tamenglong North, Tengnoupal, Chakpikarong, Kamjong and Ukhrul Subdivisions. The less settlements are vizible at Mao East and Tipaimukh Subdivisions because there the settlement are spreaded over on the convinient site starting from the parent one.

In the central plain it is meagre as it is flat and socio-economically homogeneous in character. Here the tendency is always found to have bigger size settlement since all the facilities of transport, social amenities and economic activities are found at satisfactory levels. But Jiribam, although it is plain area, has 23.24 percent of population with

the settlement of 60 because of those migratory people settle independently on the vacinity.

Small Size Settlement (between 200 to 499 persons) :

It is also prevalent predominently to every sub-divisions of hills unlike the first one. In some units like phungyar, Kamjong, Ukhrul South Subdivisions it is the biggest size of settlement (see the table XXV).

This category is also contributing very small proportion to the plain subdivisions. As a whole the State has 16.14 percent of population and 476 settlements.

Medium Size Settlement (between 500 to 999 persons) :

The medium size settlement has the lowest frequency number (237) but sharing 17.70 percent to the total population. It clearly shows that in the hilly tracts only a few settlement are there. But at some important places where the administrative headquarters are located with good facilities of transport, education and offices midium size settlement are seen.

Still the plain subdivisions (excluding Jiribam) are not in a position to contribute much population, they are falling between 10 to 20 percentage.

Large Size Settlement (above 1,000 persons) :

Out of 25 subdivisions, 9 subdivisions are not possessing settlement above 1,000 persons at present (1971) in Manipur. The State has large proportion of population (55.62 p.c.) in this category. There are only 38 settlements in the hills and 220 in the plain. Amongst the units of hills, Mao East, West, Ukhrul Central and Tipaimukh are also not above to reach 500 persons. They are getting 34 to 48 percent of population sharing in this large settlement. Only because of earlier settlement of Tangkhul Naga at Ukhrul, Mao and Maram Naga along the Imphal Dimapur line. The South Western corner of Manipur has a peculiar situation, that is, unauthorised people have made flooded consequently number of settlements and population have become large unexpectedly.

The four units of the central valley have large population (between 71 to 80 p.c.) and number of settlements in this category. This is mainly because of accessible areas, availability of cultivated land and economic facilities. Moreover the Meitei community took settlement here dominently from the earlier time under one tied social status. There are largest settlements which are above 5,000 persons in 1971, these are found at Imphal West (2), Bishenpur (4) and Thoubal (2) Subdivisions.[3]

3.	Imphal West (around the Urban Centre).	i) Sagolband (83,899) ii) Khagempali (5,264)

DENSITY OF RESIDENTIAL HOUSES :

Houses are the universal element of the cultural landscape of a region. It is the basic requirement of human beings as it gives shelter and protection to us. Their distributional pattern is an important in the analysis of the characteristics of rural settlement and also link up the environment and cultural heritage of the people.

Fig. no.38 brings out a clear picture of the density of rural housing. The highest density is found at Thoubal subdivision by getting 73 houses per Sq. Km. unlike it, all the subdivisions located in the plain are having comparatively higher density of houses than the subdivisions of the hills. And also subdivisions those are within the easy reach area or passing the main road are falling between the range of 6 to 9 density of houses per Sq. Km. Almost all the subdivisions are below the state level (7 houses per Sq. Km.). For instance, the density is very much low at the eleven subdivisions of the hill. The whole picture expresses that the density of houses is high with a large number of settlements in the plain areas and low

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Bishenpur	i)	Kwakta (6,027 mostly muslim)
	ii)	Khathinungei (5,418)
	iii)	Thanga (8,346)
	iv)	Kumbi (5,077)
Thoubal	i)	Haoreibi (7,180)
	ii)	Khangabok (7,782)

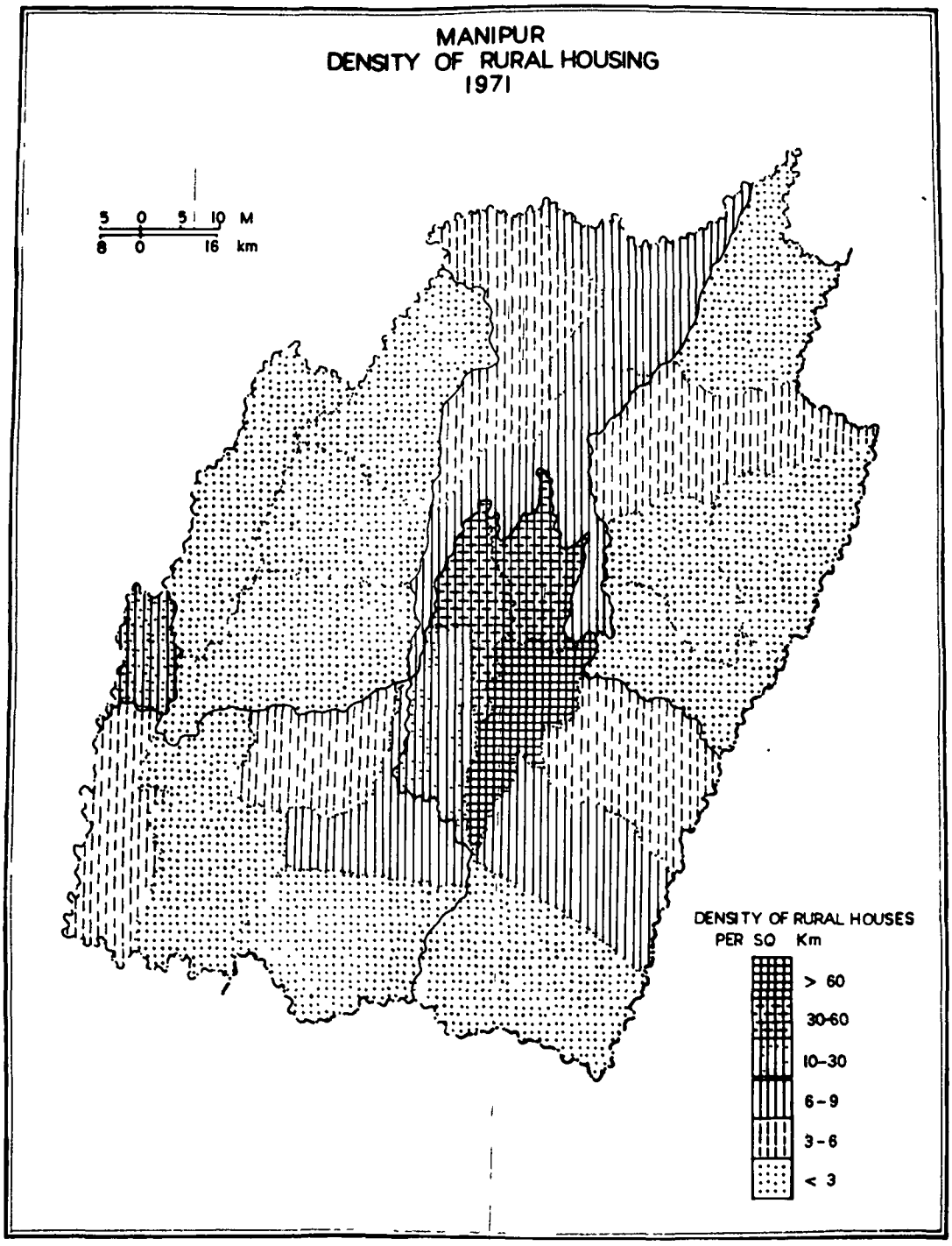
MANIPUR
DENSITY OF RURAL HOUSING
1971
5 0 5 10 M
8 0 16 km
DENSITY OF RURAL HOUSES
PER SQ Km
> 60
30-60
10-30
6-9
3-6
< 3

FIG 38

density is appeared with the small number of settlements in the hills.

HOUSES PER SETTLEMENT :

Relating to the forgoing analysis one can examine the interrelationship between the village and house by finding out the number of houses as per villages, so that one can measure the settlement strength in term of houses. Here also houses are quite large in number in the plain than the hills because of its differences in land surface, economic sources and cultural aspects. There is no any village in the plain where the population is shifted from the parent village, inspite of it the houses are extended more and more to a larger size in due course of time. But one can see the settlement take place community wise or clan relationship in the form of liniarity, along the rivers and roads. For example the caste population found at Sekmai, Khurkhul, Fayeng and Andro etc. villages.

In the hills the houses of every settlement are few except Mao East, West, Ukhrul, Thanlon and Tipaimukh subdivisions. At Mao East and West and Ukhrul there is up growth of the parent village which is facilitated by the advantagous economic pursuits possibly due to the accessibility to the road. And in case of Tipaimukh and Thanlon the number of houses are added by the illegal migratory people from the neighbouring areas like Mizoram, Cachar district and North Western

Burma. The rest are less than 50 houses per settlement it indicates that the settlements are small with the sparse of population in practicing their shifting cultivation.

NEAREST NEIGHBOUR DISTANCE :

The above discussion of settlement pattern can be depicted mathematically with the technique of nearest neighbour distance or nearest neighbour index.[4] In this, the spatial

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4. It was originally devised by Botanists seeking to describe plant distribution, is now widely used by geographers. The importance of the index is that it provides a test for non-randomness, an allows, on a continuous scale ; comparisions to be made of two or more spatial distributions.

Basically three extreme types of distribution can be distinguished (1) Uniform or regular, (2) Random and (3) Clustered or Aggregated. If the pattern is uniform the distance between any one point and its nearest neighbour will be approximately the same. If the pattern is random a situtation results in which there is some tendency to cluster but also a number of points fairly widely distributed. If the pattern is clustered than there will be one or more groups with a relatively short distance between each point and its nearest neighbour and large areas in which no point is located.

The formula is

$$R = \frac{\bar{D}obs \quad \text{(measured mean distance between nearest neighbour, points}}{\bar{D}ran \quad \text{(Expected mean distance if all points were randomly distributed)}}$$

For $\bar{D}obs$ it is necessary to measure the distance between each point and its nearest neighbour and divide by the total no. of measured pairs.

For $\bar{D}ran = \frac{1}{2\sqrt{\left(\frac{N}{A}\right)}}$

TABLE XXVI (a)

Nearest Neighbourhood Distance

Sample Areas.	No.of observation.	Area in sq.km.	Observed mean distance Debs.	Expected mean distance Dran.	R Valu Dobs/ Dram.	test Dobs-Dran a Dran.	Nature of the Settlement Pattern.
Northen Valley	132	137	0.57	0.51	1.09	2.17	Random approaching
Southern Valley	47	137	1.60	0.87	1.83	10.73	uniform.
Transitional area between the Plain & Hill	72	144	0.82	0.707	1.15	2.59	Approaching Uniform or near random.
Southern Hill	31	144	1.28	1.08	1.18	1.90	Random.
Eastern Hill	28	144	1.24	1.13	1.09	.982	Random.
Western Hill	27	144	1.35	1.15	1.76	1.72	Random.

TABLE XXVI (b)

Chisquare test.

Sample Areas	Observed No.of settlements.	Expected No. of Settlements.	$(D-E)^2$	$\frac{(D-E)^2}{E}$
(1)	132	36	9,216	256
(2)	47	36	121	3.36
(3)	72	36	1296	36
(4)	31	36	25	0.69
(5)	28	36	64	1.77
(6)	27	36	81	2.25
TOTAL	337	336	10,803	300.07

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DISTRIBUTION OF RURAL SETTLEMENT PATTERNS

NORTHERN VALLEY

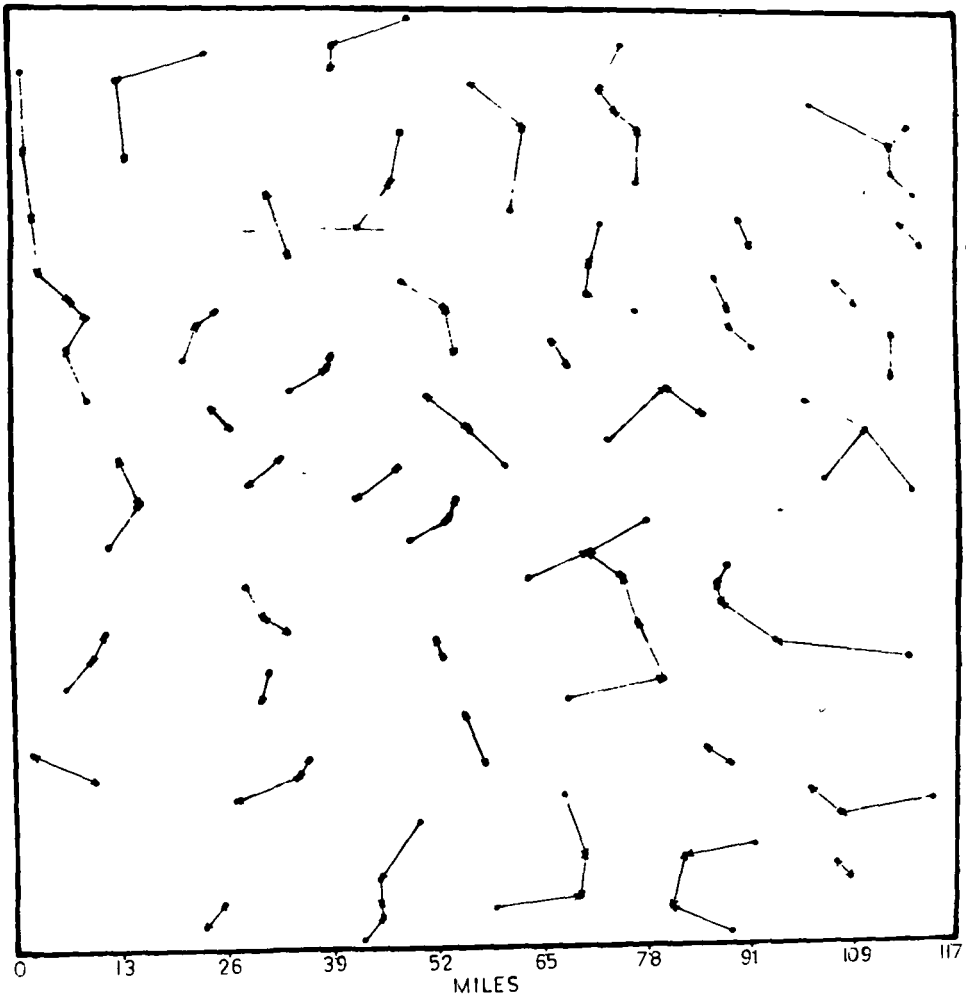

FIG 39.a.

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DISTRIBUTION OF RURAL SETTLEMENT PATTERNS

SOUTHERN VALLEY

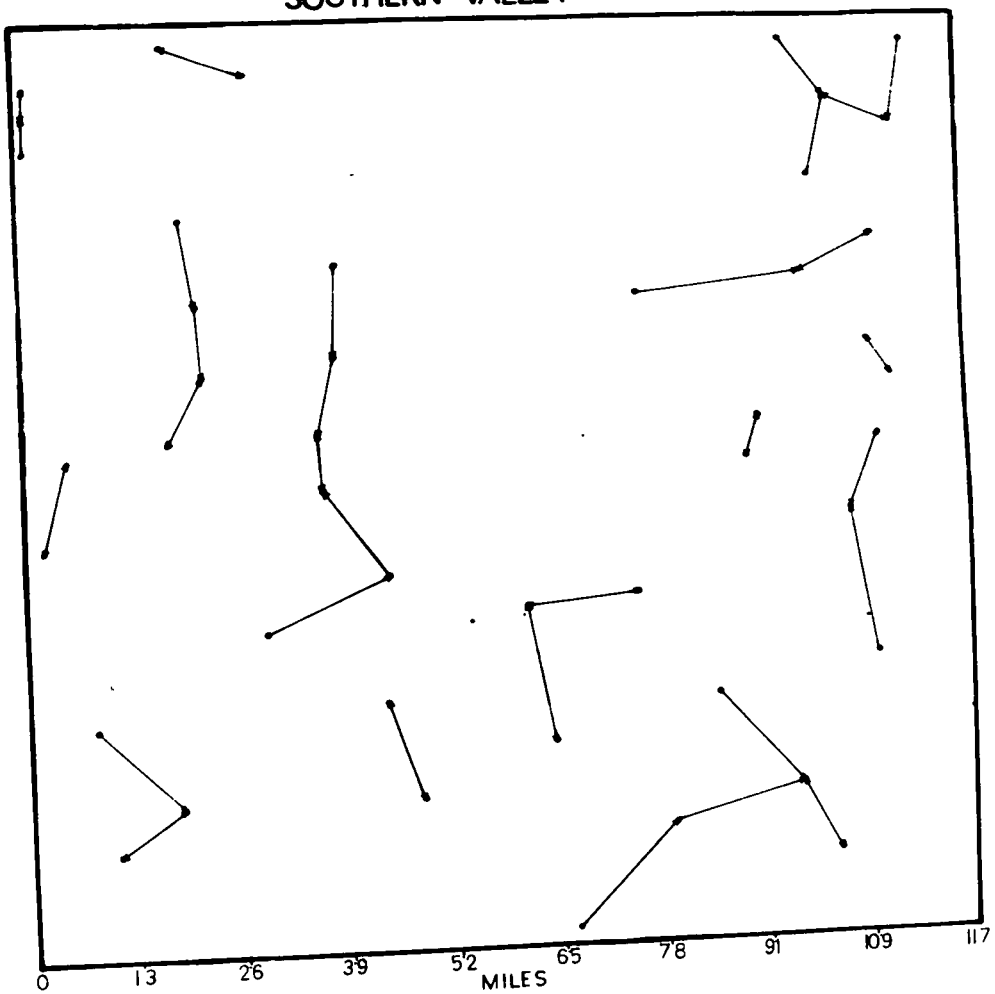

FIG. 39.b.

RURAL SETTLEMENT PATTERNS

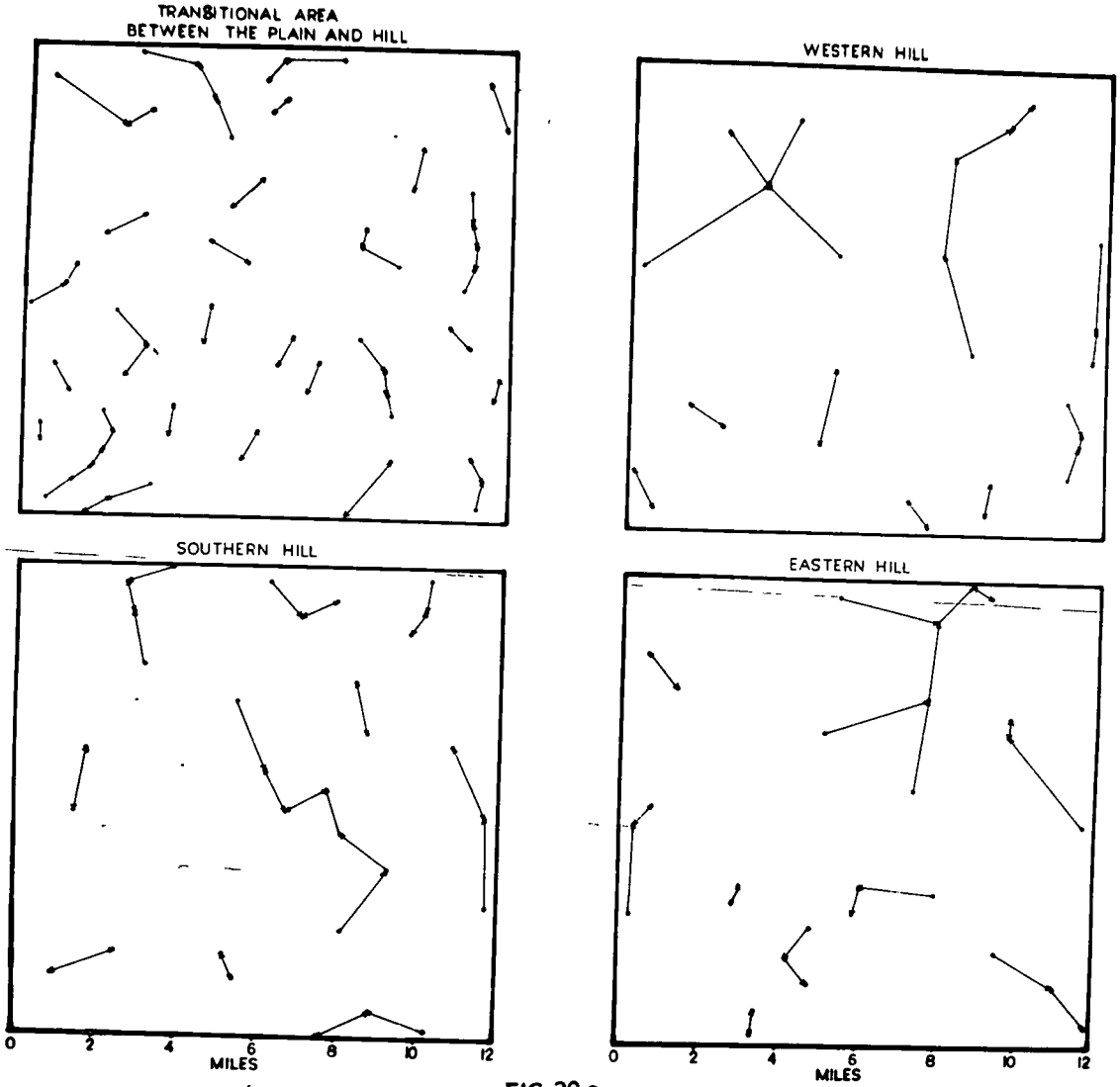

FIG. 39.c.

distribution of settlements pettern are analysed on the basis of it and shows how far the settlements are uniform or random or clustered. To have an analysis of it, six sample areas are taken ; two from the valley or plain, one from the transitional areas between plain and hills and three are directly from the hills of different parts so as to represent the whole region.

The two samples of the valley, (Fig No. 39 a, b,) have no similar pattern, it is proved statistically that the northern valley show a random distribution (Table XXVI (a) with a R value 1.09 which is at 5 p.c. level of significance. It is observed that there seems a tendency to cluster and in other words it may be concluded that there is appearently large elements of randomensess in the pattern of village distribution.

The southern valley is statistically evidence that the spatial distribution of village is aproaching uniform by getting the R value 1.83 which is significant at 1 p.c. level. This two samples of the valley lies the difference on the physical characteristics and economic activities. In the forgoing studies of dispersal of settlements it finds around the valley the villages

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N is the total no. of points and A is the given area.

For the test $\sigma_{\bar{D}ran} = \dfrac{0.26136}{\sqrt{\dfrac{\Sigma N \times \left(\frac{N}{A}\right)}{N}}}$

$$Z = \frac{\bar{D}obs - \bar{D}ran}{\bar{D}ran}$$

are also concentrating. Here this sample of the transitional areas between the plain and hill (Fig. no. 39, a,b,c,) proves how far it is true. The calculated R value is found as 1.15 and when it is tested the Z value 2.59 is significant at1.p.c. level. That means the distribution of settlement may be inferred as approaching uniform as near random. The three samples of the hills - South, East and West (Fig. no. 39, C,) have shown their distributional pattern as randomness.Because the villages are fairly widely distributed on the dissected mountain tracts.

The above calculation of the N.N.D. may also be examined with chisquare test (Table XXIII (b)) it is representing this six samples areas for the whole.[5] Assuming the null hypothesis is that the environmental factors of these settlements are influencing to have equally distributed settlements. Since the computed value (300.07) is much more than the tabulated value, it is significant. So the hypothesis is rejected, that means the settlements is influenced by the different kinds of environmental factors not to have even distribution.

B. URBAN SETTLEMENT PATTERN :

Origin of the Town :

Before 1971 there was only one town in Manipur i.e.

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5. Chi-Square $(\chi^2) = \frac{(D - E)^2}{E}$

Whre E means expected number of settlements. D stands for observed number of settlements.

the present state capital, Imphal. The Imphal town grew up as regional as well as political capital of the region.[6] One can trace right from the early century when the Ningthouja principality established the first kingdom at Kangla as its capital on the bank of Imphal river. The Ningthouja kings or Pakhangba dynasty ruled the country forming it the main regional centre for physical, socio-economic and culture. In 1835 A.D. King Gambhir singh shifted the capital from Kangla to Kangchup, about four miles from Imphal. Then after 18 years it was brought back to Kangla again. By that time the palace side was planned with roads running parallel from North to South and East to West and fortified on three sides by two raws of Moats or Thanga pats and Imphal river on the other side. Intertransport and communication works were started with the construction of Cachar road (1844) and Imphal Mao road (1881). During the British regim starting from 1891, the capital site was shifted to the present palace site towards the south east and Kangla was earmarked for security measure.[7] Alongwith capital areas was extended the pologround and Bazar to the west of Dimapur road and the basties or residential

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6. The actual name of Imphal is Yumphal it means Yum = house and Phal = collection. The Englishmen pronounce as Imphal instead of Yumphal, since than it is known as Imphal.

7. Manipur Gazettee ; No.120. Imphal, Tuesday. September 23 (Asvina 1.1897) P.4.

areas surrounding the old town were driven out beyond the Naga river and the Nambul river in the West. In 1901 Imphal town registered 72,234 population in the census and classified as class II town.[8] After this, in 1942 it was destroyed by the second world war after which another phase of development took place. Many reconstruction as well as expansion were carried on with a careful outlook for the further city landscape.

The remaining seven towns - Nambol, Lamlai, Thoubal, Moirang, Kakching, Bishenpur and Churachandpur - are recognized only in 1971 census as class V and VI towns in Manipur.[9] They have developed into urban centres on account of marketing centres, educational institutions, location of Government offices and well link communication.

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8. Since there is no any record before this, the year 1901 is considered to be original year of the Imphal Town in the history of census. see Fig. no. 40.

9. The location, area, population and original characteristic of seven towns are given below :-

	Distance from Imphal.	Area in Sq. Km.	Pop.	Density per Sq. Km.	Original Characteristics.
Moirang.	39 Km.	2.30	8,378	3,643	Historical Place, Palace of small kingdom.
Bishenpur	26 Km.	3.06	4,234	1,384	Religious Place.
Churachandpur.	60 Km.	1.83	8,706	4,757	Hilly town, Palace of small hill kingdom.

GROWTH OF URBANISAMI :

The present study of urban growth can be summerised from the change of population of urban centres between 1901 to 1971. It shows certain facts how the urbanisation has taken shaps during the last seventy years (Fig. No.40 and Table VI).

Imphal was the only existing town before 1971, which was classified as Class II town right from 1901 but due to the changes of area it came down to Class VI town in 1951 (2.59 Sq. miles or 5.78 Sq. Km.). In 1901 when the actual census work was begun Imphal had 71,234 persons than the population steadily grew upto 99,716 in 1941. It is learnt that the population was started to concentrate in this core part of the region as it function all the political and economic activities, moreover the flat fertile area has made it more attraction. After the second world war with the systematic planning of Imphal town rapid development was marked. Facilities of trade and commerce, education and others were mingled and migration from rural to

Nambol	13 Km.	3.06	3,296	1,077	Overgrown village.
Lamlai	14 Km.	4.66	2,219	476	Overgrown village.
Thoubal	20 km.	2.82	5,682	2,015	Overgrown village.
Kakching	35 Km.	1.52	8,611	5,665	Overgrown Village, Palace of Small Kingdom.

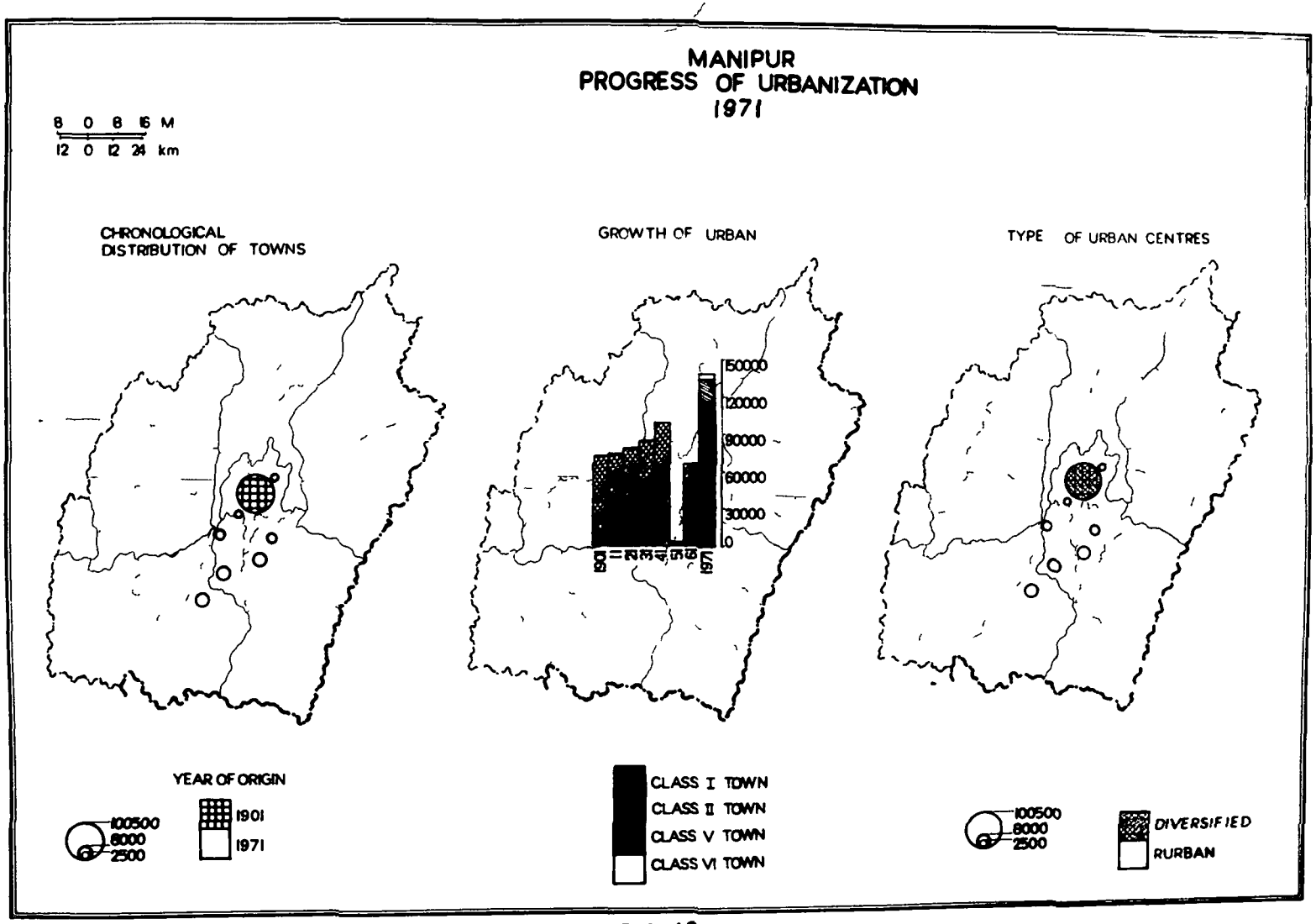
MANIPUR
PROGRESS OF URBANIZATION
1971
8 0 8 16 M
12 0 12 24 km
CHRONOLOGICAL DISTRIBUTION OF TOWNS
GROWTH OF URBAN
TYPE OF URBAN CENTRES
150000
120000
90000
60000
30000
0
1901
1971
YEAR OF ORIGIN
100500
8000
2500
1901
1971
CLASS I TOWN
CLASS II TOWN
CLASS V TOWN
CLASS VI TOWN
100500
8000
2500
DIVERSIFIED
RURBAN

FIG 40

urban were also found. In 1961 Imphal had 67,717 persons (Growth rate 3.72 P.C.) with an area of 17.48 Sq. Km.

The total growth of urban population in Manipur from 1961 to 1971 is 73,775 persons (G.R. 7.65 p.c.) possessing an area of 45,90 Sq. Km. In 1971, seven more towns are sprung up, they are Churachandpur, Kakching, Moirang,Thoubal (Class V towns), Bishenpur, Nambol and Lamlai (Class VI towns) respectively. Churachandpur is located in the South District and rest are from the central valley (Central district).These new seven towns possess only 41,126 population (31,377 class V and 9,749 class VI) and 28.42 Sq.Km. (11.35 Sq.Km. and 17.07 Sq.Km.) in 1971.

Imphal has tremendous growth of population and dominat, urbanise position, it is clearly seen from the changes of population 67,717 (1961) to 100,366 (1971). Now it is treated as Class I town, according to the census of India.

TYPES OF URBAN CENTRES :

In the study of urban the interpretation of functional classification of town has significant aspect as it gives the basis for the planning. In Manipur the urbanization is obviously dominated by the Imphal city. Because it can be determined from the early historical time by its regional and political centre, growth of economic and cultural

development. It is also understood that Imphal is the oldest city amongst the cities of the North Eastern Region of India.[10] Even today it has the hub of urban life representing a greater functions and attraction. The Imphal city being located in the centre of the region, is the centre of all activities. It has the equal share of economic services. But the new seven towns, being born yesterday, are very much influenced by the primary activity accompaning the characteristics of rururban. They are all located with well communicated roads of Imphal city. Lamlai and Nambol are showing the tendency of forming satellite town of Imphal as they have been located very near of it.

To examine stistically the conspicuous features of the functional structure of these eight urban centres Nelson's method has been used.[11] The calculation of it is based on the data available of 1971 census. Accordingly the nine categories of workers of eight towns have been worked out and shows the functional types (Table XXVII). According to this statistical

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10. In 1901 Imphal was recognised as Class II town while Gauhati and Shillong received Class IV and VI town respectively, and also it was believed that Imphal might have good figure of population even before 1901 as it was an important centre of the Region in terms of political, economic and cultural aspects.

11. Formula $$SD = \sqrt{\frac{Ed^2}{N}}$$

Where E = Sum.
d = difference between each value and the mean.
and
N = Number of value 1.

TABLE XXVII

Manipur Classification of Towns by Nelson's Method
1971

Town/ N.A.C.	Cultivators %, I.	Agricultural labourers %, II.	Livestock, Fisheries, Hunting, etc %, III.	Mining & quarrying, %, IV.	Manufacturing processing, Servicing and Repair. in household industry %, V, (a)	in other than household industry %, V(b)	Construction % VI.	Trade & Commerce % VII.	Transport storageand communication% VIII.	Other %, IX.	Functional Types.
hura-hand-ur.	35.39	6.91	0.41	0.00	3.89	4.05	4.83	12.68	2.18	29.62	VI, IX,
mphal.	4.10	1.14	0.97	0.10	23.76	8.16	5.25	20.72	6.55	29.18	III, Va, Vb, VI, VII, VIII IX.
ambol	36.73	4.64	0.82	0.00	18.95	3.09	1.73	15.13	2.18	17.04	III, Va.
amlai	65.66	3.18	0.00	0.00	6.36	1.67	0.67	7.37	1.00	14.07	I.
ishenpur	40.25	1.33	0.14	0.00	13.75	2.37	0.44	15.16	1.48	24.98	
oirang	51.19	9.69	0.52	0.04	15.18	2.29	1.95	6.78	1.38	10.98	II
houbal	59.50	6.08	0.14	0.00	8.43	0.73	0,80	2.42	0.80	21.05	
akching	64.06	2.30	0.22	2.06	13.27	1.39	0.72	9.39	0.76	9.48	I
ean	44.61	4.40	0.46	.07	11.9	2.96	2.04	11.20	2.04	19.55	
.D	20.33	3.00	0.33	.04	6.82	2.33	1.92	5.83	1.90	7.90	
+S.D.	64.94	7.4	0.79	0.112	18.42	5.29	3.96	17.03	3.94	27.45	
+2 SD	85.27	10.4	1.12	0.154	25.24	7.62	5.88	22.86	5.84	35.35	
+3 SD	105.60	13.4	1.45	0.196	32.06	9.95	7.80	57.37	7.74	43.25	

device of classification of town, it is found that Kakching and Lamlai have dominant function of cutivator and Moirang has on agricultural labour. This may be due to the location and environmental condition of rural agricultural site. Two touns-churachandpur and Nambol have bifunctional types, the first has dominant function of construction and other services since it is in the progress of establishing new offices, educational institutions and opening shopes and hotels, etc. The latter is found both primary and secondary (Liveslock, Fisheries and Household industry). The three towns - Bishenpur Thoubal and Imphal have diversified function. Imphal has multifunction contributing equalshere of economic activities specially on seven services and Bishenpur and Thoubal do not get any dominant function of economic activities.

So from the above discussion one can find the functional types of urban centres in Manipur that it has been considerably dominated by the primary occupation. And amongst the secondary and tertiary activities, household industry and other services are keeping forward. There is much more time to wait the development of manufacturing and transport, which are perhaps the most important urbanising functional momental of the modern age.

POPULATION POTENTIAL OF THE TOWN :

According to the population of 1971 census of the eight towns of Manipur an isoplath map of population potential

has been drawn (Fig No.41 and Table XXV).[12] This population potential of the urban centres assess the potential interaction of their masses may be, movement of people, exchanged of manufactured articles and so on. It is learnt that Imphal has got the largest potential by dominating in all the activities. It has multifunctional activities. As the distances is far away more and more the intensity of population potential is also decreased. That is why the isopleth line is seen having more space towards the south, where the least potential are found at remote areas like, Churachandpur, Moirang, Kakching, Bishenpur, Thoubal, and Nambol. So in the central plain of Manipur the Imphal town has the predominent function with the strongest population gravitational pull.

From the above analysis, it is learnt that settlement pattern in Manipur has appeared in three types on the varied topography and environments. These three rural settlement patterns are found, one in the valley with high density of villages,houses and houses per settlement, the second is in the periphery of the central valley with the medium density of settlement characteristics and the third one is in the hills it actually covers large area of the region. Statistically, it is also proved in table XXVI, a . And the size of the

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12. The gravity model is used by geographers are modified from the Newton's low of gravitation, $G L \frac{M_1 M^2}{D^2}$

The model is similar to, but not precisely the same as Newton's low, here the distance(d) is not squared. The computational problem of this gravity model can be worked out with the formula of $\frac{pi}{dij}$ which are obtained by dividing the population of different towns by their distances from that particular town.

TABLE:XXVIII

POPULATION POTENTIAL OF TOWNS
1971

TOWN/NAC.	TOTAL POP.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.Churachandpur.	8,706	916	145	121	300	300	458	185	272
		(9.5)	(60)	(47)	(72)	(29)	(19)	(47)	(32)
2.Imphal	100,366	1,673	15,441	7,720	7,169	3,860	2,573	5,018	2,868
		(60)	(6.5)	(13)	(14)	(26)	(39)	(20)	(35)
3.Nambol	3,296	70	254	599	114	300	157	173	157
		(47)	(13)	(5.5)	(29)	(11)	(21)	(19)	(21)
4.Lamlai	2,219	31	159	77	317	55	43	82	52
		(72)	(14)	(29)	(7)	(40)	(52)	(27)	(43)
5.Bishenpur	4,234	146	163	385	106	770	249	176	163
		(29)	(26)	(11)	(40)	(5.5)	(17)	(24)	(26)
6.Moirang	8,378	441	215	399	161	493	986	289	465
		(19)	(39)	(21)	(22)	(17)	(8.5)	(29)	(18)
7.Thoubal	5,682	121	284	299	210	237	196	710	355
		(47)	(20)	(19)	(27)	(24)	(29)	(8)	(16)
8.Kakching	8,611	269	246	410	210	331	478	538	1,076
		(32)	(35)	(21)	(43)	(26)	(18)	(16)	(8)
Potential Persons per Sq.Km.		3,667	16,907	10,074	8,398	6,343	5,140	7,171	5,408

196

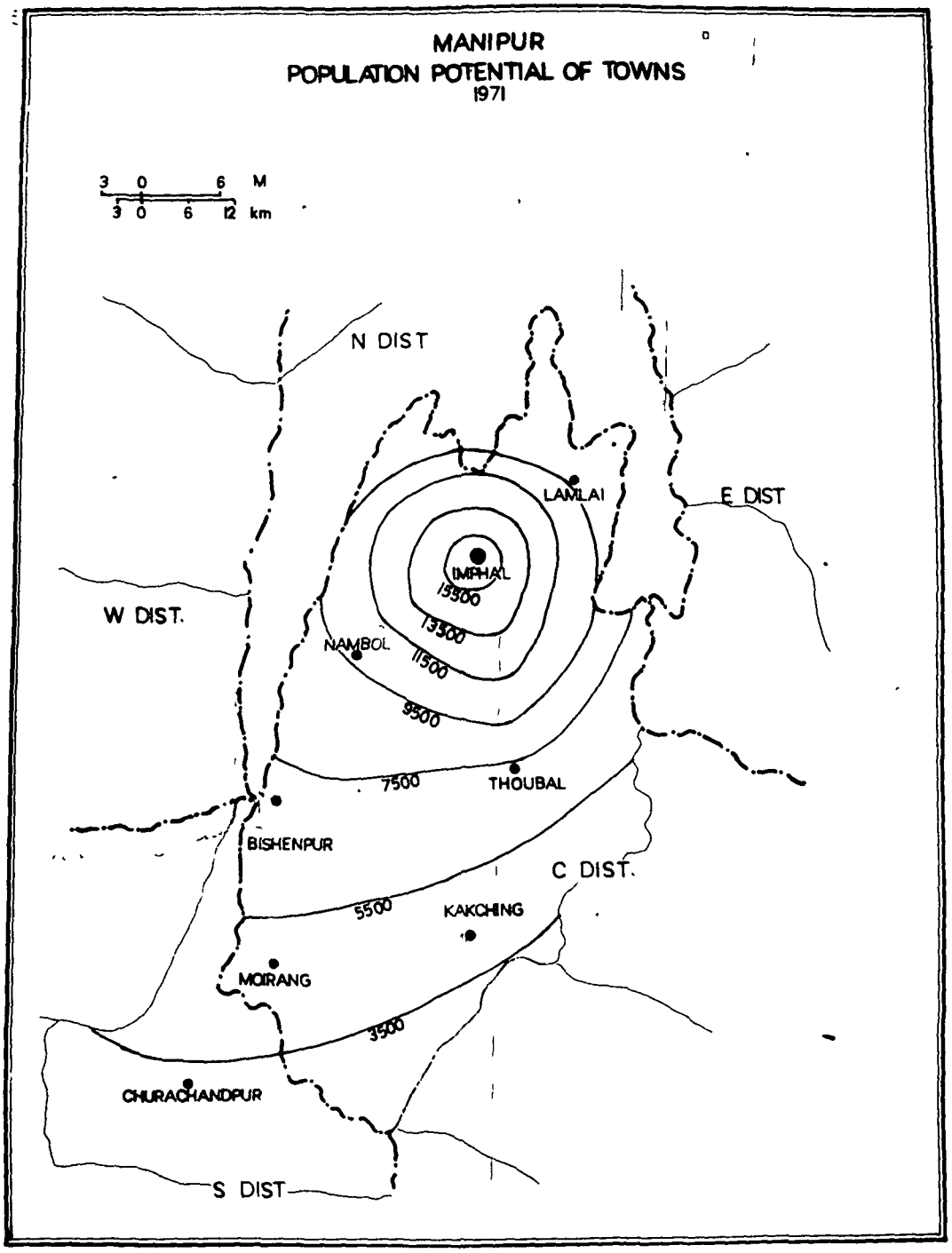
MANIPUR
POPULATION POTENTIAL OF TOWNS
1971
3 0 6 M
3 0 6 12 km
N DIST
E DIST
W DIST.
C DIST.
S DIST
LAMLAI
IMPHAL
19300
13300
NAMBOL
11500
9500
7500
THOUBAL
BISHENPUR
5500
KAKCHING
MOIRANG
3500
CHURACHANDPUR

FIG 4.1

villages is also found that there is a high percentage of large village (above 70 p.c. in all the valley units) in the plain whereas maximum percent age of very small and small villages are located in the hills.

All the touns of Manipur are concentrated in the central plain, where the Meitei is hugely populated, except churachandpur. Being an old town, Imphal city has multifunctio-al activities and the rest are purban in their character. But the hilly town, Churachandpur (in south district), occupies second rank in respect of population (8,706 pop. and 4,757 *density per Sq. Km. in 1971) is dominated by the hilly tribes.* When the population potential of the towns are calculated it is found that the intensity is decreased from north to south. It means Imphal city has the largest population potential by dominating in all the activities of towns.

CHAPTER VI

SOCIAL AMENITIES

The social amenities of a region at a given point of time reveal the prevailing socio-economic conditions and the standard of living of its inhabitants.[1] These amenities affect directly and indirectly the health and efficiency of the people and thus has a close impact on the growth, development and production levels of the region. It is the facilities available in order to make a pleasentness or civility to the inhabitants of the region. In the present chapter four amenities which are more important i.e. education, medical facilities, post and telegraph service and water supply have been taken into account to ascertain the level of social amenities in the region. The relevant informations and data for these indicators were obtained from the census handbooks and the district head quarters during the field work. The analysis is based mainly on the census of 1971. With the help of the data, a standard index which is synthetized has been prepared. The standard indice thus prepared helps in understanding the development shape of the region.

EDUCATION :

In respect of literacy, Manipur is a bit higher (32.9 in 1971) than to her meighbouring states, except Mizoram.

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1. There is a lack of data about the social amenities in Manipur. The author has, therefore, relied upon the informations and data available on the social amenities which is not exhaustive in nature.

In the component areal units of the region, there are however, micro level variations in the rate of literacy and education in Manipur. The physical surroundings, terrain, lack of communications and accessibility, ethnic character and prevailing socio-economic conditions are largely responsible for these variations. For instance, the literacy and education in the valley and plains is higher than that of the hilly and mountainous areas.

From the given Table XXIX it is revealed that in 1971 there are altogether 3,394 institutions with 259,371 students and 12,057 teachers in the state. The table also reveals a decrease in the percentage of all the three components i.e. students, teachers and institutions. This downward trend may be due to the educational plan made by the state government giving more emphasis to establish lower level of educational institutions first, than higher education as well as teachnical and vocational education. At present, in respect of higher education Manipur has one post graduate centre under the Jawaharlal Nehru University and more than 25 colleges for general, professional, vocational training centres and other so.

In an attempt to study the concentration of educational institutions at the subdivisional level in Manipur, it has been found that educational facilities available in the valley area are more than the subdivisions which have hilly terrain (see the Table XXX). But when we compute the number of

educational institutions per 1,000 persons the result is found just the opposite. Because nearly 67 percent of the total population is concentrated in the valley. Here, we can say, though the availability of educational facilities are more in the valley areas than the hills and the literacy percentage is high in the state, it does not lead much to the regional development. So the state is required to launch more programme of mass education system.

TABLE XXIX

Percentage Change - Students, Teachers and Institutions in Manipur 1955-56 to 1970-71

Year	No. of Institutions	P.C. change	No. of students	P.C. change	No.of teachers	P.C. change
1955-56	1,104		93,869		2,932	
1960-61	2,346	+112.5	158,858	+ 69.23	6,981	+ 138.09
1965-66	3,130	+ 33.42	217,909	+ 37.17	10,618	+ 52.09
1970-71	3,394	+ 8.43	259,371	+ 19.02	12,057	+ 13.55

MEDICAL :

The state is very poor in her medical services. According to the available statistics of 1973, there are 26 hospitals (including public health centres), 110 dispenseries (including public health sub centres), 911 beds strength and 19 units of family planning. Total number of Doctors is 114 and thus only one Doctor is available per 9,410 persons of

populations. The medical amenities are very inadequate. Moreover the extension of medical facilities is difficult in the forested hilly parts where scattered settlements have been developed in the isolated areas. The modern scientific medical facilities are almost unknown to some corner parts of the region. The people of remote areas perhaps depend largely on medicinal herbs and bushes for their cure and treatment. There is inadequacy of medical amenities in the state in general and in the hilly tracts in particular. The state is, therefore, badly in need of proper medical facilities in all of its parts.

It is also noted from the distribution of medical institutions (Table XXX) that the main concentration lies only in the plain areas, particularly at Imphal East, West, Bishenpur and Thoubal subdivisions (ranging between 2.81 to 4.11 per 100 Sq.Km.). In the hills the distribution is very low (i.e. below 1) and if the medical institution is located at the subdivisional or block office it covers only a small area.

POST AND TELEGRAPH :

In the case of post and Telegraph communication, the state is facing many problems mainly because of its remote and peripheral location in the far east corner of the country. The undulating landscape, poor motorable roads, inadequate linkage with the important cities like, Gauhati,

Calcutta, Shillong etc. and cloudy weather conditions during the summer season are the major constraints in the development of smooth and speedy post and telegraph service. According to 1973-74 figures the state has 331 post offices, 30 sub offices and 300 branch offices located at different places, it is operated by one headquarter located at Imphal. Both for within and outside communications of the state there are only 21 telegraphs offices, 21 public call offices and 1,430 telephones.

The regional distribution of post offices is also shown like the distribution pattern of educational institution and medical facilities. That means, the post office is also located more in the plain than the hills, since large population and more settlements are concentrated there. It is, therefore, obvious that delivery of postal letters, telegrams and money orders in the hilly tracts take considerable time, where many a times the postman has to walk several miles from the post office to the small settlements. The letters are delivered only once or twice in a week in such hilly scattered settlements. The development growth and extension of more post and telegraph offices is, therefore, urgently required for any scheme of social amenities planning in the region.

WATER SUPPLY [2]

The present condition of water supply in Manipur is very poor. The programme has so far been made is not able to bring up to the requisite demand. There are 200 villages in the valley and 500 in the hills which are identified as scarcity of villages.[3] The general type of drinking water are mainly from the rivers, streams and ponds. The artificial water supply was started in Manipur during the British time. It was at Imphal where limited amount of water was supplied from Kangchup (12 Km. from Imphal). Now the sources are Láimakhong, Kangchup and Singdadam. Besides, six more schemes of water supply are also in progress in the urban centres such as Bishenpur, Yhoubal, Churachandpur, Nambol, Moirang and Lamlai. And supply of pumping water by electric from the pond to the village itself is also operating in an area where there is prone of water scarcity.

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2. As the information of water supply is inadequate, the analysis is based mainly on the personal observations of the author. Moreover, the study of water supply gives the emphasis only for drinking water.

3. Manipur, Economic Review, 1976-77, P. 38.

LEVELS OF DEVELOPMENT OF SOCIAL AMENITIES :

The levels of development of social amenities are worked out at subdivisional units by using composit index.[4] This analysis is based on the census data of 1971. The indicators are

1) Number of medical institutions of any kind per 100 sq. km.
2) Number of post offices per 100 Sq. Km.
3) Number of educational institutions per 100 Sq.Km.
4) Number of medical institutions of any kind per 1,000 persons.
5) Number of post offices per 1,000 persons.
6) Number of educational institutions per 1,000 persons.
7) Literacy.

According to the quartile classification of the composite index there are four categories i.e. High, Medium, Low and Very low (see Fig. No.45) of social amenities centres in the states.

High Level of Social Amenities :

The index value for the high social amenities is above 37.15 in which six units are represented. They are Imphal East, West, Bishenpur, Thoubal, Ukhrul Central and Sadar Hills subdivisions. Out of these six units, Bishenpur, receives the highest index (193.86), next comes to

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4. See the chapter VII, for the formula and procedure adopted for the composite index.

Imphal West (123.78), than Thoubal (110-97). Since the valley is politically and economically controlled and the influence goes to over the hilly areas there is more concentration of amenities. And because of transport network and nearness of the plain Sadar Hills and Ukhrul are also falling in this category but the index value is markedly differenced.

Medium Level of Social Amenities :

In this category, Jiribam, Tipaimukh, Thanlon, Churachandpur, Chandel and Chakpikarong are accounted mainly due to the educational facilities. For medical and post and telegraph, these units are not satisfactorily served.

Low Level of Social Amenities :

It indicates that these units- Ukhrul North, Tengnoupal, Thinghat, Tamenglong North, Tamenglong and Mao West are needed for amenities. It is well known that due to the varied physiographic features, location of hilly forested area and the distance from the state capital, the government can't provide adequate facilities of education, medical and communication.

Very Low Level of Social Amenities :

Those units in which the index value is below 17.28 fall in the very low level of social amenities.

Below 17.28, units- Tamenglong West, Nungba, Mao East, Kamjong and Ukhrul South which are well distributed at different parts of the region. These units are actually governed by different kinds of handicap to the up-growth of the present economy. It demands very badly the outlook of the states planning to give the amenities so that the social strategy for development could be improved.

From the forgoing analysis it is understood that Manipur has required maximum amount of work on amenities development. Not only other regional aspects demonstrate but social amenities also express that the central plain areas is going up while the surrounding hilly areas is remaining less developed. One can notice the fact, except a few units where the important government offices are located, the hilly areas are required a lot of improvements in social amenities. For the development of the region, improvement and establishment of social amenities services are, therefore, urgently needed.

CHAPTER VII

LEVES OF DEVELOPMENT AND REGIONALIZATION

The question of regionalization is inevitably a significant step in almost every geographical investigation. In true, there is complexity and diversity of the geographical phenomena in a region, on such a spatial structural pattern, a method of arriving at an operational scheme is adopted with a view to measure the levels of regional development. It is called regionalization. The approach of regionalization is to identify a system of regions and subregions for the developmental planning.[1] But here the study attempts to measure the levels of regional development in Manipur, taking into account of the dynamic aspects of spatial processes. This task of regionalization is of utmost importance for developmental programme with wide contrast in physical features and the distribution on natural and investable resources.

METHODOLOGY :

For determining the development levels an attempt to construct composit index has been made. The basic necessity of it is to synthetize the twenty indicators into one index which may adequately measure the levels of

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1. Why planning is required, because the changing of region over time for evolutionary is a very slow process ; if it is through intervention in the socio-economic sphere, could be very repid.

development. Since the characteristics of the observed variables are partially contributing the properties of regional development, it is required to have a composite picture of these related variables. Indicators are taken from the above analysis of the chapters where observation values are found at subdivisional or block levels (on the basis of 1971).

The selection of indicators is done on the basis of their data availability and their significant relationship within the area of study. These socio-economic and cultural indicators are highly sensitive to reflect the overall level of development. The selected indicators of development are as given below.

A. Population

i) Population density

ii) Percentage of scheduled caste population.

iii) Percentage of urban population.

B. Settlement

i) Density of villages per 100 Sq. Km.

ii) Density of houses per Sq.Km.

iii) Houses as per settlement.

C. Economic

i) Percentage of workers.

ii) Percentage of secondary workers.

iii) Percentage of tertiary workers.

iv) Gross area/Net sown area.

v) Net sown area/Total population

vi) Index of crop diversification

vii) Net Irrigated area/Net sown area

D. Social amenities

i) Medical institution and of any kind per 100 Sq.Km.

ii) Post office per 100 Sq.Km.

iii) Educational institution per 100 Sq.Km.

iv) Medical institution and of any kind per 1,000 persons.

v) Post office per 1,000 persons.

vi) Educational institution per 1,000 persons.

vii) Percentage of literacy.

In constructing the final composite index of the four composite or synthetic index the following steps are followed

i) Elimination of the bias scale is adopted divided the original values of each indicators by the suitable value, mean, so that the scale offects get neutralized.

ii) Determined the weight of different indicators by the given mathematical properties.

$$\text{Length of the vector} = \sqrt[n]{C.V._1 \times C.V._2 \times C.V._n}$$

the product value of it is used to divide the C.V. of each indicator after that, it is multiplied with the elimination of scale value.

iii) To see the interrelationship of the indicators of different sectors, regression and multiple coefficient correclation and test are used.

iv) Five chropleths maps have been prepared out of these composite and final composite index and depict the levels of development according to the quartile classification, it will make justification by comparing of all the composite index of development. Thus four categories are formed, High, Medium, Low and Lowest.

ANALYSIS OF THE REGIONAL DEVELOPMENT :

The study of specific geographical aspects of the earlier chapters has brought out the clear understanding of the regional characteristics and its structural pattern, of these selected indicators one can examine the growth as well as structural change of the region in different sectors, that is, population, settlements, economic and amenities.

TABLE - XXX

Final Composite index and Composite index of four sectors.

Sub-Division.	Population.	Settle-ments.	Economic	Amini-ties.	Final Composite Index.
1.Mao West.	.26	1.41	6.08	17.32	2.63
2.Mao East.	.01	1.82	4.57	17.24	2.52
3.Sadar Hills.	.86	2.22	10.17	38.51	4.36
4.Tamenglong North.	.16	.57	2.25	23.86	1.66
5.Temenglong West.	.10	.61	1.58	7.18	.97
6.Temenglong	.23	.71	3.55	16.00	2.14
7.Mungba	.81	.71	3.55	16.00	2.14
8.Tipaimukh	.21	1.27	8.58	34.07	3.46
9.Thanlon	.14	.83	2.35	35.8	2.25
10.Churachandpur North.	.17	1.08	1.89	16.32	1.42
11.Churachandpur	7.57	2.59	8.57	34.56	9.55
12.Thinghat	.22	.79	2.02	21.52	2.16
13.Imphal East.	11.83	8.65	33.24	82.65	22.00
14.Imphal West.	19.89	8.81	29.2	123.78	22.62
15.Bishenpur	8.87	5.54	19.51	193.86	19.68
16.Thoubal	7.95	10.57	10.5	110.97	18.26
17.Jiribam	24.09	1.11	9.03	31.78	20.1
18.Tengnoupai	1.42	1.46	6.44	23.15	3.74
19.Chandel	1.06	.65	11.87	24.56	3.78
20.Chakpikarong	1.05	2.87	9.67	31.18	5.21
21.Ukhrul North.	.13	.96	4.09	17.62	1.66
22.Ukhrul Central.	.04	1.42	13.4	44.30	4.51
23.Phungyar Phaisat.	.13	.82	1.25	20.10	1.33
24.Kamjong.	.07	.52	6.22	10.34	1.67
25.Ukhrul South.	.08	.57	7.36	7.53	2.37

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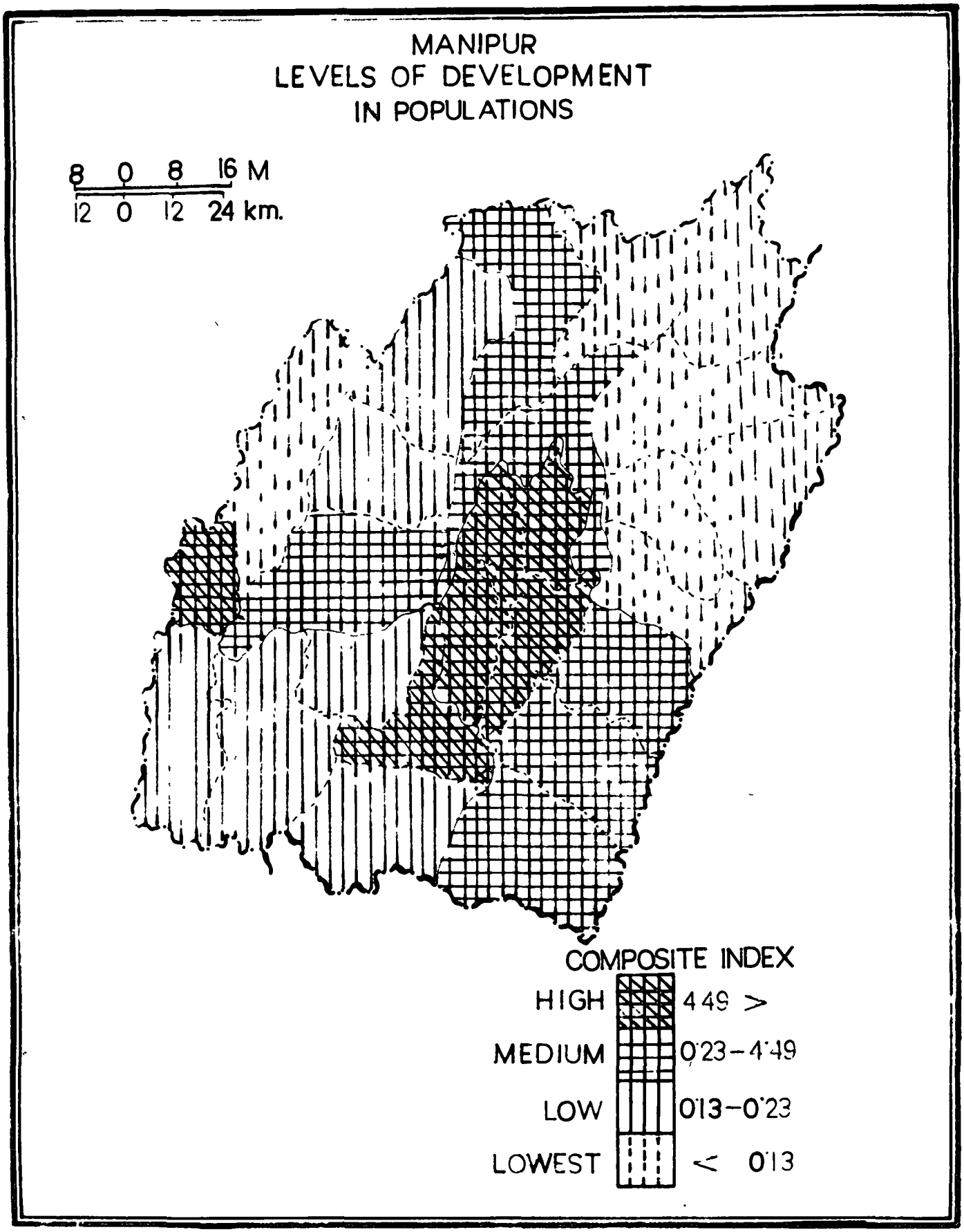
MANIPUR
LEVELS OF DEVELOPMENT
IN POPULATIONS
8 0 8 16 M
12 0 12 24 km.
COMPOSITE INDEX
HIGH
4·49 >
MEDIUM
0·23 – 4·49
LOW
0·13 – 0·23
LOWEST
< 0·13

FIG. 42

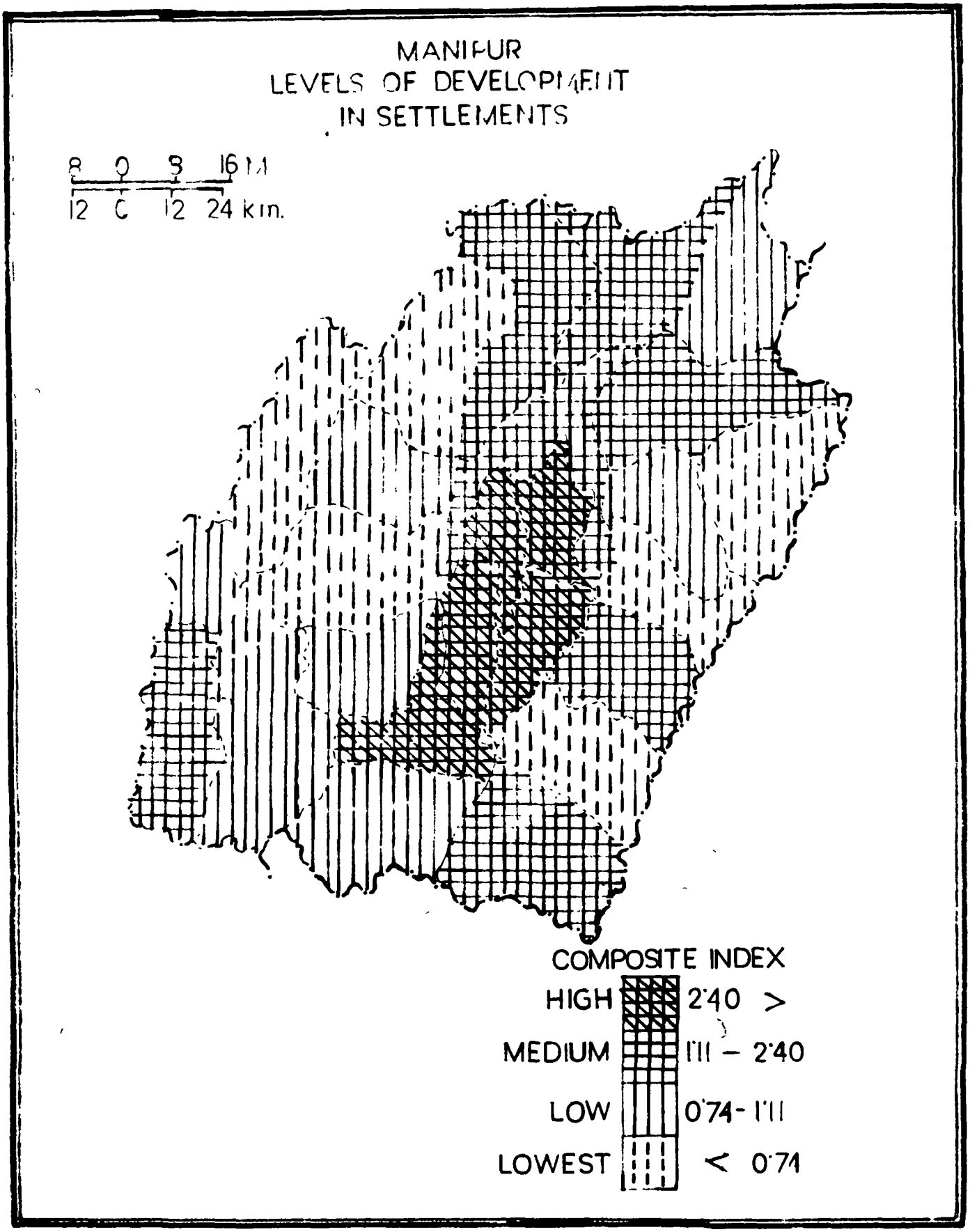
MANIPUR
LEVELS OF DEVELOPMENT
IN SETTLEMENTS
8 0 8 16 M
12 0 12 24 Km.
COMPOSITE INDEX
HIGH 2·40 >
MEDIUM 1·11 – 2·40
LOW 0·74 - 1·11
LOWEST < 0·74

FIG. 43

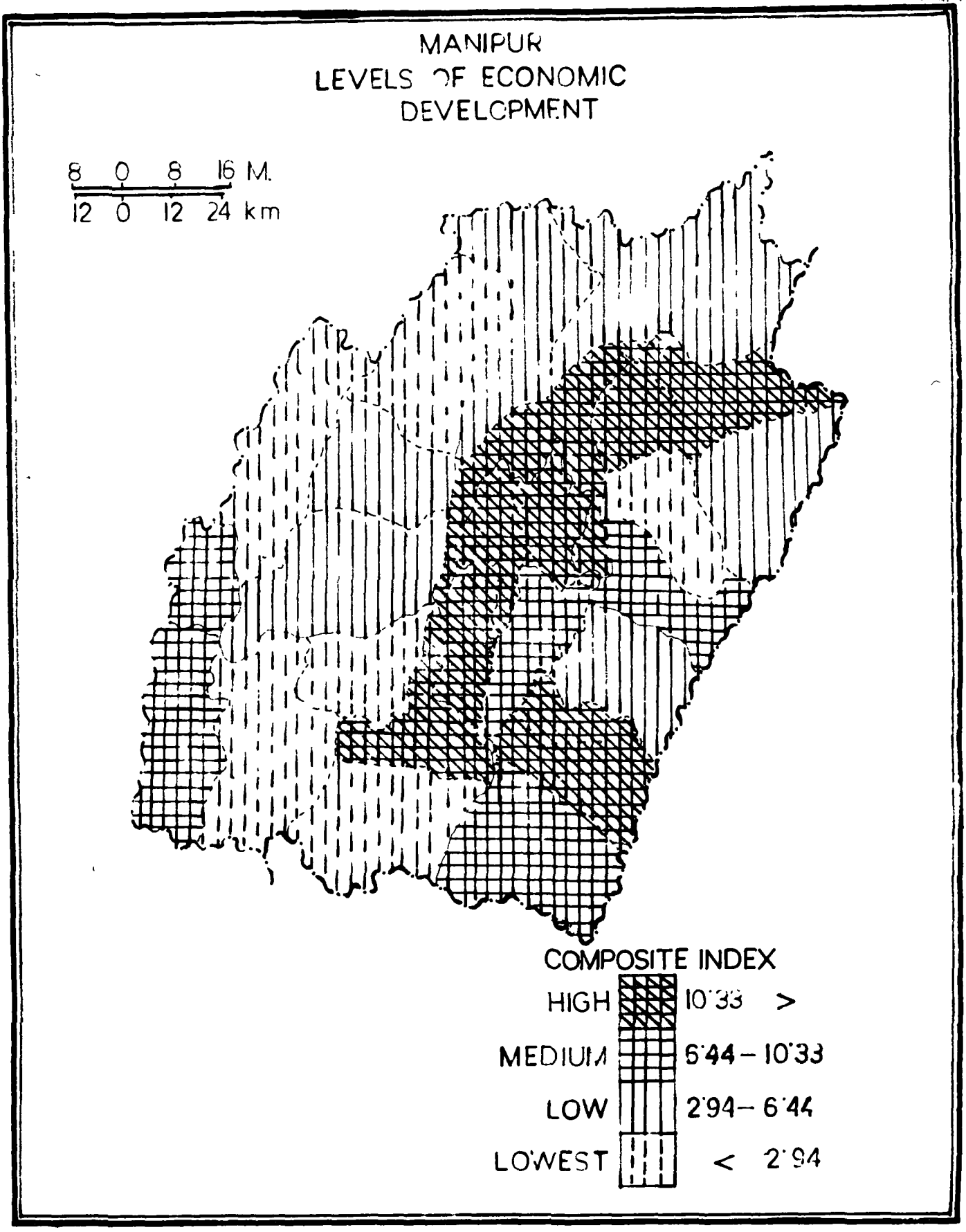
MANIPUR
LEVELS OF ECONOMIC
DEVELOPMENT
8 0 8 16 M.
12 0 12 24 km
COMPOSITE INDEX
HIGH 10·33 >
MEDIUM 6·44 – 10·33
LOW 2·94 – 6·44
LOWEST < 2·94

FIG. 44

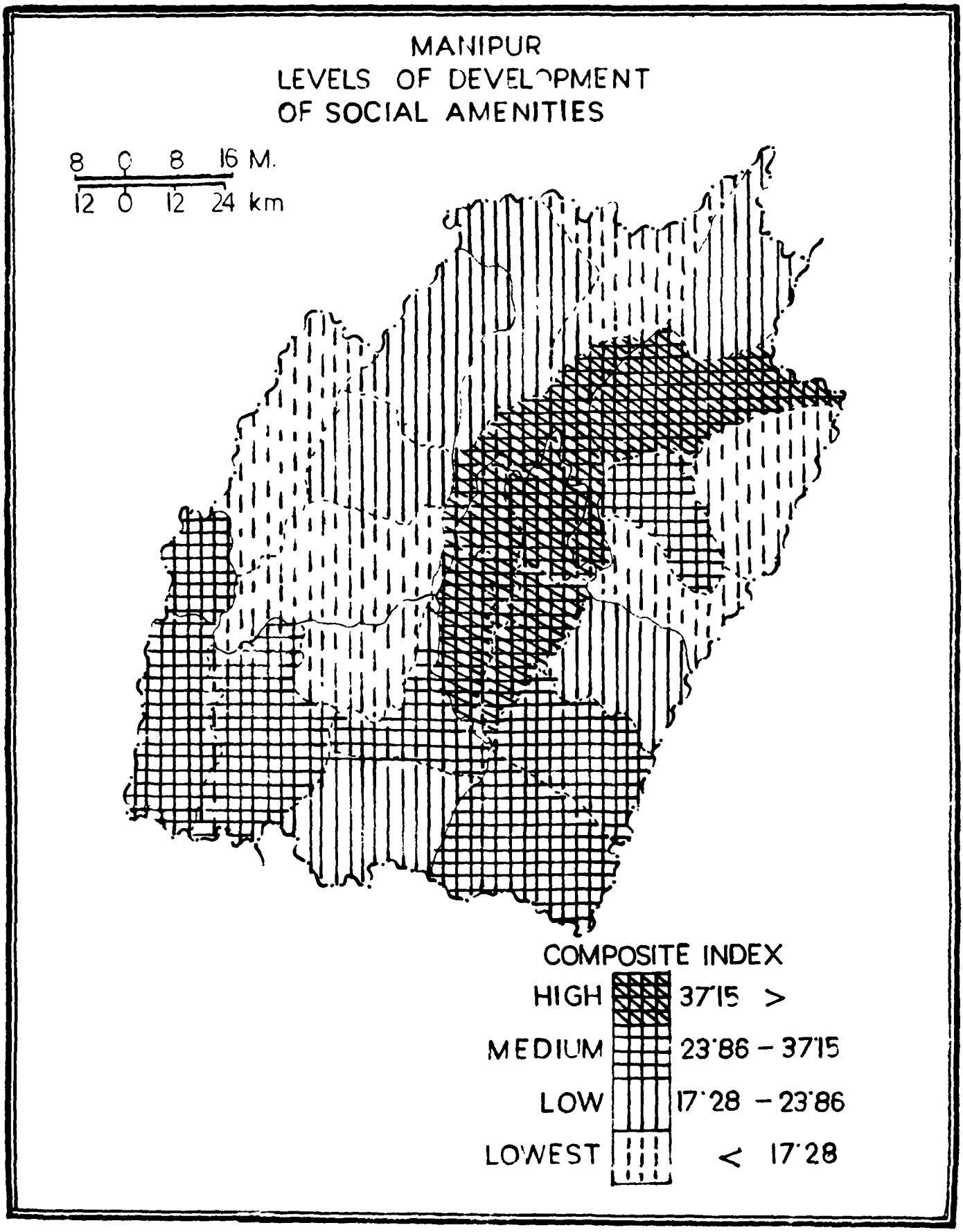
MANIPUR
LEVELS OF DEVELOPMENT
OF SOCIAL AMENITIES
8 0 8 16 M.
12 0 12 24 km
COMPOSITE INDEX
HIGH 37·15 >
MEDIUM 23·86 – 37·15
LOW 17·28 – 23·86
LOWEST < 17·28

FIG. 45

(a) The given map (Fig.No. 42 and table XXX) has shown that six administrative units have got high levels of development in population as these units are located in the plain with a high density and the share of urban population. And six units are found as medium categories as the concentration of population is occured along the main arteries National high way No.39 and New Cachar Road. The low and the lowest categories are appeared in the hilly forested areas where the population is sparse.

(b) Fig No.43 is also reflecting the similar patte rn (See table XXX) in the high levels of development category but the rest three categories are confined to the hilly tract. The hierarchy of the settlement developments are representing on the varied nature of topography and economic activities.

(c) In the levels of economic development (Fig No.44) there is slightly change in the high levels of development compared to the previous two, because of the difference workers of component and agricultural activities. The medium category is accounted by five units - two from the plain and three from the hills where the agriculture development is comparatively high. The low and the lowest categories are found mostly in the North, South and West districts as the

advantageous of agriculture is least and the low proportion of secondary and tertiary activities.

(d) Fig No.43 is also reflecting the similar pattern (see table XXX) in the high levels of development category but the rest three categories are confined to the hilly tract. The hierarchy of the settlement develppments are representing on the varied nature of topography and economic activities.

(c) In the levels of economic development(Fig No.44) there is slightly change in the high levels of development compared to the previous two, because of the difference workers of component and agricultural activities. The medium category is accounted by five units - two from the plain and three from the hills where the agriculture development is comparatively high. The low and the lowest categories are found mostly in the North, South and West districts as the advantageous of agriculture is least and the low proportion of secondary and tertiary activities.

(d) It is also discussed in the chapter VI in the levels of development of social amenities(see Fig No.45 and table XXX) here one can find maximum amenities of the region are available in the central units with the two hilly units as a result of its dominant position in economic and administration. But the two hilly units come up due to the

accessibility change. Due to the educational and medical facilities available Churachandpur, Thanlon, Tipaimukh, Jiribam, Chandel, Chakpikarong and Phungyar are falling in medium category. The low and the lowest categories are represented mostly in the North and West part of Manipur. The lowest index is found at Tamenglong West and Ukhul south being got 7.18 and 7.53 respectively.

The final composite index of the four synthetic or composite index has been determined to get the development index. The correlation matrix of the four indicators, P,S,E and A is as given below :-

	P	S	E	A
P	1.00			
S	.58	1.00		
E	.58	.79	1.00	
A	.64	.76	.70	1.00

These four indicators are closely related each other and their correlation is found strongly positive. After calculation of the final composite index, it is also tested how much these composite index are supporting to the final index, it accounts .989. The correlation coefficient between the final composite index and four composite index are as given below.[2]

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2. P. Stands for Population
S. Stands for Settlements.
E. Stands for Economic.
A. Stands for Amenities.
F. Stands for Final composite index.

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	P	S	E	A	F
P	1.00				
S	.59	1.00			
E	.55	.79	1.00		
A	.64	.77	.70	1.00	
F	.90	.84	.80	.82	1.00

This correlation coefficient with the final index have also been tested and all are found quite significant at 1 percent level. So the development index closely represents all the four indices and therefore all the 20 indicators of these 25 administration units the maximum index of development is recorded at Imphal West being located in the central plain which has large population of urban, tertiary and secondary workers and more amenities the minimum index is recorded by the Tamenglong West being scored .97 development index in the region. It is located at the extreme West part of Manipur, where the thick forest on hilly terrain, quite inaccessible and very sparse population are prevalent.

There are four classification(on the basis of quartile) of levels of development(see Fig No.46). They are

I) High level of development
II) Medium level of development
III) Low level of development
IV) Lowest level of development

1) High Level of Development :

There are six administrative units - Imphal West, Imphal East, Jiribam, Bishenpur, Thoubal and Churachandpur, receive the high level of development, their values are 22.62, 22.00, 20.1,

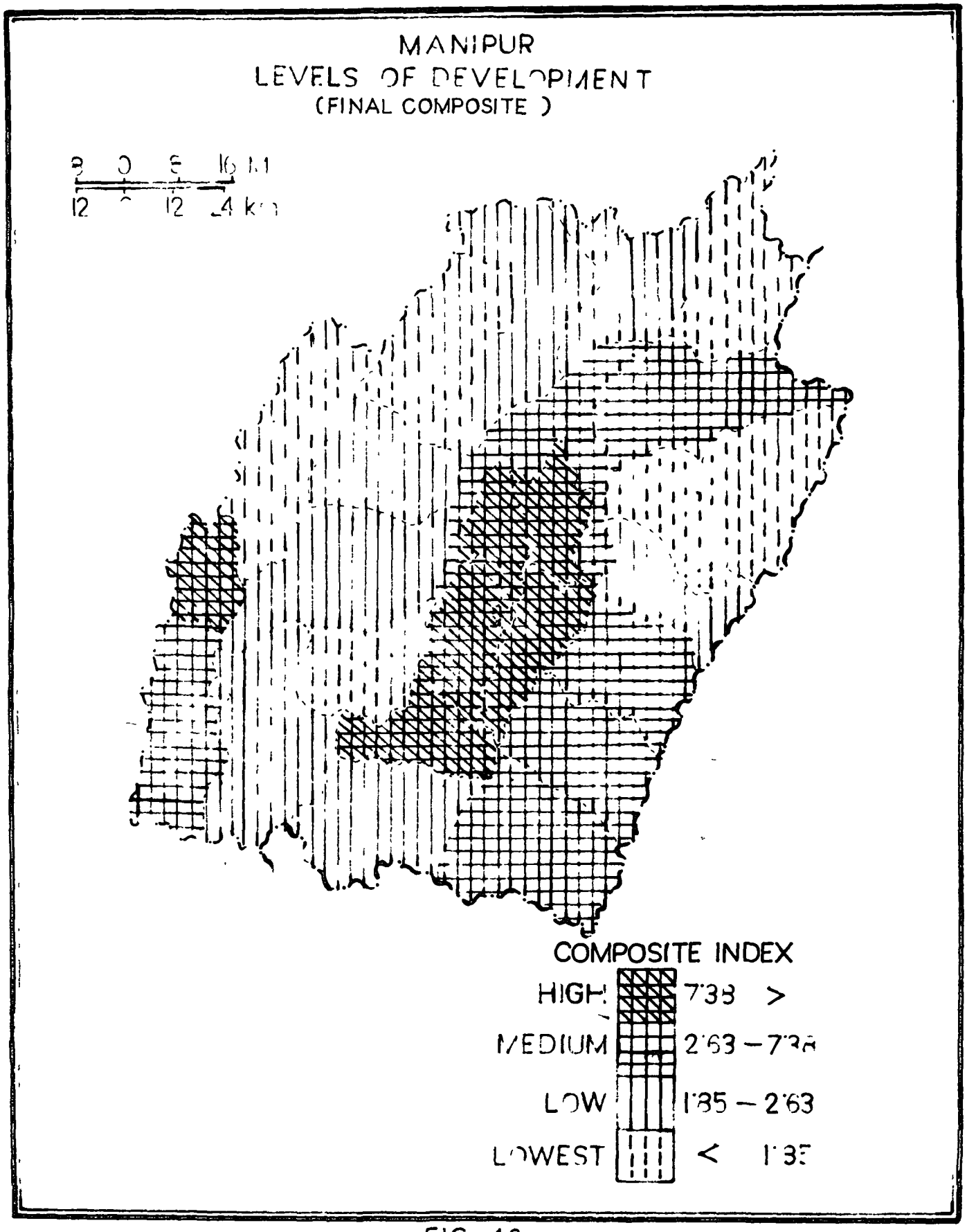
MANIPUR
LEVELS OF DEVELOPMENT
(FINAL COMPOSITE)
8 0 8 16 M
12 0 12 24 Km
COMPOSITE INDEX
HIGH 7·38 >
MEDIUM 2·63 – 7·38
LOW 1·35 – 2·63
LOWEST < 1·35

FIG. 46

19.68, 18,26 and 9.55, respectively. From the earlier century this valley(excluding Churachandpur and Jiribam) is the home land of Meitei, become strikingly advance in socio-economic and cultural development compared to the surrounding hilly tract. Jiribam is the extension part of the Cachar plain has similar characteristics in agriculture and other economic pursuits. Churachandpur is the only hilly units falling under this category but the index is markedly low in comparision of the plain units. The general characteristics of these units are ; economically the central plain is the hub of the region, in population there is large percentage of workers alongwith the good share of secondary and tertiary workers, nearly 67 percent of the State population is concentracted here. On Agricultural side also these units are quite advanced in term of cropping pattern, using of technology and other infrastructures.It is followed by household industries like, weaving,bamboo and cane making, carpentary and other small scale industries. Since the administrative offices are located at the capital and nearby of it these units have good facilities of transport and communication and amenities.

These units have formed the fast developing where resource potential is immense. It has shown dynamism in development. Attention should be given to the sceintific cultivation by giving essential infrastructures. Loktak

project(now it is undergoing), if completed, will enhance and change the entire economic life as it will flourish in industrial landscape, household purposes and various economic activities. But the most important plan should be made first is to minimise the pressure of population; otherwise it will deteriorate in the regional growth of socio-economic structure.

Medium level of development(between 2.63 - 7.38) :

It includes Chakpikarong, Ukhrul Central, Sadar Hills, Chandel, Tengnoupal and Tipaimukh and get the composite index of 5.21, 4.51, 4.36, 3.78, 3.74 and 3.46 respectively.Although they have varied natural landforms with the high percentage of tribal compsition, these units grow their economic condition, due to good transport and communication links from Imphal to the respective head quarters. Sadar hills is the low lying hilly tracts in the North of Imphal valley, has advantageously put for cultivation of Maize, Millets,Rice and Vegetables. The Ukhrul Central is the core area of Thangkhul Naga, the advanced group among the Naga in Manipur, has the potential of limestone and forest based. The three units of the South East - Tengnoupal, Chandel and Chakpikarong are dominated by the Kuki groups with the good facilities of communication, forest based and Agriculture. Tipaimukh is also falling in this category, it has good prospects of future development from the project of Barak river and Agriculture and its small fertile valley.

This region has good prospect for the development of immediate future if the proper and adequate provisions are being made. Sadar Hills can be experienced in Sericulture from the Oak tree and cultivation of cereal crops. Alongwith the exploitation of forest resource, mineral resource can also be expected if proper investigation is done in Ukhrul, Tengnoupal, Chandel and Chakpikarong.

Low Level of Development (between 1.85 to 2.63) :

The units under this low level of development, are Mao West, E st, Thanlon, Thinghat, Nungba and Tamenglong and their composite index are 2.63, 2.52, 2.25, 2.16, 2.14 and 2.01 respectively.

These units scatter over the hilly tracts. It is the dominance of rural, agricultural and tribals population, that is, Kabui at Nungba and Tamenglong, Mao and Maram Naga at Mao East and West and Kuki groups at Thanlon and Thinghat. The region is characterised by dense forest, practice of jhum cultivation, almost totaly absence of skill man power, poor communication and electric and other amenities and low potential of natural resource based.

Here the improvement of jhum cultivation would not raise the subsistance economic level unless some other agricultural activities like, fruit gardening, vegetable farming, rearing of cattle and poultry farming are undertaken. Also the construction of roads to have better link

with the State capital, electrification, educated the rural people in order to understand the modern society should be done.

Lowest Level of Development :

It constitutes below 1.85 composite index and represents the lowest development in the region. The lowest development units are Kamjong, Tamenglong,North, Ukhrul North, Churachandpur North, Phungyar Phaisat and Tamenglong West and their development values are 1.67, 1.66, 1.66, 1.42, 1.33 and .97, respectively. They are located at the border or interior part of region where undulated landscape, economically and socio-culturally backward population, uneconomic utilization of their resources, poor agricultural practice(Juming land) and inadequate transport and communication links are characterised.

In the form of plan-rehabilitation the development approaches can be made by giving the emphasis towards resource utilisation with the good facilities of transport and communication. The imporvement of agricultural economy with the instruction of spread education is also be fruithful to the up growth of the economic condition.

PROSPECT OF DEVELOPMENT :

After measuring statistically, the levels of development of the region from the socio-economic

indicators it can be highlighted the future development prospects by superimposing the physical regions(or units) demarcated on the basis of static geographical elements (Fig No.11) with the final composite index map(Fig.No.46). So that, it can be seen the correlated reflection and actual image of the innert potency of natural resources to the economy of the State.

It can be justified that the Central plain region has an immense scope of development provided programme for industries, intensive agriculture and solved the pressure of population with the considerable plan of the town development are done. The next hopeful region for development is the jiribam and Tipaimukh plain, in which high and medium level of development units are falling.

It may be further predicated when the train link connects Jiribam with the Silchar and the Tipaimukh project for Dam are completed more chances of raising economic level will be there. The third prospective region is viewed in the Eastern intermidate mountainous tract, it is the periphery and narrow hilly area covered by Sadar Hills and partly by Tengnoupal and Chandel units, represent the medium level of development in the final composite index map. The fourth one is the Southern mountainous tract is formed by the three development levels - high in Churachandpur, midium(partly covered) in Chakpikarong and low

in Thinghat and Thanlon (small portion). The fifth prospective region in development is found in Teret and Chicaphula basins which is located at the South Eastern part of the State, has equal share of levels of development (medium) in all the three units- Tengnoupal, Chandel and Chakpikarong. The Sixth region is occured in the Northern high mountainous tract because of Ukhrul and Mao East in which medium and low level of development are falling as the transport network facilitate the regions economy. The seventh one lies in the West mountainous tract, it can be experimented from the forest based and agro based resources. The eight region which has prospectives in development is found in the West inter-mediate mountainous tract regions because it is covered extensively with medium and low level of development units. The regions which have very less changes of prospects in development are, Tuiyang and Khunokhong basins, Chingai and Jessami basins and Upper Barak basins as these regions are located in the border and frontier of the State and they experienced unfavourable climatic condition, typical land-forms due to the deep cut valleys and dense forest with very poor communication, specially with the Central plain of Manipur.

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