


REGIONAL STRUCTURE OF  
: KARBI ANGLONG AND NORTH CACHAR HILLS :

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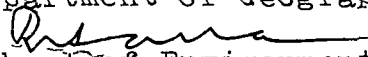
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*P.C.Phangsho*  
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INTRODUCTION

The term 'region' that a regional geographer is concerned with, usually means the two dimensional space on the surface of the earth, where one would find similarity, coherence in the distribution of the geographical elements. B.A. Gotkin says : "A region is the geographer's term for an environmental type in which the geographic elements are arranged in certain definite and constant relations."<sup>1</sup> The geographic elements, such as relief, drainage, climate, etc. and including the man and his activities, all combined form a region which in turn forms an environment for man and determine his activities.

One of the purposes of the study of regional structure is to regionalize the distribution pattern of the various elements and to find out sub-regions for a better understanding. It also aims at looking into the biotic and non-biotic resources that the micro-regions possess. Thus the regionalization ultimately aims at helping the regional planner, who plans for a better regional development as well as to minimize the regional disparities.

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1. Misra, R.P. (Ed.), Regional Planning (University of Mysore, 1969), P. 11

The region of study is 'Karbi Anglong<sup>2</sup> and North Cachar Hills.' Karbi Anglong and North Cachar Hills are the only two hill districts of present Assam. Karbi Anglong is the homeland of the Karbis while the North Cachar Hills is that of the Dimasa Kacharis.<sup>3</sup>

The region is centrally located in the southern part of Assam (Fig. 1) bounded by the hills of Nagaland and Manipur on the east and by the plateau of Jaintia hills on the west. On the north there lies the plain of the Brahmaputra river and on the south the plain of the upper Barak river. The region extends from 24°56' to 26°36' N and from 92°07' to 93°54' E with a boundary line of about 1950 kilometres.

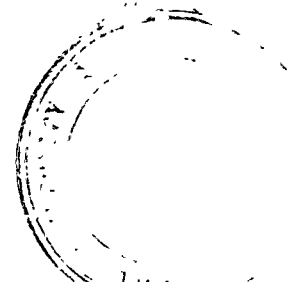
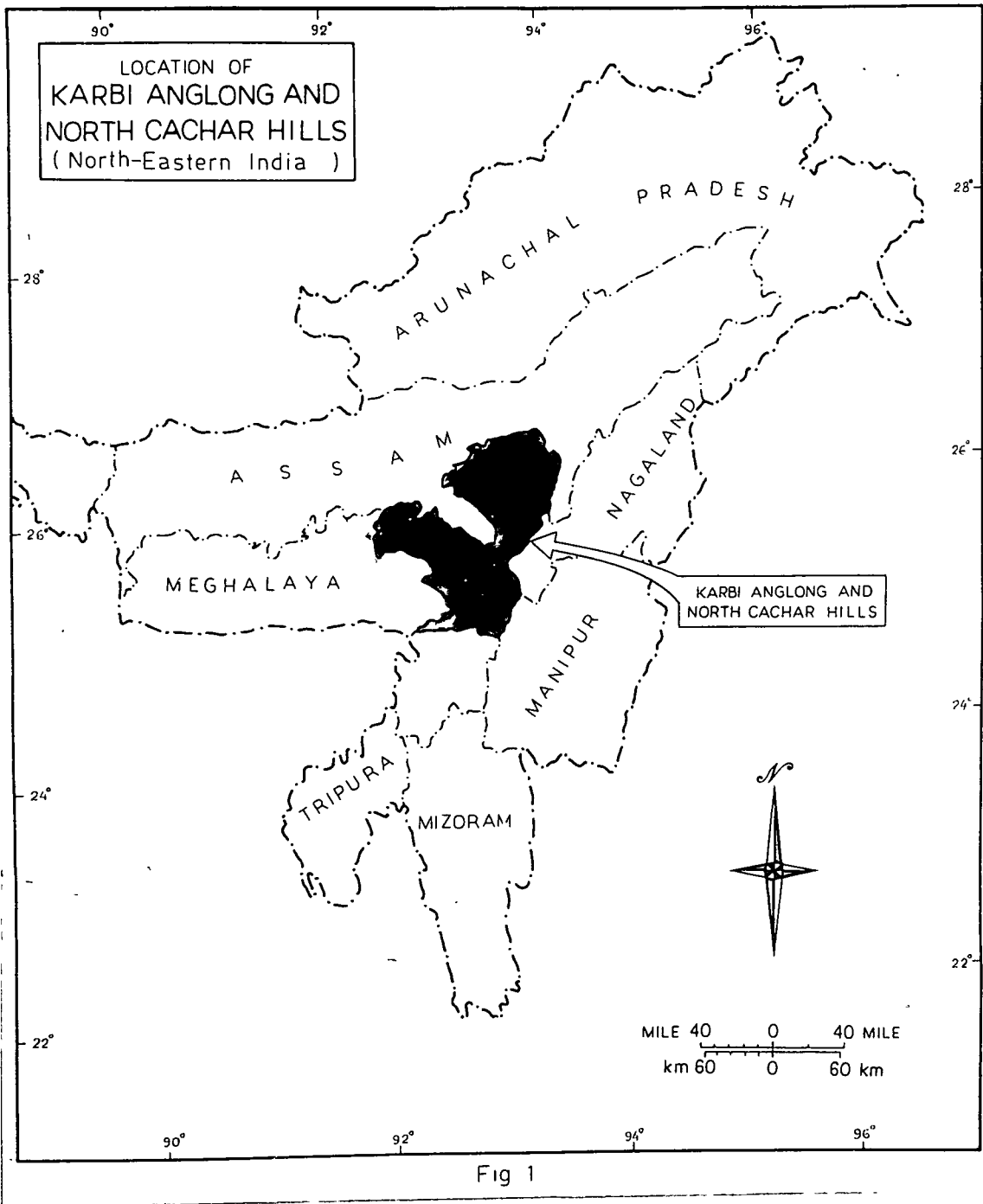
The region is a low plateau with the average height of 2,479.5 feet (755.95 m). Much of it bears similar characteristics of the Meghalaya plateau and partly that of the Purvanchal hills of Manipur and Nagaland. Except for few limited areas, greater part of the region is influenced by hot and damp climate with thick forests and grasses.

The region is chiefly inhabited by the major tribes of Karbis and Dimasas. Other tribes forming minor groups are Zemi Nagas, Kukis, Hmars, Lalungs and Garos, etc. The region was ruled

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2. 'Karbi' a synonym of 'Arleng' or more popularly 'Mikir' tribe. Terang, R. B., Karbi Lamtasam - A Mikir-English-Assamese dictionary (Diphu, 1974) p. 44.

3. 'Anglong' means hills in Karbi dialect. 'Dimasa' is a sub-tribe of the Kacharis - popularly known as Dinasa Kachari or Hill Kachari by plainmen. "According to Sir Edward Gait, the word Dimasa is a corruption of Dima-fisa i.e. sons of the Great River." Barkakaki, S., Tribes of Assam (New Delhi, 1969), p. 66.



PHYSICAL PERSPECTIVE  
of 'Karbi Anglong & N.C.Hills' & its surrounding



Fig. 2

by the Hindu Kings of Varman, Pala, Kocha and Kachari dynasties at various times, and by the British from the middle of 19th century to the middle of 20th century.

The region has an area of 15,222 sq. km. of which approximately 79% hills and 21% plains. The total population is 455,357 giving a density of 30 persons per sq. km. according to 1971 census. The urban population comprises 3.38% to the total. The region comprises 17.79% and 3.11% of area and population of Assam, respectively.

Many parts of the region are still without any road or communication - the inhabitants remain in extremely backward conditions, practically knowing nothing about the outside world.

The region comprises the following administrative divisions:

| <u>Districts</u>      | <u>Thanas</u>  |
|-----------------------|--|
| 1. Karbi Anglong      | ( i) Baithalangso<br>( ii) Howraghat<br>( iii) Bokajan<br>( iv) Diphu<br>( |
| 2. North Cachar Hills | ( v) Haflong<br>( vi) Maibong  |

#### DELIMITATION OF THE REGION:

The outer political boundary of the districts has been taken as the regional boundary as it coincides with natural boundary for most parts. The plains of Nowgong and Sibsagar on the north-west, north and north-east lie below 500 feet contour with the exceptions

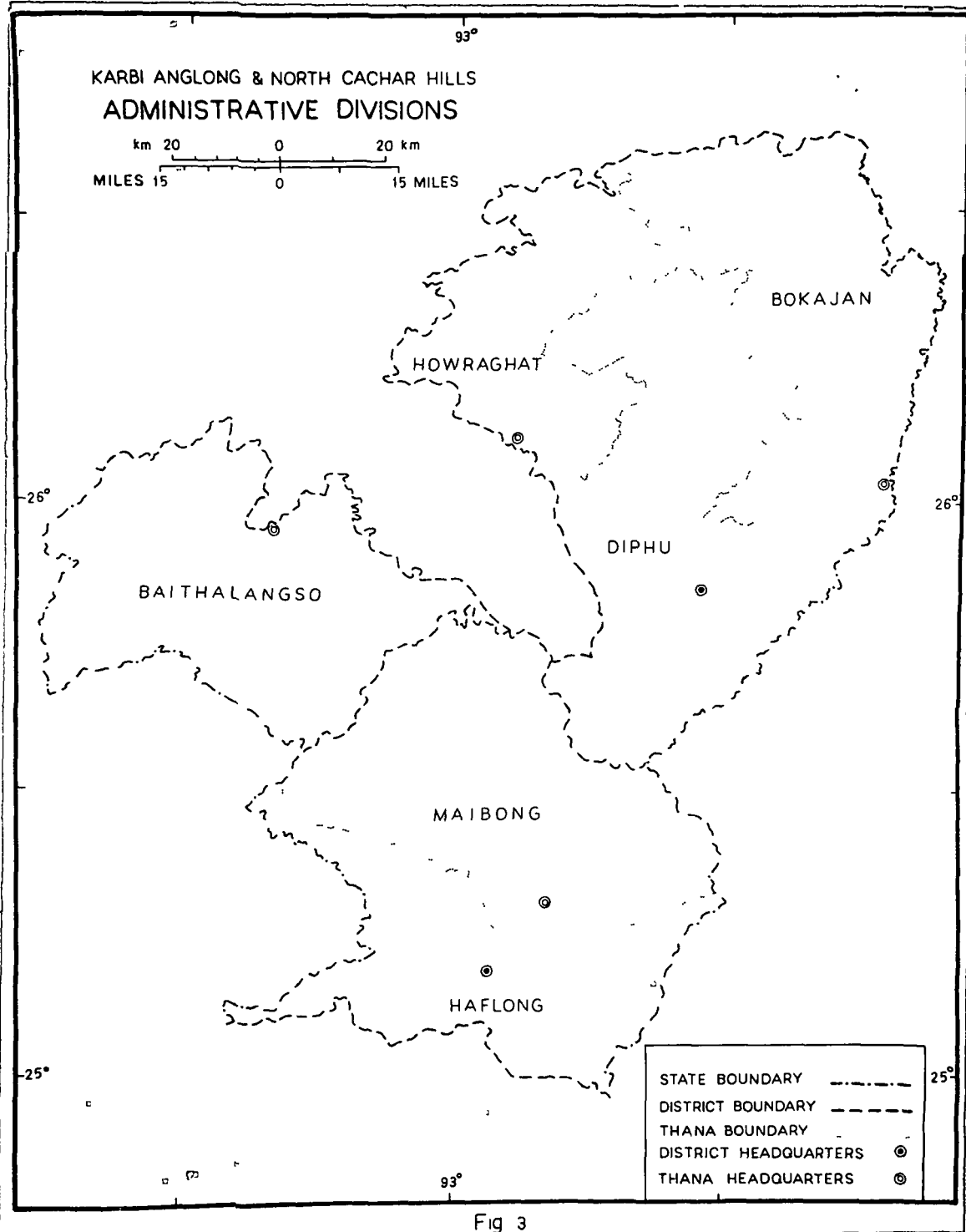


Fig 3

near Baithalangso and Howraghat. Near Baithalangso, the boundary follows the Umkhen (or Barapani) river. From Agres village to Meimaro Bill village it follows the course of the main Kapili river which flows on the plain. From Meimaro Bill up to Lamsakhang the boundary does not follow any natural object but runs just on the plain. Similarly, near Howraghat the boundary follows the course of the Jamuna river from Beloguri Gaon<sup>4</sup> to Magurmari Gaon and few kilometres just on the plain.

The Dhansiri (or Dima) river forms almost the entire eastern boundary of the region with exceptions in the two ends - the northern formed by the Kaliani a tributary to the Dhansiri and the southern by the Jiri a tributary to the Barak.

The southern boundary, running from west to east, follows the Barail watershed for most parts.

The western boundary is formed by the rivers, like Kopili, Umkhen and Umiam and their tributaries.

#### OBJECTIVE OF STUDY:

The study has been made on the three main objectives as follows:

- i) To identify the two districts of Karbi Anglong and North Cachar Hills as one physical and cultural unit (or region).

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4. 'Gaon' and 'village', according to 1971 census, are different. 'Gaon' is a non-cadastral settlement in the 'char' and forest areas of the plains. 'Village' is a cadastral settlement. 'Gaon' and 'village', however, have been taken as synonymous for the hill districts. - District Census Handbook of Mikir Hills District, 1971, p. 129.

- ii) To know the geographical components, like physiography, climate, physical and human resources, economic activities, settlements etc. of the region with special attention to man's activities in relation to his physical surrounding in both spatial and temporal dimensions.
- iii) To identify the micro-regions on the bases of the findings of the above geographical studies as well as the levels of development so as to suggest minimization of intra-regional disparities, leading to balanced regional development in general.

#### SOURCE MATERIALS:

Historical books and articles etc. written on the important tribes of the region or of the neighbouring tribes and regions, and also the linguistic survey reports etc. form the main source materials for the historical portion.

Reports on geological findings and the Geological Survey of India's various publications on the region provide a valuable source for the geological part of the study, especially of the latest mineral reserves etc.. The half-inch sheets prepared by the Survey of India are the main sources of physiographic studies. Climatic data presented in the towns by the Department of Agriculture and also the 'Climatological table (1931 - 1960)' prepared by the Indian Meteorological Department etc. provide materials for the climatic column of study. Various reports of the departments of forest, soil conservation etc. provide materials for knowing about soil types and characteristics, types of vegetation and forest resources etc..

Demographic structure, economic structure, transport and communication, and settlement structure etc. are based on the census publications of 1961 and 1971, and also the latest Statistical Handbook of Assam (1976). The thana maps prepared by the Directorate of Census Operation of Assam and the Assam Survey, road map by the Public Works Department of Karbi Anglong and North Cachar Hills, District Hand-books, Economic Survey of Assam, Journal of the North-East India Geographical Society etc. all supplement the studies other than physical.

'Geography of Assam' (NBT) and 'India A Regional Geography' (NCSI) have supplemented the study of regional structure in general.

#### PLAN AND SCOPE OF STUDY:

Depending on the objectives and source materials, the entire regional study has been divided into eight chapters.

Chapter I deals with the general introduction of the region including source materials and methods and technique etc.

Chapter II deals with the historical evolution of the region. Evolution of settlements, population migrations in the early past, evolution of transport routes and the urbanization in retrospect have been emphasized.

Chapter III deals with the physical setting including geology, physiography, climate, soils and vegetation. Emphasis has been given on how these physical aspects have been related to each other and have influenced the activities of man.

Chapter IV deals with the demographic structure with special attention to rural population and Scheduled Tribe and Scheduled Caste studies.

Chapter V deals with economic structure of the region especially the human resource and agricultural resource positions. It has also been tried to throw lights on the economic activities of the individual tribes.

Chapter VI deals with the transport and communication positions, and their relation with the spatial distribution of population and settlements.

Chapter VII deals with the settlements in general, evolution and pattern of settlements, and also the functional morphologies of the urban centres.

Chapter VIII deals with the regionalization on the basis of levels of development.

Conclusion.

#### METHODOLOGY AND TECHNIQUE:

The analysis of historical chapter is based mainly on the qualitative statements that have been collected from various historical sources. Thereby an attempt has been made to see the historical evolution of the region in chronological order. The studies of other chapters are based on the analyses of various tables, maps and diagrams which have been prepared with the help of various quantitative and cartographic techniques.

For the studies of demographic structure and economic structure usually the thanas have been taken as the micro-regions for which data are easily available. Wherever possible, the agricultural economy for instance, the blocks have been taken as the smallest units for the purpose of analysis.

Tables giving percentage, maps showing choropleths, isopleths and graphs and various cartograms, coefficient of variation, regression analysis, Nearest Neighbour Distance etc. are some of the commonly used cartographic and quantitative techniques for analysis.

Interpretations and conclusions have been drawn after applying such methods and techniques.

#### PROBLEMS :

Non availability of sufficient data and source materials, especially the demographic and economic portions is the main problem. The district level immigration data for 1971, for instance, could not be procured, whereas the high decadal population growth is attributed to the immigrations.

Non availability of sufficient literature on the major tribes, like the Karbis and the Dimasas is another problem. Therefore, informations about them had to be collected mostly from references only. Moreover, the tribewise economic structure could not be studied for 1971 which do not give such informations.

One of the great problems is the bifurcation of the two districts after 1961. Prior to that they formed single district.

Therefore, their separation has created lot of doubts and confusions regarding many aspects, and therefore, comparison could not be made.

Lack of sufficient weather observatories in the region is another big problem for climatic analysis and climatic regionalization etc.

These are some of the difficulties. The comparative studies for 1961 and 1971 could not be made and therefore, that of 1971 has been made in most cases.

## CHAPTER-II

HISTORICAL BASE

The region of Karbi Anglong and North Cachar Hills lacks comprehensive historical studies. The tales and myths prevalent among the aborigines do not serve the purpose of arranging its historical events in chronological order.

It is, however, somewhat possible to know the earliest events of the region, though not in detail, in connection with the history of Kamrupa, a Hindu Kingdom (present Assam and some of its adjoining areas), that existed during the period of fourth to seventh centuries. During the following centuries several dynasties ruled different parts of Kamrupa. Among all these dynasties, the Kachari was the most powerful. The Kacharis ruled the southern part of the Brahmaputra valley including the hill tract of North Cachar. This powerful tribe gradually declined due to successive Ahom invasions over a long period of about four centuries. The Ahoms with their superior power caused a great impact upon the life and tradition of the ruling tribe of Karbis and Kacharis. When the British came, the region entered into another phase of its history. Prior to the British, there was no clear

cut political boundary in the region. During British time, again, a great many changes took place, especially in regards of political boundaries and transport and communications. After independence, the hill tracts of the Karbis and the North Cachar drew much attention of the Government of India. The Government ultimately decided to form them into separate hill districts.

For the purpose of knowing the geographical aspects, such as migration of population to and from the region, distribution and origin of settlements, economic activities and origin of transport rules etc., in the light of history, the following historical periods<sup>1</sup> have been taken.

- 1) Pre Ahom Period (prior to 13th Century)
- 2) Ahom Period (1228 - 1826 A.D.)
- 3) British Period (1826 - 1947 A.D.)
- 4) Post Independence (after 1947 A.D.)

The history of Kamrupa deals mostly with its plain parts. Even upto the end of the 12th century, history does not give any clear and definite account of this hilly tract. It is the beginning of the 13th century that the ruling Kachari tribe came to the notice of the Ahoms who invaded the Brahmaputra valley from the east. The Kacharis and the Ahoms entered into rivalry for many centuries.

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1. The historical periods have been taken from Gait's A History of Assam and D. Dutta's History of Assam. Each of the periods is distinct from the other. During the Pre-Ahom Period i.e. during the reign of the Hindu dynasties practically nothing is known about the region for certain.

Similarly, the Karbis and other tribes, in many occasions, came in contact with the Ahoms who used to keep systematic records of such events. Therefore, it is possible to know about the region during this period much better than the earlier. Again, as a result of the British possession of India since 1826, the Ahom rule came to an end for ever. The region entered into a completely new era of western culture. Similarly, after India got Independence from the British in 1947, the region again entered into another era of its history.

Thus each of the historical periods throws light on the region in a distinct manner.

#### PRE AHOM PERIOD (Prior to 13th Century) :

The Ahoms entered the Brahmaputra valley through Patkoi range in 1228 A.D. By that time the kingdom of Kamrupa was ruled by several dynasties. Much before that i.e. during the 7th Century the whole Kamrupa was under one Hindu dynasty called Varman whose capital was at Pragjyotispur (present Gauhati).<sup>2</sup>

It is also known from the authentic historical writings that after the death of Kumar Bhaskar Varman, the

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2. Prof. H.P.Das, in his book Geography of Assam,<sup>2</sup> says that there are mentions in 'Kalika Puran', a work of the 10th century, the temple of Kamakhya in Nilachal near Gauhati was the centre of Kamrupa.

last King of the Varman dynasty, Kamrupa was divided into several smaller divisions and were ruled by Palas, Kochas, Kacharis and Chutiyas. Varman and Pala dynasties have ruled the Karbi Anglong area, and is testified by the archaeological discoveries of old Hindu temples and images from Parokhoa to Dighalpani on one side and Numaligarh to Deopani on the other. After the fall of Pala dynasty, the Karbis established kingdoms along the low hills of present western Sibsagar and parts of Nowgong.

The Kacharis became very powerful during the latter part of 12th and early part of 13th centuries. Historians are of the opinion that the Kacharis were among the very few early tribes inhabiting the Brahmaputra valley. Just before the advent of the Ahoms, the Kachari kingdom extended in the southern part of the Brahmaputra valley from Kallang river on the west to Dikhu river on the east including the hill tract of North Cachar<sup>3</sup>. Kachari settlements and activities, however, concentrated in the tract lying between the Dikhu and Dima (Dhansiri) rivers.

Migration : In the 'Gazetteer of Nagaland, Kohima District', editor H. Bareh says that "According to traditions, Southern Nagaland offered a land route to tribes migrating from

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The country extended around this temple for 100 yojanas or about 450 miles (720 Km). If it was so, the kingdom of Kamrupa included the region of Karbi Anglong and North Cachar which falls within that radius.

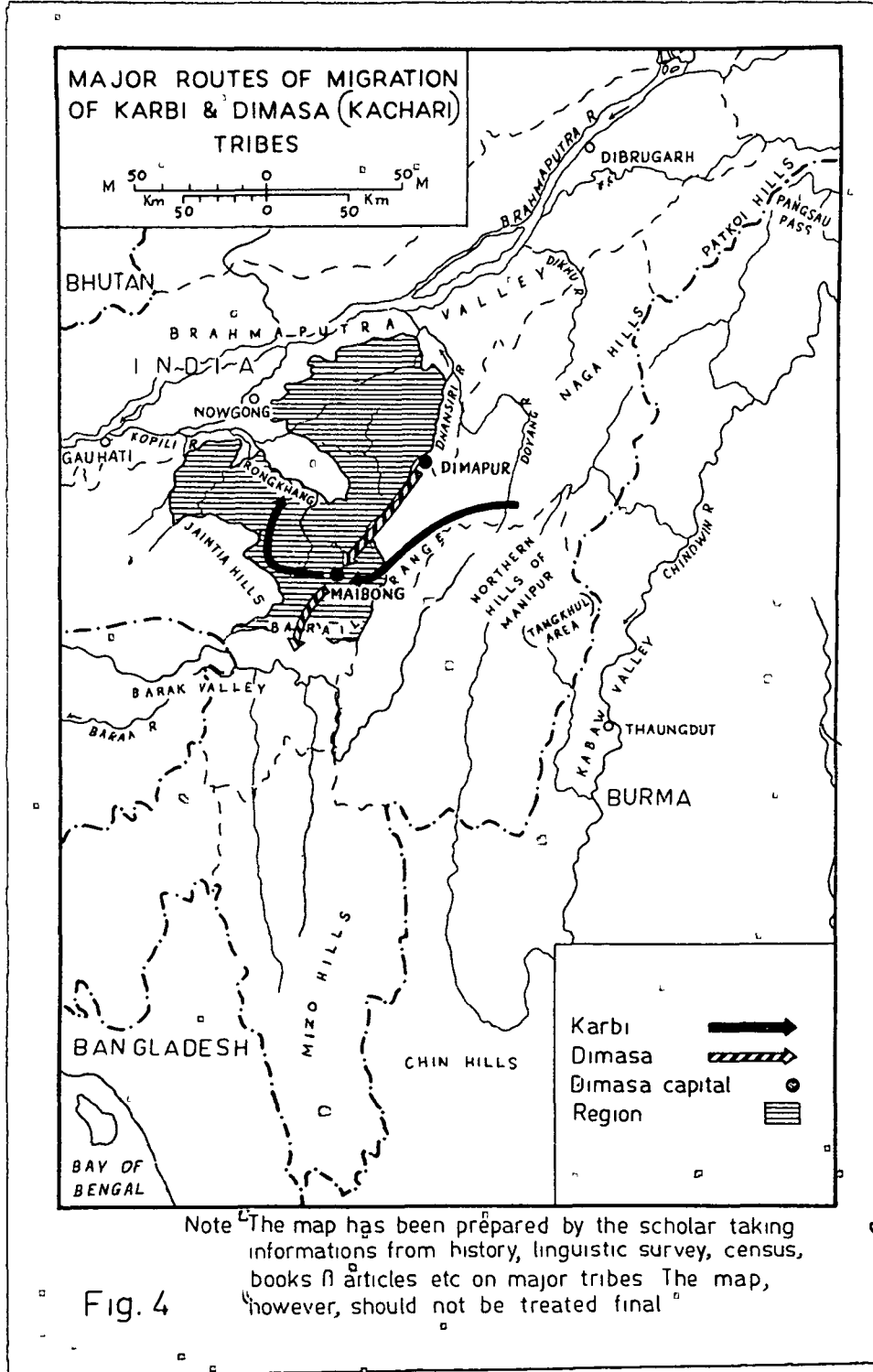
Burma via Manipur hills through which, a passage was made by tribes who preceded the present people of the Patkoi mountain." The Krabis also, perhaps followed the same route from Burma. Supporting this, it could be pointed out that Sir Charles Lyall in his book 'The Mikirs' has traced out many strong linguistic and other affinities of the Karbis with the western and southern Nagas especially the Tangkhuls. He further traces out affinities of the Karbis and the Tangkhuls with many tribes living in the Chin area of Burma. He goes on saying, that there are number of Karbi words for rivers and places in and around Maibong which is located just on the north of the Barail range. Such words are also to be found in the Japvo hills area of Nagaland but such areas have very little or no Karbi settlements now. Therefore, what H. Bareh says above, could also be accepted as the route of migration of the Karbis into North Cachar Hills (Fig. 4).

Again, by pointing out the rule of Pala dynasty over the Karbis it can be roughly established that their time of migration into the region was 8th to 9th centuries or earlier.

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3. Gait E., A History of Assam (Calcutta : Thacker Spink and Company Private Limited, 1963), P.300.

Gait, however, did not give any account of the Kacharis in North Cachar although, it was a part of their kingdom even before the Ahom's invasion.



It is quite likely that their settlements were never permanent as they are seen still to-day, due to the practice of jhum or shifting cultivation. The economic activities other than shifting cultivation, is of course not possibly existed at this time.

#### AHOM PERIOD (1228-1826 A.D.) :

From Ahom period one comes to know about the rules of the Dimasas in North Cachar Hills and of the Jaintias in the western part of the Karbi Anglong.

Regarding the Dimasas the study is concerned with when after the fall of their territory in the Dhansiri valley and their capital at Dimapur in the hands of the Ahoms, they came to establish their capital at Maibong during the fourth decade of the 16th century. This was also the time when the first Jaintia ruler Parvat Roy established his kingdom in the Jaintia Hills after the death of a Brahmin king.<sup>4</sup> It is found from the historical account of Assam that the Rajas of the Jaintias and of the Kacharis ruled the hill tracts lying west and the east of the Kopili river, respectively, and at this time the Ahoms were ruling the Brahmaputra valley.

During this long period of three centuries the Jaintias extended their kingdom to the south and western

foothill areas of the Nowgong plain while the Kacharis came in possession of the Upper Barak plain - the present Cachar district lying south of the Barails. According to Sir Lyall, the Karbis and the Jaintias, and hence came to be influenced a lot by these two tribes.

There were a great many important events which took place during the reigns of the Jaintias in the western and southern parts of the region. The important ones are as follows :

Migration : When the Kachari capital at Dimapur fell in the hands of the Ahoms, especially due to the severe attacks by Suhungmung during 1526-36, many people migrated from the banks of the Dhansiri river to that of the Mahur river. They thus shifted their capital from Dimapur to Maibong, and later on from Maibong to Khaspur in Cachar, following which many other villages also shifted to various safer places. Therefore, the Upper Dhansiri valley and the Jatinga ~~Jaintia~~ river valley served as the routes of their migration (Fig. 4).

The Karbis who were inhabiting the Maibong areas, came under the powerful Kachari administration. They were oppressed by the Kacharis and after living

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4. Dutta, D., History of Assam, P.167.

for some decades, they migrated westward to Kopili.<sup>5</sup> The Karbis further moved downstream of the Kopili and established fort under the great warrior captain Thong Nakbe and other captains at Doyangmukh (or Diyaung-mukh).<sup>6</sup> The ruins of the fort are still to be seen. Later on they spread themselves in the southern part of Nowgong plain and just south west of the Kopili in the Jaintia Hills. This hill tract on the south west of the Kopili river became the territory of the Karbis and came to be known as Rongkhang. This Rongkhang later on came under Jaintia occupation, and being unable to bear the step-motherly treatments many Karbis came down to the Nowgong plain at Raha for Ahom protection during the time of Jayadhvaj Singha to Rajeswar Singha.<sup>7</sup>

---

5. From near Maibong upto Kopili river there are number of places and rivers known by Karbi words, but no Karbi people now. Such words thus signify the former presence of the Karbis. Hence, their route of migration from Maibong to Kopili can be roughly traced. (Fig. 4.)

6. Lyall, C., The Mikirs (Gauhati : United Publishers), P. 5.

The most significant changes in the Kacharis and the Karbis as a result of their migrations are :

- a) a section of the Kacharis became hill dwellers (Dimasas) and
- b) a section of the Karbis became plain dwellers (called 'Dumrali' in their dialect and 'Tholua' in Assamese).

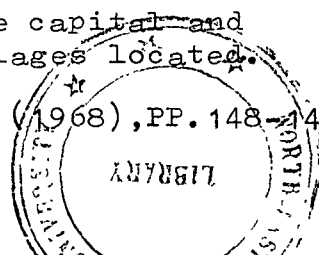
These two major migrations took place purely due to political reasons. But in the case of some other tribes, especially the Kukis, Hmars, Zemi Nagas and the Mizos, the migration into the region took place due to two reasons : a) political (inter-tribal feuds and inroads) and b) economic (in search of good cultivable land). It is, however, not easy to trace out their exact routes of migration to the North Cachar Hills but on the bases of dominant settlements and cultural affinities etc., it can be said that they entered from the south and east.

Settlements : The origin of permanent settlements is one of the most significant events that took place during the Ahom period.

From the above discussions it is possible to mention three most important places of permanent settlements as follows :

- i) Dimapur area where the capital and number of Kachari villages located.

7. Devi, L., Ahom-Tribal Relations (1968), PP. 148-149.



- ii) Maibong area where the Kacharis established their capital for the second time. Still today Dimasa Kacharis are the majority in and around Maibong.
- iii) Rongkhang area where the Karbis after leaving the Kachari kingdom established their own. Following the Jaintia expansion towards north, many Jaintia villages also were established within and nearby the Rongkhang area.

The urban development took place as may be seen in the case of Dimapur and Maibong.<sup>8</sup> Along with this, Kacharis' culture and civilization had also flourished. The architectural designs clearly indicate Bengali influence on the Kacharis. When the Ahoms brought these two towns under them Kachari culture started falling.

The history does not give any clear cut idea whether any urbanization took place in North Cachar or not during the reign of Tularam Senapati - another powerful Kachari king who ruled in early part of 19th century. But there are references that he gave shelter to the migrants and even recruited such people

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8. The ruins of Dimapur and Maibong show that Kacharis at that time attained a high level of civilization. They used bricks for building houses and walls - that was then unknown to the Ahoms. Dimapur was surrounded on three sides by a brick wall of nearly two miles long, while the fourth side was bounded by the Dhansiri. Its gateway with a pointed arch

in his army. Hence, it can be presumed that apart from Kachari villages the villages of Kukis and Nagas etc., also developed at different places, and became permanent settlements.

Trade and Commerce : Development of internal and external trade and commerce during Ahom period is worth mentioning. It can be well presumed that the two towns of Dimapur and Maibong facilitated internal markets for the local produces like vegetables and utensils etc. Dimapur, apart from administrative functions, served as the gateway for the external trade with the Ahoms from 14th to 16th centuries. Maibong being located in the southern part of the territory, perhaps facilitated establishing trade relations with East Bengal and Jaintia Kingdom. Ivory, shawls and articles of bamboo crafts were, perhaps, the out-going commodities and salt, silk including cotton, ornaments, metal utensils and implements were the chief incoming commodities.

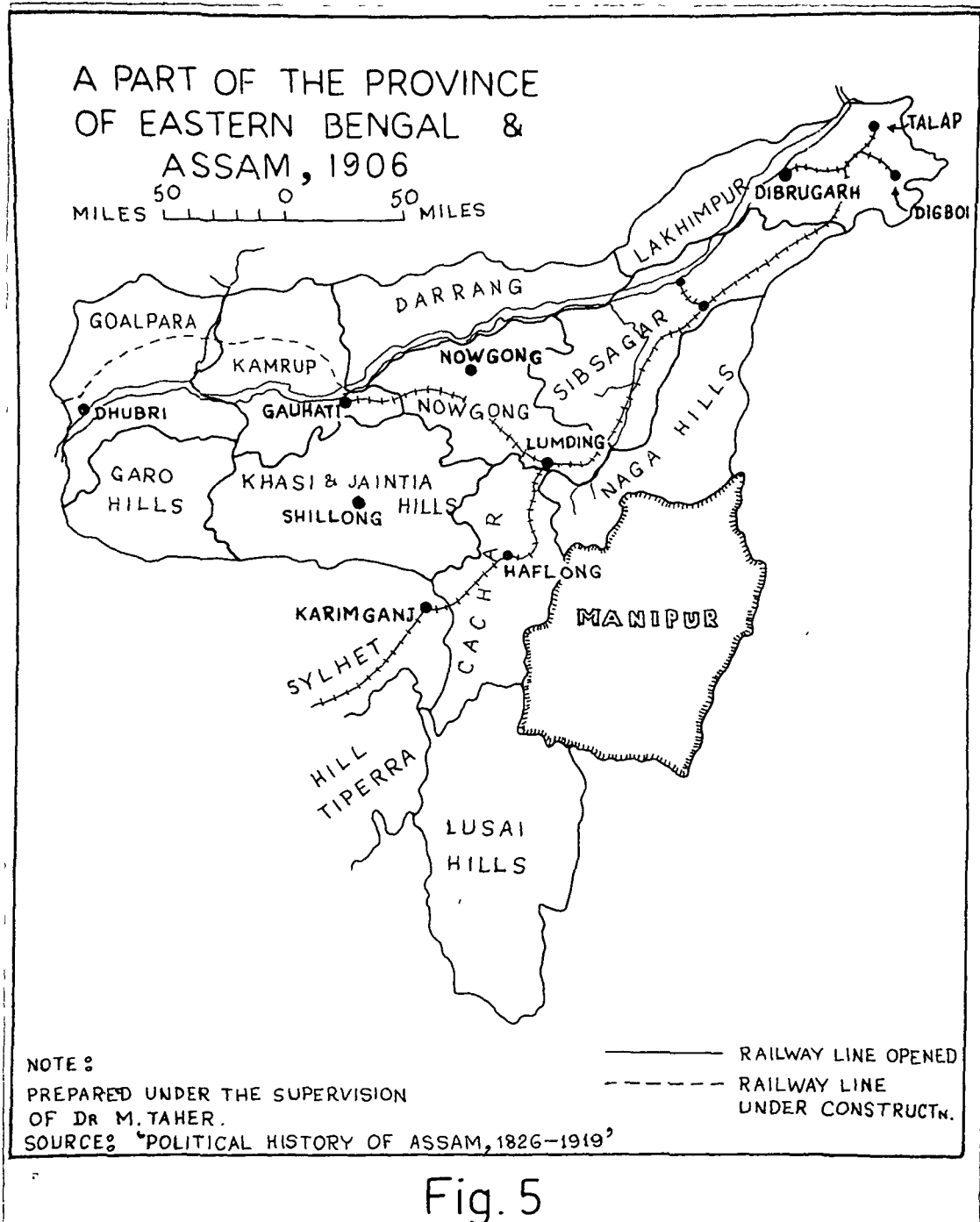
BRITISH PERIOD (1826 - 1947 A.D.) :

During the latter part of 18th century the British were on the possession of Sylhet. North

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distinctly illustrates the Bengali style of the Muham-  
adan architecture. Buildings could survive earthquakes  
shocks. The most notable feature is the ruins of a  
building of which the double rowed carved sandstone

contd...



Cachar gradually emerged as an independent kingdom of the Dimasas. By the end of the century Dimasas even openly revolted against their master kingdom in the Upper Barak valley.<sup>9</sup> During this time, Burmese invasion of Assam began. Burmese invasion was a threat not only to Assam but also to Manipur, Cachar, Naga Hills and to the entire eastern frontier. The whole frontier was politically unstable. The rising power of the Burmese and their westward expansion drew the attention of the British, and that is how the war between the two major powers broke out. The war came to an end only after signing the Treaty of Yandaboo in 1826. The British expelled the Burmese from the Brahmaputra valley - took up the administration in their hands and the Ahom rule came to an end.

After the death of Govinda Chandra, as he left no heir, the British annexed Cachar to British India in 1832. By this time North Cachar was under the rule

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pillars of about 12 ft. high and 5 ft. circumference still baffle the visitors. There are representations of the elephants, deer, dogs, ducks and peacocks but no human forms. Maibong was also surrounded by a wall, inside which the remains of several temples are still to be seen. Gait E., A History of Assam, PP.301-303.

of Tularam Senapati - the last Dimasa ruler. He led a pitiful life due to treacherous assault by his own cousin. He fled to Jaintia Hills for shelter. Later, at the intervention of Sir David Scott, agent to the Governor General for the North-East Frontier, Tularam was again allotted a tract in the North Cachar Hills, and he ruled this till his death in 1850. In 1854, the British annexed North Cachar Hills to Cachar District, and after some years made its subdivision.

Thereafter the British Government experienced series of Naga raids on the tribes, especially on the Kacharis and the Karbis living in the Barail-Dhansiri tract. The Government erected police posts at many places which also were not free from Naga harassments. Finally in 1866, a portion of the North Cachar Hills was given to the Nagas, and a new Naga Hills District was formed.

Towards the end of the 19th century the British Government paid attention to the constructions

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9. By this time the Kachari king was in the constant quarrel with the Manipuri kings. From D. Dutta's 'History of Assam' it seems that during the first and the second decades of the 19th century the Ahom king became so weak and helpless that practically nobody respected him as king.

of roads, and especially the railways in the Upper Brahmaputra valley. The construction works continued till the time of Second World War.

In the meantime the leaders of the Karbis and the Kacharis were planning to detach the hill tracts of Nowgong, Sibsagar and Cachar, and to form a separate district.<sup>10</sup>

As a result of British administration the region of Karbi Anglong and North Cachar Hills had undergone lot of internal changes as well as developments. They are discussed in brief :

i) Political stability : The region politically became secure and stable - otherwise it would have gone under Burmese rule or fallen a frequent victim of the Naga raiders. Naga raids and quarrels among the royal families and with the neighbouring kingdoms subsided to a great degree. Kachari rule also ended for ever.

ii) Development of transport : The construction of railway lines connecting Badarpur with Lunding and Lunding with Dimapur via Diphu is a landmark in the

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10. According to the editor and publisher of the first volume of Karbi Prasanga, Sri Debben Gogoi, the leaders submitted a memorandum in the hands of the Governor of Assam who visited the Mikir Hills in.

history of the region. Due to this, the region had its easy outlet to the Brahmaputra valley as well as the Barak valley. The development of roads, however, did not take place.

iii) Development of towns : As a result of the connection with the railway lines, Dimapur, the old abandoned town, revived. Due to the creation of Naga Hills and its inclusion within that, Dimapur has occupied now a strategic position, and is growing rapidly. Haflong, another new town near old historical town Maibong, developed as a result of shifting of the sub-divisional Headquarters of North Cachar from Gunjung to it in 1895.

iv) Growth of settlements (villages) : Along with the development and expansion of towns many local and non-local people also came, and established their villages nearby. These people go mostly for two types of economic activity, viz., partly agriculture and partly commerce. Many people had come down to the plain areas bordering the Nowgong and the Sibsagar

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1937. In the following years series of public meetings were held at different places and thus the public opinions created. But then India's Freedom movement

contd..

plains following the allocation of lands for permanent cultivations. Thus, growth of permanent villages was rapid in the plain areas.

v) Growth of economy : Introduction of tea plantations near Bokajan and extensive paddy cultivations by the permanent settlers in Rongkhang, Bokajan and Howraghat plains, opening of reserved forests and coal mining etc. had given an impetus to the general economic growth of the region.

Apart from these, socio-cultural setup of many tribes also started changing. The most notable event in this respect was the conversion of local tribals into Christianity by the Christian missionaries who got patronized by the British Government.

POST INDEPENDENCE (After 1947) :

After India's independence the demand for the formation of hill district was resumed by the leaders. Apart from 'Darbars' (councils) various other organizations such as the students' union and youths' association supported the case

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and preparation for Second World War were in full swing. The Karbi and Kachari leaders failed to achieve their demand during the British regime i.e. till 1947.

strongly. Finally the Centre decided to fulfil the aspirations of the hill leaders and their people, and as a result, the 'United Mikir and North Cachar Hills' district came into being on 17th November, 1951. The Karbi and the Kachari predominant hill tracts of Nowgong, Sibsagar, United Khasi and Jaintia Hills and Cachar districts were detached, and formed the United Mikir and North Cachar Hills district. Formerly Mikir Hills and North Cachar Hills were two sub-divisions, now two separate autonomous districts having their own District Councils. Again, in 1976, the Mikir Hills district was changed to its new name - Karbi Anglong.

Karbi Anglong and North Cachar Hills are the only two hill districts of present Assam enjoying full autonomy under the Sixth Schedule of the Constitution of India. Hence, the two districts form a distinct cultural region.

After the formation of the districts, the developmental activities have increased. They will be dealt with in the following chapters.

## CHAPTER-III

PHYSICAL SETTING

## GEOLOGY :

Geologically, the region is closely related with the Meghalaya plateau (of Archaean origin) and the Purvanchal hills i.e. the southern part of the Eastern Himalayas (of Tertiary origin). The entire area had, undergone tremendous Tertiary disturbances, especially in the south east, causing superimposition of Tertiary rocks over the pre-Cambrian basement and lot of metamorphism, folding and faulting had taken place (Fig. 6).

Structure and formation<sup>1</sup>: Broadly speaking, the area can be divided into three distinct geological units :

i) Part of Hamren Sub-division (West Karbi Anglong) - lying north of Mynriang, Amring rivers. Granite, gneiss and the Shillong Group of rocks pre-dominate in this unit.

ii) Part of Diphu Sub-division (East Karbi Anglong) lying north of the Jamuna river forms a

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1. Taken from the District census Handbook 'United Mikir and North Cachar Hills, 1961 and Miscellaneous Publication (GSI) No. 30.

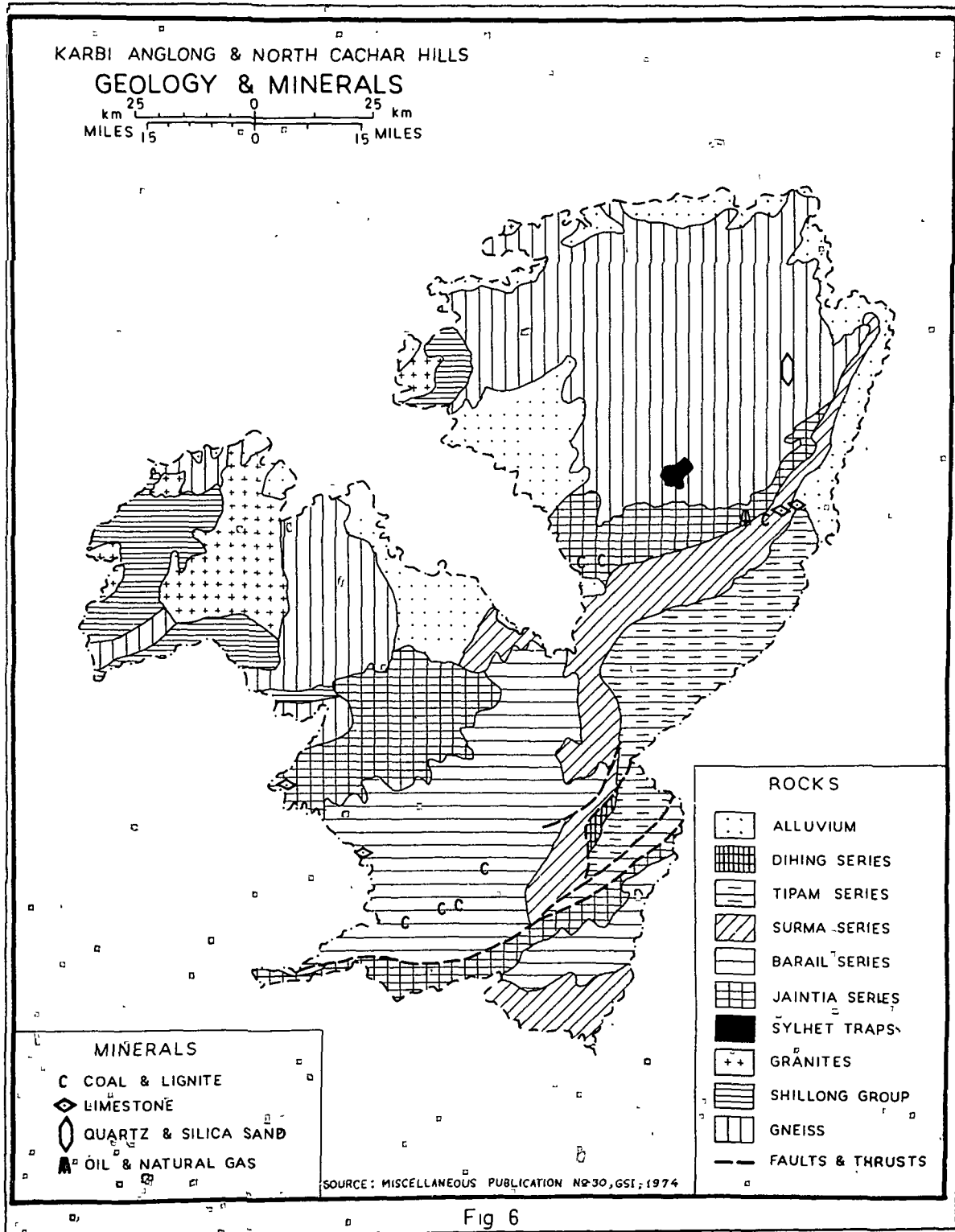


Fig 6

distinct unit (separated from the previous by the Nowgong plain) with predominantly gneissic rocks of Archaean group, and with isolated patches of gneiss and Shillong Group of rocks along the western margin.

iii) The whole of the North Cachar area covering parts of Hamren and Diphu sub-divisions of Karbi Anglong forms a separate unit with upper Tertiary rocks comprising Barail, Surma and Tipam series, etc. with number of folds, faults, thrusts and unconformities. The unit, practically, does not have any alluvial deposits except for a limited area flanking the Nowgong plain.

The geological succession<sup>2</sup> of the area is summarised below :

|            |                 |              |   |
|------------|-----------------|--------------|---|
| QUATERNARY | { Recent        |              | Laterite                                  |
|            | { Pleistocene   |              | Alluvium                                  |
|            |                 | Unconformity |   |
|            | { Pliocene      |              | Dihing Series                             |
|            |                 | Unconformity |   |
|            | { Miocene       |              | Tipam Series                              |
|            |                 | Unconformity |   |
|            | { Lr. Miocene   |              | Surma Series                              |
|            |                 | Unconformity |   |
|            | { Lr. Oligocene |              |   |
|            | to              |              | Barail Series                             |
| TERTIARY   | { Up. Eocene    | Unconformity |   |
|            | { Eocene        |              | Jaintia Series                            |
|            |                 | Unconformity |   |
|            | { Jurassic      |              | Sylhet Trap<br>Granite<br>Shillong Series |
|            |                 | Unconformity |   |
|            | { Archaean      |              | Gneissic Complex                          |

2. Source : District Census Handbook, 'United Mikir and North Cachar Hills, 1961'.

The Archaean Gneissic Complex is the oldest group of rocks that occur in the greater part of the Karbi Anglong and North Cachar Hills in the north-western fringe as isolated patches and as inliers. In Karbi Anglong the rock types show a variation from coarse grained porphyritic to foliated biotite granites associated with fine grained, strongly banded and foliated gneisses, schists and granulites. Intrusive pegmatite, quartz veins and basic sills and dykes also occur. At Koilajan and Miji areas pyroxene-granulites resembling charnokites occur within the Archaeans.

The Jurassic rocks unconformably overlie the Archaeans. The common rock types are quartzites, quartz-biotite-schists, quartz-sericite, schists, slate and phyllites. They occur mainly in Nongriron, Khinduli, Umbaso and Umisora areas. Isolated patches of Sylhet Traps occur around Myntdu, Arterangso and the Disobai Nala areas. Over the Trap is an irregular bed of white clay.

The Tertiary rocks, starting with the Jaintia Series, unconformably overlie the Jurassics.

The Tertiary fringes the Archaeans on the southern and south eastern side. The Jaintia Series extends along north western side of North Cachar towards Silvetta of Karbi Anglong where it gives workable coal and limestone. The Sylhet Limestone Stage of the series is more thick and widespread, and has the best exposure along the Kopili and Umrang valleys in the North Cachar. Isolated patches of it occur in the Nambar areas of Dhansiri valley. The Kopili Stage which overlies the Sylhet Limestone Stage, occurs as a continuous narrow belt along the eastern side of the Kopili valley but continues as detached patches into the Jamuna valley. Greyish ferruginous shale with interbedded sandstone and calcareous marl are the main rocks.

The Barail Series, comprising Laisang, Jenum and Renji formations, occupies the major portion lying north of the Haflong-Disang thrust of North Cachar. Greyish sandstone, sandy shale, carbonaceous shale, streaks of coal, argillaceous shale and hard sandstone etc. are the main types of rocks associated with the Barail Series.

The Surma Series overlies the Barails with an unconformity. It occurs mainly in the Lunding - Diphu area extending upto Barpathar and Nambar of the Dhansiri valley. In North Cachar Hills, the rocks belonging to the series are exposed in the Karem-Maibong-Mupa tract.

The Tipam Series overlying the Surmas with no marked unconformity occupies a wide area on the north western flank of the Barail range consisting of fairly coarse to gritty, false bedded, ferruginous sandstone interbedded with shale, sandy shale, clay and conglomerate.

The Quaternary deposits **comprising** alluvium and laterites are found overlying **earlier** formations at places. Vast tracts of alluviums are found along the borders of Karbi Anglong falling in the valley areas of Kopili, Dikharu and Dhansiri rivers.

Economic geology : Geological formation has a definite influence upon the area in respect of its minerals. From the above discussions, it is found that the regions coal and limestone positions are

somewhat economically viable. They are discussed below :

COAL : The reported coal seams are thin. They occur in the Lower Sylhet Sandstone formation of Jaintia Group, and the Surma Series of Karbi Anglong, and in the Barail Series in the North Cachar Hills (Fig.6). Following are the important coal bearing areas :

i) Koilajan : The area lies about 28 Km west north-west of Dimapur. The essential reserve is 6,37,000 tonnes. Quality is fairly good.

ii) Selvetta : The area lies few kilometres north of the Dimapur-Dabaka road near 39th milestone. The estimated reserve is 1,57,808.55 tonnes.

iii) Khunbaman : The Khunbaman hill area gives the estimated reserve of about one million tonnes.

Some other places located along the Jaintia Group of rocks and the Barails have also been reported to have coal seams but to be properly investigated. The total estimated reserve of coal occurring in the region is four million tonnes.

LIMESTONE : Limestone deposits of high grade nummulitic limestones occur in a more or less continuous horizon from Jaintia Hills of Meghalaya upto the North Cachar Hills and Eastern Karbi Anglong of Assam. Among all the occurrences reported so far, Koilajan is the largest. The deposits extend over an area of 12 sq. Km. having 5 different limestone bands. The inferred reserve is about 31 million tonnes.

Saini Langso, Harihajan, Bor Harihajan, Lumbha and some places of Kopili and Kharkhor rivers have also been reported to have limestone bands. The total reserve for the whole region is estimated at 154 million tonnes.

Apart from these two important minerals the following are also found to be promising from the economic point of view.

Feldspars occur in pegmatites in the Archaean Gneissic Complex.

Muscovite mica reported to occur in thin veins of pegmatite along with feldspar, tourmaline and glassy and smoky quartz in Naga Langso and Mukjan hill areas along the Kaliani river.

China clay (or Kaolin), the basic raw material for pottery industry, occurring in Selvetta, has been reported to have economic value for exploitation.

Building stone, the basaltic rock pieces, found in Koilajan area, the Jamuna, Harihajan and the Deopani river beds and near the Nambar falls, are suitable for the use as road metal and as aggregate in concrete.

Oil and natural gas, the important raw materials for many chemical industries, have been reported from near Koilajan. The detail of their economic feasibility is yet to be investigated.

Recently the AIR\* (Gauhati) news gave the GSI's\*\* discovery of high grade sillimanite in some places of Karbi Anglong. Further investigation is going on. Another piece of news of GSI appeared in The Assam Tribune, August 5, 1978, confirmed the presence of atomic minerals in the central Karbi Anglong district.

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\* All India Radio. *date* —

\*\* Geological Survey of India.

Thus the region proves to be rich in mineral deposits. Among all the minerals mined so far, limestone has the brighter prospect - the growing demand for cement in Assam, and its other districts having no limestone deposits, the limestone mining in Karbi Anglong could be expected to highly develop in near future. Likewise, the exploitation of sillimanites and atomic minerals would place the region not only in the industrial map of Assam but also of India. Therefore, the presence of minerals has a definite impact upon the industrial growth, transport and communication development and the entire economy of the region and its people in general. Geology, in due course of time, could change the personality of the region completely.

#### PHYSIOGRAPHY :

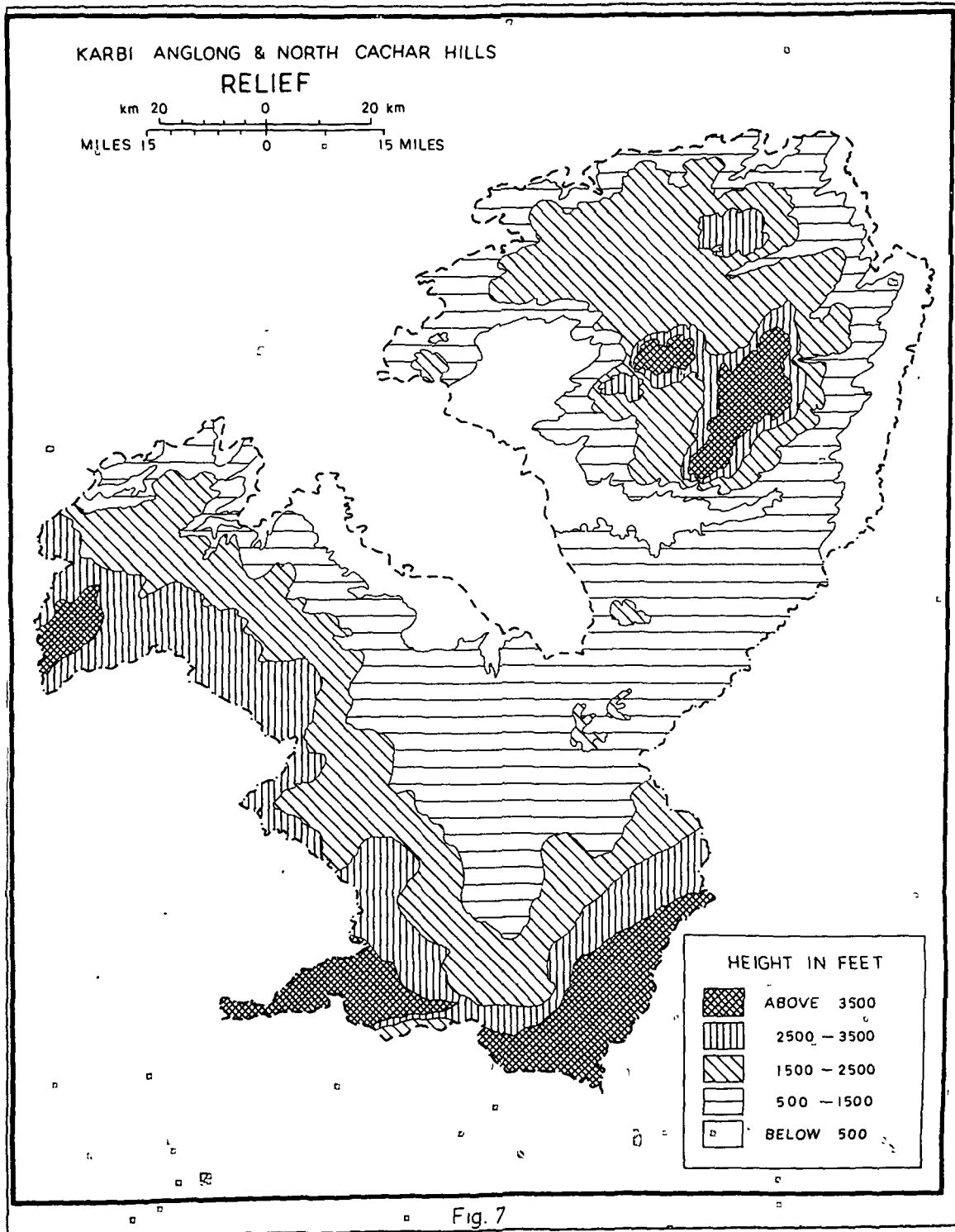
Relief and drainage of the region exhibit a high degree of relationship with its geology. The areas having hard resistant rocks of granite and gneiss etc. have been standing high and forming plateau over extensive areas. The less resistant

Tertiary rocks have formed high mountain or range but deeply cut by streams giving a complicated relief configuration. In certain areas streams have cut the Tertiary rocks into a low plateau of undulating surface.

A. Relief : The relief is shown in Fig. 7<sup>3</sup>. The choroliths, except for the central part of East Karbi Anglong, indicate that rest of the region has a general slope towards north and north-east i.e. towards the Nowgong plain which is penetrating right up to the heart of the region. Over Archaean and Jurassic rocks the height attains the level of more than 3,500 ft. (1,067.1m). Again, the extreme southern margin, where the Barail range is standing like a wall overlooking the Cachar plain on the south, rises more than 4,000 ft. (1220m). In the middle of these three high triangular points of central East Karbi Anglong, Umlaper and Barails, there is the lowest plateau of North Cachar not

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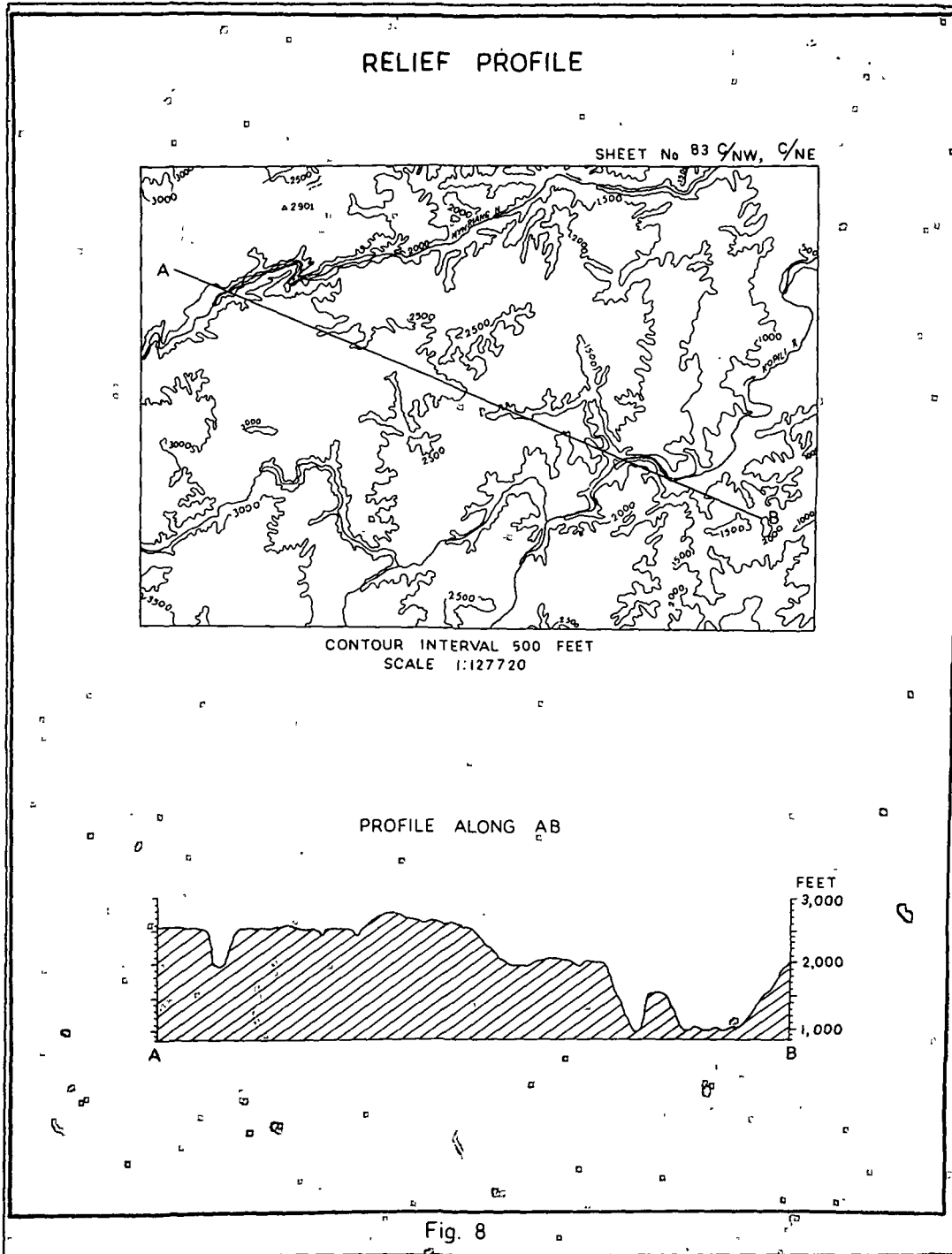
3. The relief map has been prepared from the contours of toposheets having scale 1" = 2 miles (1:126,720). The contours, however, were generalized at 1,000 ft. interval for drawing the choropleths conveniently.



exceeding 1,500 foot (457.32 m) contour.

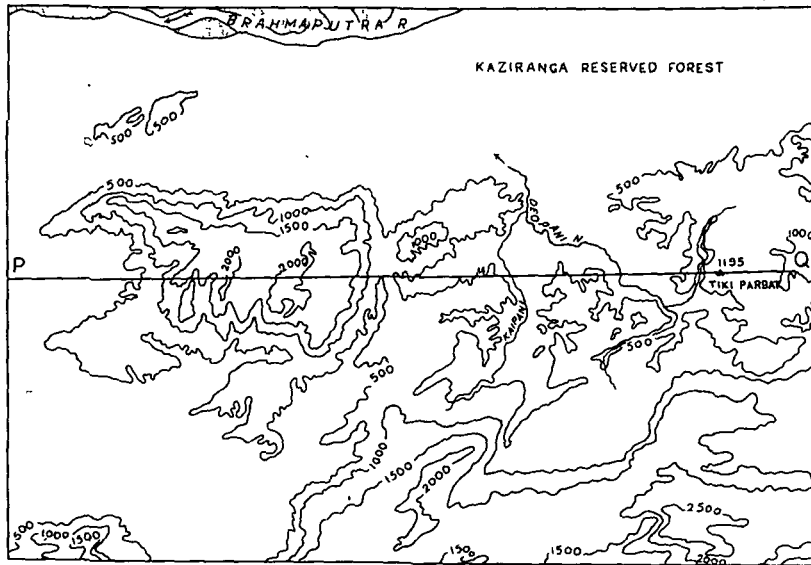
The choropleths further show that the northern borders merge into horizontal plains of alluvial deposits of the rivers like Kopili, Jamuna and Dhansiri and their tributaries. All the marginal plains remain below 500 foot (152.44 m) contour.

Careful contour observation shows that the Eastern Karbi Anglong slopes down in all directions with somewhat higher degree towards south. Towards north it forms several extensive ridges with flattish surfaces generally separated by river valleys. The Western Karbi Anglong area, in contrast to that, more or less uniformly runs down towards north-east maintaining a moderate slope. The flattish surface undoubtedly exhibits the characteristics of a plateau. At many places rivers have cut it into narrow and steep sided valleys. The entire North Cachar area, on the other hand, excepting the Barail range, is a bowl shaped plateau with openings towards Lunding and Dimapur. It is low and extremely flat. The Barail range gradually rises from north but abruptly from south. It has been , at several places, cut by southward flowing



# RELIEF PROFILE

SHEET No 83 F/NW



CONTOUR INTERVAL 500 FEET  
SCALE 1:127720

## PROFILE ALONG PQ

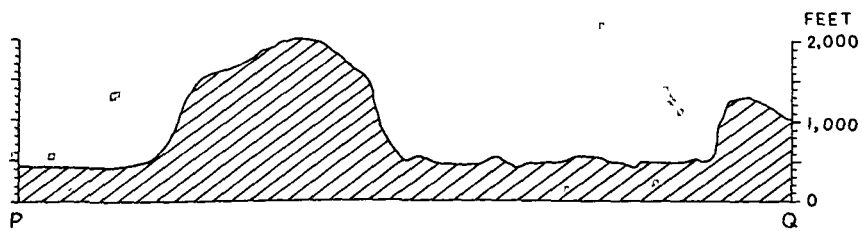


Fig. 9

rivers into deep V- shaped valleys and gorges. The southern flank is highly dissected. The bordering plains of Karbi Anglong, at many places, are mere marshy lands usually inundated by monsoon floods. The plains eventually merge with that of the Brahmaputra.

B. Drainage : Broadly speaking, there are two drainage systems<sup>4</sup> in the region, namely i) Kopili System, and ii) Dhansiri System (Fig.10).

Kopili System : The Kopili river originates from the eastern part of the Jaintia Hills (outside the regional boundary) and passes through, forming boundary between West Karbi Anglong and North Cachar Hills. The two most important tributaries, originating from the high plateau of the Khasi Hills, are the Umkhen and the Umiam. These rivers flow from south west to north east almost parallel and in accordance with the general slope of the relief. The Diyung river, originating from the Barails, flows towards north and meets the Kopili at Doyangmuk on the foothills. The Umiam and the Umkhen meet the Kopili in Nowgong district. The Kopili joins the Brahmaputra near Gauhati.

The contour study shows that the Umiam, Umkhen and the Kopili pass through gentle slopes except in limited number of places where they have formed narrow and deep valleys and rapids, cascades and low waterfalls. The contour map and relief profile AB (Fig. 8) illustrates this fact.

From the south and south-western flanks of the Eastern Karbi Anglong there originate other two important tributaries, namely Jamuna and Dikharu. Both the tributaries meet the Kopili near Jamunamukh in the Nowgong district. The main courses of the Jamuna and the Dikharu originate from the altitude of about 4,000 ft. and 3,000 ft. respectively.

Dhansiri System : The main course of the Dhansiri originates from the Thingtubum peak, 6,128 ft. (1,868.30 m) which lies on the Assam-Nagaland boundary upto Dimapur. From Dimapur it flows exactly north again forming the common boundary between Karbi Anglong and Sibsagar and ultimately joins the Brahmaputra at Dhansirimukh. Kaliani, that

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4. The drainage map has been prepared from the toposheets of 1" = 2 miles, and later on reduced to size.

originates from the height of about 3,500 ft. and runs eastward, is the only big tributary to Dhansiri within the region. Other tributaries are tiny, some of them are, namely Nambar Nadi, Daigurung, Deopani,<sup>5</sup> Laijan, Harihajan and Bokajan etc.

Along the northern flank of the East Karbi Anglong and the southern flank of the Barail Range, there is no significant river system. However, tiny streams like Deopani, Kaipani and Diphlu etc., originating at the altitude of about 2,000 ft. and with somewhat steep gradient, quickly run down to the Nowgong and Sibsagar plains, and meet the Brahmaputra at a few kilometres distance on the north. Similarly, the Jatinga, Madhura and the Siri etc., originating from the southern flank of the Barails, run down through steep valleys to the Cachar plain on the south and meet the Barak. The following table gives approximate length of

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5. There are two streams called Deopani - one flowing north and the other east.

some rivers.

Table No. 1

| Name of river | Length in <sup>6</sup><br>kilometres | Name of river | Length in <sup>6</sup><br>kilometres |
|---------------|--------------------------------------|---------------|--------------------------------------|
| Kopili        | 102.50                               | Dikharu       | 57.50                                |
| Umkhen        | 77.50                                | Dhansiri      | 150.00                               |
| Umiam         | 47.50                                | Kaliani       | 80.00                                |
| Diyung        | 135.00                               | Daigurung     | 40.00                                |
| Jamuna        | 75.00                                | Jatinga       | 25.00                                |

Drainage pattern : Drainage pattern depicts the underlying geological structure. There are three drainage patterns that have been identified in the region. Each of them shows clear relationship with the geological structure over which it is established.

i) Dendritic pattern : The Jamuna, Dikharu and the upper courses of the Diyung show dendritic

<sup>6</sup>. Lengths are for the parts of the rivers (single course) falling within the region.

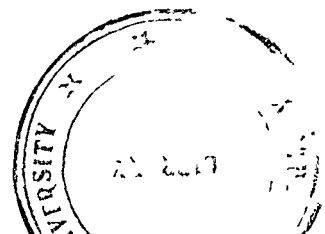
pattern. Such a pattern usually develops either on soft rocks having medium (and uniform) slope or in areas where the catchment is higher on three sides having a general slope towards the main course. These conditions have been fulfilled by the south-western part of East Karbi Anglong and the southern part (north of Barail range) of North Cachar Hills. Although the southern flank of the Barail is abrupt, due to its less resistant power, the rivers like Jatinga and Sirij have cut it forming dendritic pattern.

ii) Parallel pattern : The Kopili, Umkhen and the Umiam, and other tributaries to them roughly show a parallel pattern. In many places the small streams and even the bigger ones have similar types of bends and directions. This phenomena proves, that they are not only controlled by the slope but also by the hardness and the underlying structure of rocks of the area. Before joining the main course the streams follow the consequent slope in accordance with the direction of the main river giving roughly a parallel pattern.

iii) Radial pattern : The East Karbi Anglong which is higher in the middle and slopes down in all directions, radiates courses of streams roughly giving a radial pattern. The area has got two important points of radiation one is the Chenghehishon peak and the other is Arnamrangman from which most of the streams of the area are radiating towards the Kopili, Dhansiri and the Brahmaputra.

These drainage patterns in return have resulted the general topography of the region.

Drainage basin and drainage density : The whole region has been divided into four drainage basins as follows (Fig. 10 and 11). The basins, their areas and drainage density are given in the following table.



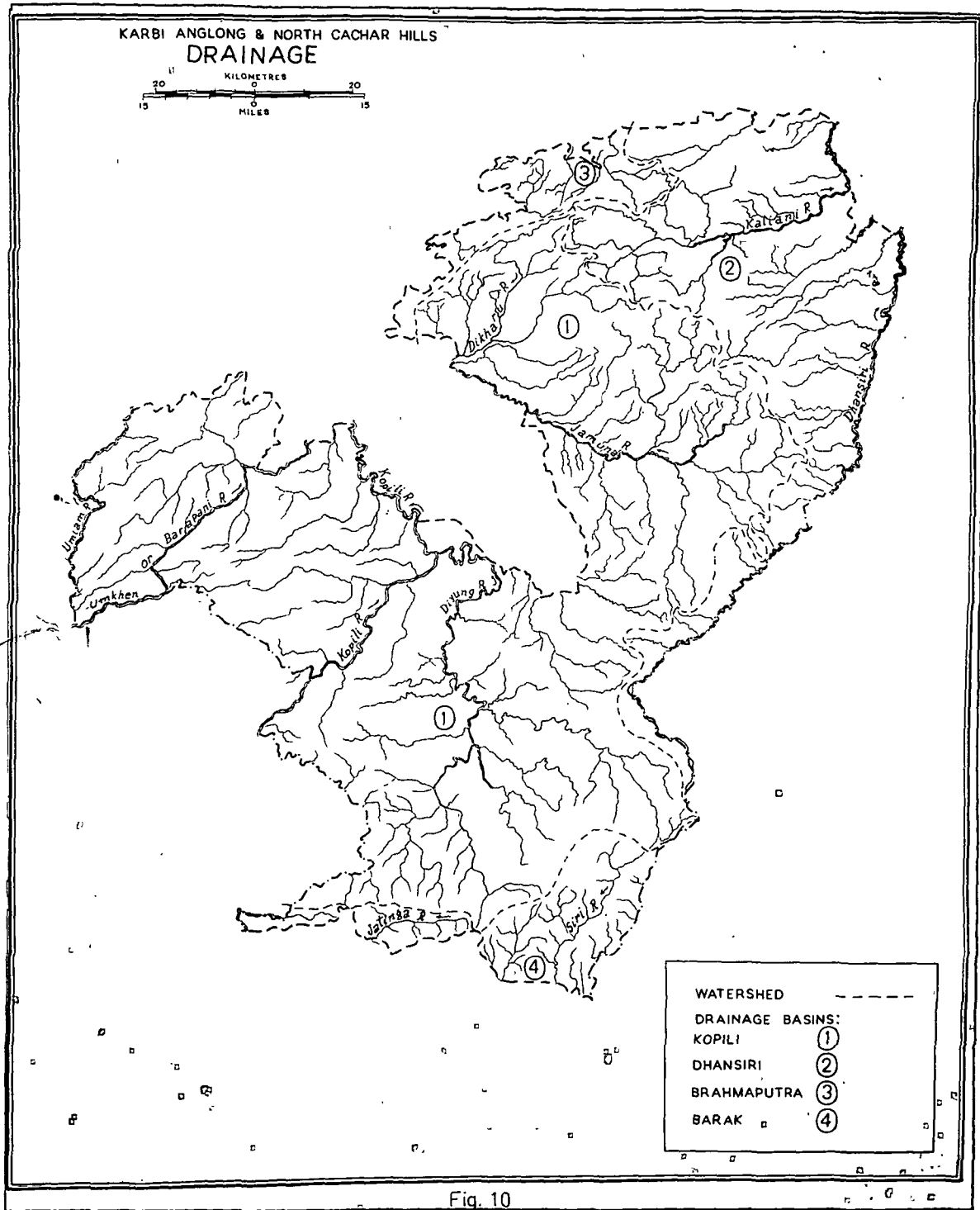


Fig. 10

Table No. 2

| Name of basin <sup>7</sup> | Area in sq.km. <sup>8</sup> | Total drainage length in Km | Density/sq.km. <sup>9</sup> |
|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Kopili                     | 9,718.75                    | 3,207.19                    | 0.33                        |
| Dhansiri                   | 3,300.63                    | 1,056.20                    | 0.32                        |
| Brahma-putra               | 1,050.88                    | 315.26                      | 0.30                        |
| Barak                      | 1,000.38                    | 340.13                      | 0.34                        |

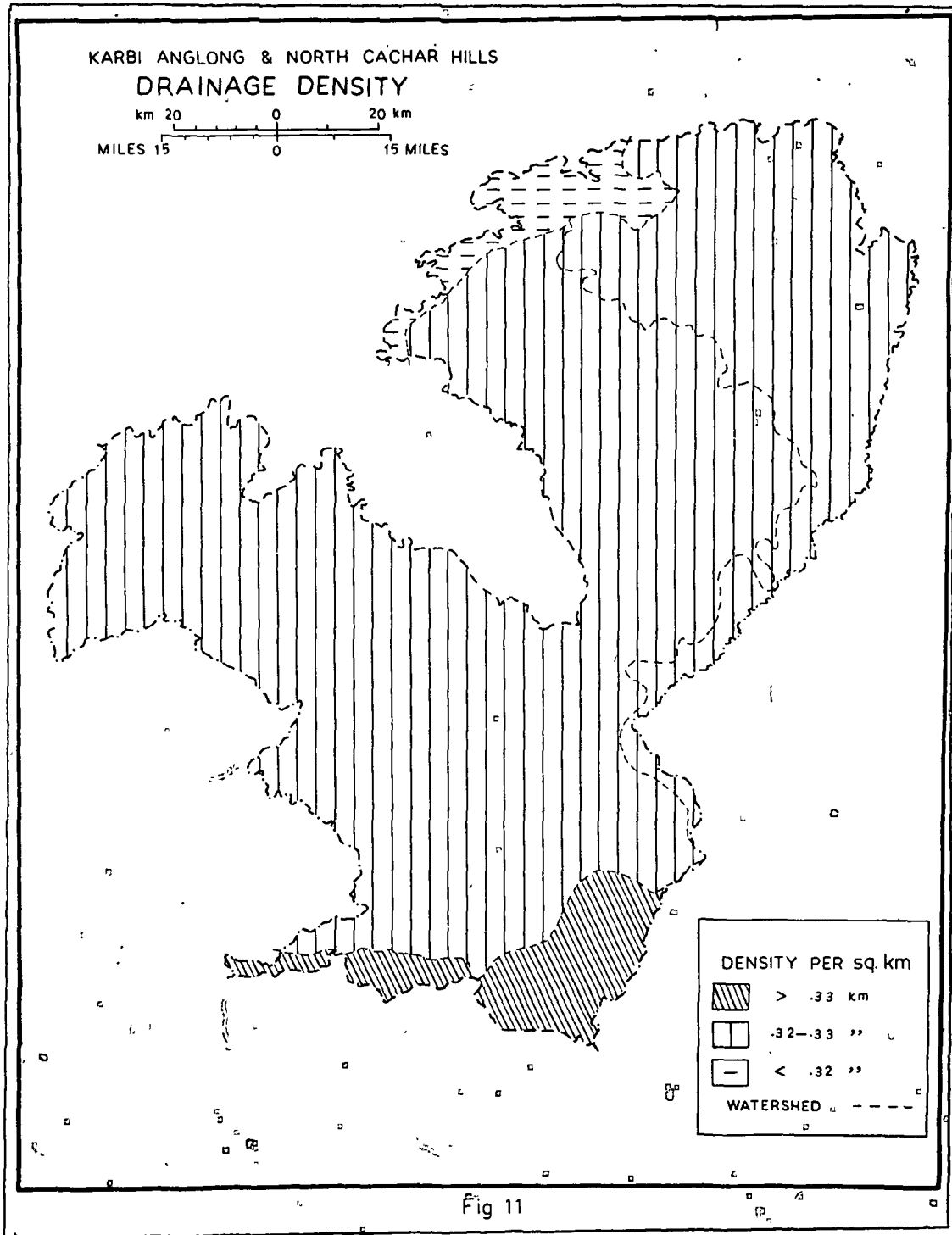
Kopili is the largest basin occupying 64.50% of the total area of the region. Dhansiri occupies next position with 21.90%. Brahmaputra and Barak take the third and the fourth places with 7.00% and 6.60% respectively.

The Table No. 2 and the Fig. 11 show that the drainage density is more or less same in all the basins although their areas vary greatly. It

7. A basin includes all the tributaries that join the main river within and outside the regional boundary. Jamuna, for instance, joins the Kopili in Nowgong, and hence it is included within Kopili basin.

8. Calculated by graphical method taking one square as unit. The unit area has been found out from the scale of the map and then multiply the total

contd....



means there is uniform distribution of drainage.

The Barak basin in the south gives slightly higher density - reasons being that it falls within the high rainfall area, and is likely to give more possibilities for springs to originate. High rainfall, soft rocks with considerable slope and higher drainage density are some of the conditions under which an area is easily denuded.

Physiographic divisions<sup>10</sup>: On the bases of relief and drainage the region of Karbi Anglong and North Cachar Hills can be divided into seven physiographic divisions as given in the Table No. 3 (Fig. 20).

Chenghe-Arnam Plateau : The Chenghe-Arnam plateau, commonly known as Mikir Hills, is the second largest physiographic division comprising 25.59% of the total area of the region. The plateau is higher on the central and southern side - rising above 4,000 ft. as in the case of Chenghehishon peak itself which is 4,459 ft. (1,359.45 m). Other high peaks are Dambukso 3,848 ft. (1,173 m), Khurbamen 3,566 ft. (1,087.20 m) and Sapanajung 3,715 (1,132.62 m) etc.

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number of squares included under a basin, and thus the area is found out.

9. Drainage density -  $\frac{\text{Total drainage length}}{\text{Area of the basin.}}$

Northern and western portions are dominated by extensive ridge-like features which form sharp spurs separated by wide stream valleys along the margin. Northern margin is somewhat steep but the edges have been cut by streams resulting in penetration of narrow plains (Fig. 9). Most streams originate from two points, namely the Chenghehishon peak and the Arnamrangman peak where from the plateau takes its name.

Hamren Plateau : This physiographic division is distinct from the previous in the sense that it has slope only one side i.e. towards the Rongkhang and the Nowgong plains into which it smoothly merges. The plateau is nothing but the continuation of the plateau of Khasi and Jaintia Hills. From the newly created Hamren<sup>11</sup> Sub-division the plateau takes its name.

Barail Range : The Barail range is the only Tertiary mountain range in the region. Running

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10. While demarcating the physiographic divisions, the following points were considered : i) identical relief features including height, slope etc., ii) identical drainage including pattern, direction of flow etc.

Therefore, for maintaining such similarities, the demarcating line followed partly contour or partly watershed or both.

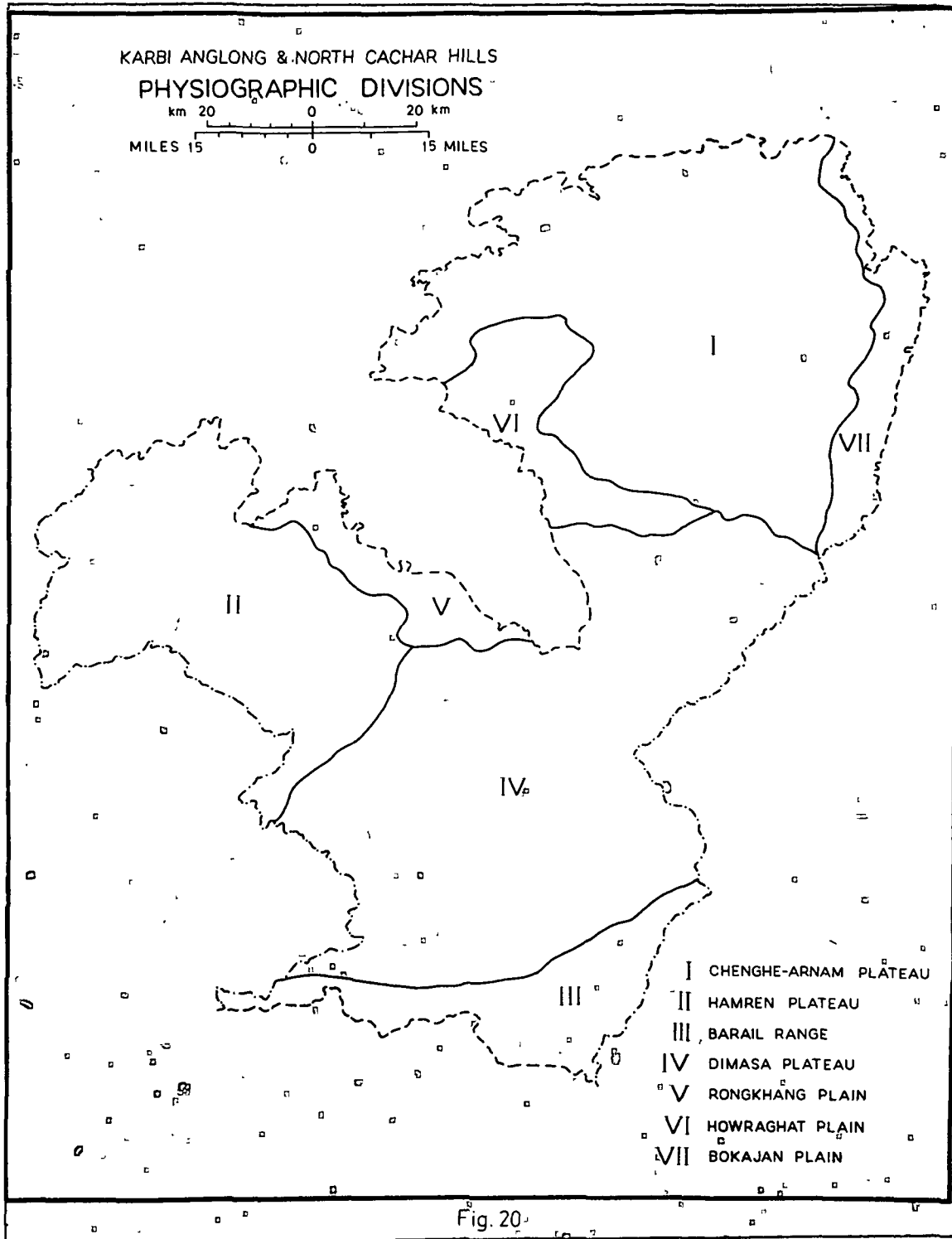


Table No. 3

| Name of physiographic division | Area in sq. Km. | Geological characteristics.   | Major relief and drainage features  |
|--------------------------------|-----------------|---|---|
| Chenghe-<br>Arnam<br>Plateau   | 3,884           | Granite, gneiss, quartz and quartzite including patches of Sylhet Trap and few Tertiary formations. | Two important peaks of Chenghehishon and Arnamrangman wherefrom most of the drainage originate forming radial pattern.  |
| Hamren<br>Plateau              | 2,395           | Similar to the Chenghe Arnam Plateau but with the absence of Sylhet Trap                            | No prominent feature to be called peak - most areas are flattish with smooth crests in wider sense. Parallel drainage greatly controlled by underlying rocks. |
| Barail<br>Range                | 1,150           | Hard sandstone, greyish sandstone, carbonaceous shale etc. predominate. Highly folded rock stratum. | Highly folded mountain range with innumerable sharp peaks. Deep V-shaped valleys common. Streams are powerful agents of erosion.                              |
| Dimasa<br>Plateau              | 4,600           | Rocks are similar to that of the Barail range. Less folded.   | Low plateau with wide valleys of gentle gradient.   |
| Rongkhang<br>Plain             | 1,010           | Parts of the vast flood plain of the Brahmaputra. Layers of new alluvium of great thickness.        | Horizontal plains with number of marshy lands, meanders, ox-lakes - at places interspersed with isolated hillocks.  |
| Howrahghat<br>Plain            | 1,100           |   |   |
| Bokajan<br>Plain               | 1,040           |   |   |

in east-west direction along the southern border it ultimately merges with the hills of north western and south western Manipur and Nagaland respectively. It is also the highest physiographic division in the region. From 4,000 ft. on the west, it rises more than 6,000 ft. (1,829.27 m) on the east. The Jatinga river has cut it deep forming mountain pass through which the Lunding-Badarpur railway line is passing.

Dimasa Plateau : The Dimasa plateau is the largest physiographic division occupying 30.31% of the regional area. The Diyung river and its tributaries have denuded the plateau into such a low level, that in many places it is almost like a plain - rivers have wide valleys and extremely gentle gradient. At places valleys have even turn into marshes. The north-eastern part is interspersed with low isolated hillocks. From the dominant tribe Dimasa, the plateau takes its name.

The plains of Rongkhang, Howrahghat and Bokajan : These three marginal plains have been created by the alluvial deposits of Kopili, Jamuna and Dhansiri rivers respectively. These plains together

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11. It is a Karbi word, meaning, 'a long shade used for resting in the festive occasion', Terang, R., Karbi Lamtasam, P.232.

comprise 20.75% of the regional area. Most of the human settlements and their activities are concentrated in these three plains.

Physiography directly influences upon man's habit and his economic activities, especially agriculture. High and rugged mountaineous areas, cannot usually support large number of people due to inconveniences for settlement, transport and communication as well as agriculture. Whereas in the plains such difficulties are not there - eventually leading to larger concentration of man.

In the areas of high altitude of the Chenghe-Arnam plateau and the Barail range, human settlements are either absent or very sparse, whereas in the valleys and plains they are highly concentrated. In the plateau areas where the average degree of slope is less, settlements are just randomly distributed.

Under the prevailing technology, the people of the region cannot possibly convert the steep hill slopes into terraces for agriculture. Even the jhum cultivation cannot be successfully practiced

due to high rate of soil erosion and loss of fertility resulting in low yield after one or two years' time. Hence, the slopes of smaller degree or horizontal areas, fulfilling all other requirements, are always better. Thus, physiography of the region has direct impact upon its people and their agricultural activities.

#### CLIMATE<sup>12</sup>:

Broadly speaking, the climate of the region is controlled by the same factors that apply to other parts of Assam as well as Meghalaya, Manipur, Nagaland etc. But the most important factor that gives slightly different climatic phenomena from that of other parts of Assam is orography.

The Cherra-Dawki escarpment of Meghalaya, Barail range and the western border hills of Manipur obstruct easy access of south west monsoon winds into the heart of the region. The condition gives a rain

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12. The main problem involved in the study of climate of the region is non availability of weather observation as there is hardly one observatory within the region. The urban centres again have limited climatic records for a decade or so, and maintained by the Department of Agriculture. Analysis of such a short period gives less validity about the reality of climate.

shadow effect to the central portion of Dimasa plateau. Moreover, due to the peculiar shape of the region and the alignment of its hills the common weather and climatic phenomena of the Brahmaputra valley are rarely experienced except for the border areas which come under direct influence.

According to G.T.Trewartha's<sup>13</sup> climatic regionalization of India, almost the entire region comes under Caw climate. He includes Barails under Am climate. His regions could be accepted on a broad basis, but there are great local variations which perhaps are mainly due to relief or orography as stated earlier.

Temperature : Line graphs for temperature for Lunding and Haflong (Fig. 14) give interestingly similar distribution of temperature in 1975. From April to October, more or less persisting temperature in both the stations - Lunding being warmer the line occupies higher level. Altitude of Lunding is 500 ft. while that of Haflong is 1,322 ft. Moreover, Lunding

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Therefore, in addition to that, the data for other stations which are located nearby, and give informations for at least 30 years have been taken and analysed. Inferences have been drawn accordingly.

receives less rainfall. Perhaps these differences in altitude and amount of rainfall had influenced the temperature.

The map for average annual isotherms (Fig. 18) gives that temperature increased in conformity with the decrease of altitude towards the centre of the region. From the centre the temperature still more gradually increased towards the Brahmaputra valley. It is to be noted that the isotherms roughly follow the general relief patterns of the region.

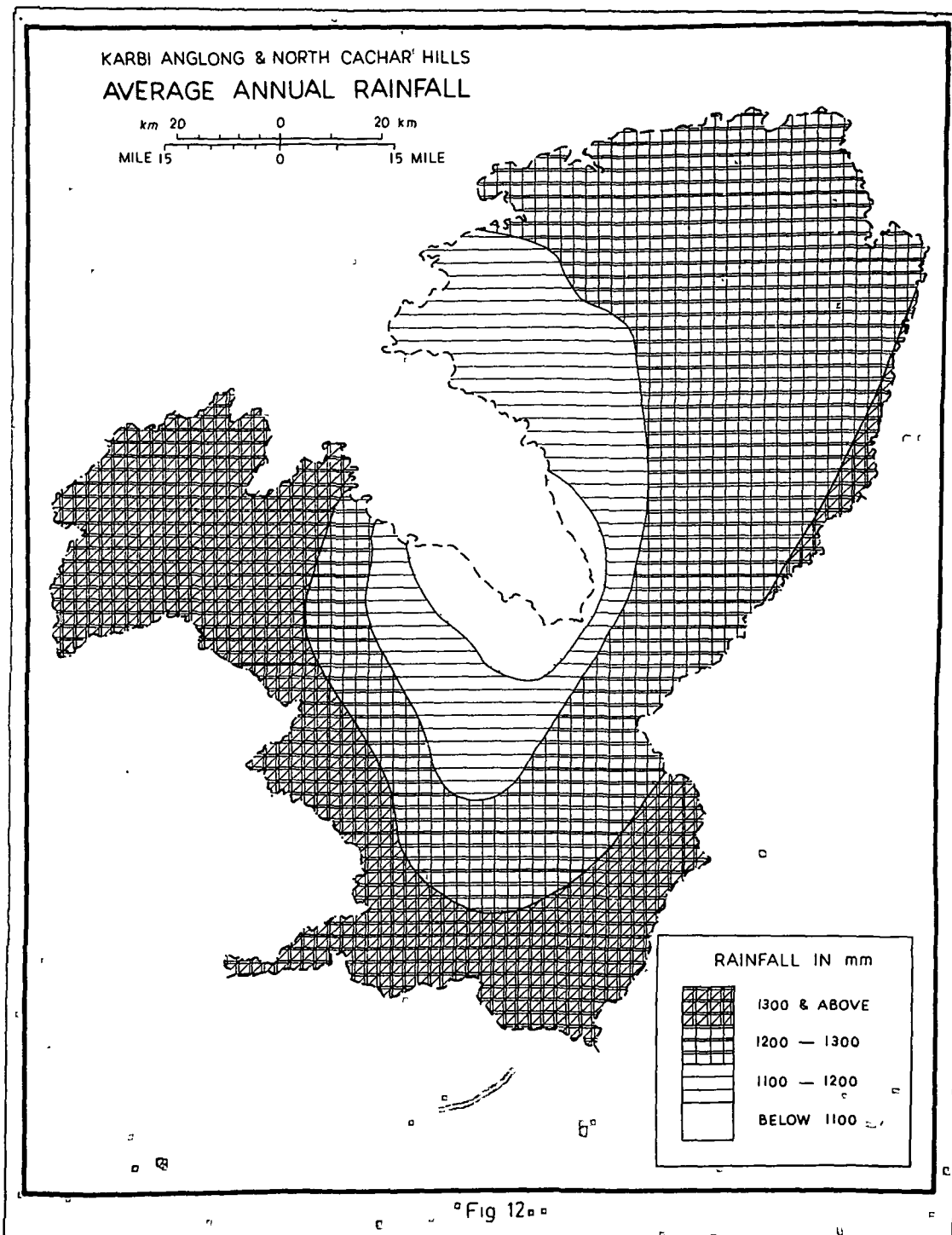
The hythergraph for Luming (Fig. 17) illustrates, that in winter, pre-monsoon and retreating monsoon seasons, the temperature as well as the rainfall variations were considerable. But the summer months gave great variations only in the case of rainfall amount while temperature gave very little or no difference.

Rainfall : The spatial distribution of average annual rainfall is uneven in accordance with the orographic pattern (Fig. 12). The rainfall decreases towards

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13. A stands for tropical rainy climate with persistently high temperature which is not less than 18°C (64.4°F) in the coolest month.

C stands for humid sub-tropical or humid mesothermal climate. The temperature of the coolest month is between 18°C and 0°C (64.4°F and 32°F).



the centre from all sides, especially from the west and south, as the elevation of relief decreases (Fig. 7). This is due to the rain shadow effect. This is the only rain shadow area in the whole of Assam in the true sense. From periphery, rainfall decreases from above 1,300 mm to about 1,000 mm at Lunding which is located just on the tip of the Nowgong plain.

The rainfall dispersion diagram (Fig. 16a)<sup>14</sup> for the last decade gives that even in monthly or seasonal amount of rainfall, the fluctuation was considerable in different years. Seasonwise<sup>15</sup> analysis of the diagram gives the following inferences :

The station Diphu and other neighbouring places experienced rainfall in winter in some years. Months were usually dry but there were cases when rainfall exceeded even 40 mm (1.6"). This winter rainfall could be attributed to the western disturbances<sup>16</sup>.

The pre-monsoon gave a major break - between March and April. Moreover, there were great fluctuations

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a - hot summer with warmest month having over 22°C (71.6°F) temperature.

m - heavy but seasonal monsoon rainfall, dry period is very short.

w - dry winter.

Source : Gopal Singh, A Geography of India P35.

in the month of May ranging from about 40 mm to about 280 mm. Such a variability would certainly effect the crops that are grown in pre-monsoon season, such as spring rice, jute and maize etc.

So far as the median values are concerned, there was less fluctuation but high in the case of quartiles during June, July and August. Again, there was a major break between August and September. Such a situation might have affected the Kharif crops.

Similarly, October and November also gave a major break.

Under such condition in variability of rainfall, both rabi and kharif crops do not give expected yield, hence, irrigation becomes a must.

Humidity : The humidity for Lunding and Haflong was more or less same in the year 1975 (Fig. 15). But there was marked contrast in the month of March. Lunding recorded about 60% while Haflong about 90%. This might

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14. Due to lack of data, the dispersion diagram for 30 years could not be possible. It, however, gives the rainfall behaviour for the last decade.
  15. Seasonal classification of weather in Assam :
    - a) Winter - December, January, February
    - b) Pre-monsoon - March, April, May
    - c) Monsoon - June, July, August, September
    - d) Retreating-monsoon - October, November

be due to difference in the precipitation condition in March (Fig. 13 a,b).

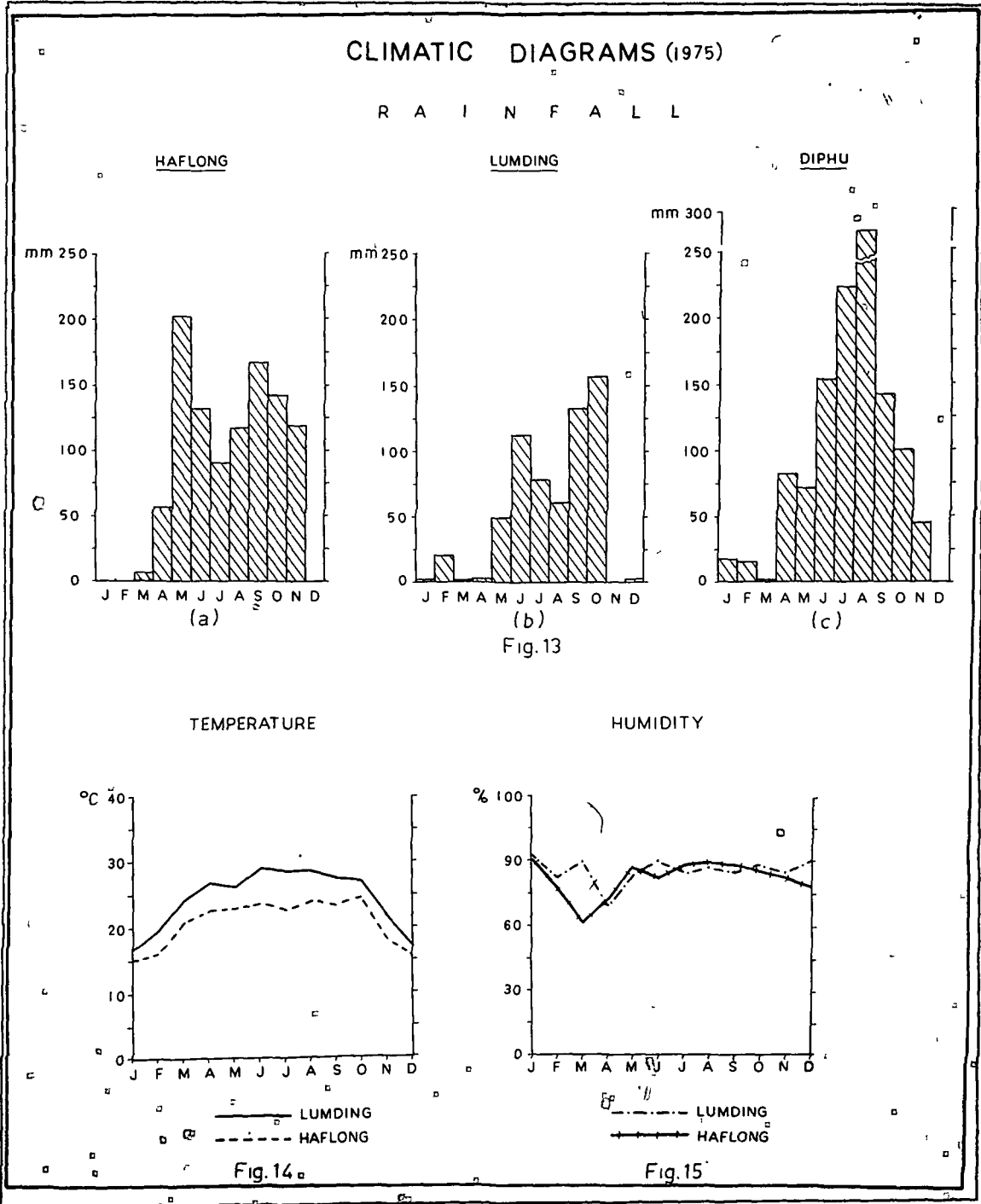
By comparing the graphs of temperature and humidity for Lunding and Haflong, it is possible to say that Haflong provides ideal climate for health. With equal humidity and high temperature, Lunding provides a little damp climate although the actual precipitation received may be low.

From the above analysis of climate, it is possible to conclude that in most parts of the region erratic condition in rainfall prevails. Rainfall varies spatially not only from high to low, giving wet to semi-dry conditions, but also its nature is very uncertain. Temperature and humidity, however, maintain some degree of consistency. The agriculturally most important areas, that is the plains of the region, fall within the areas of high humidity and high temperature. That means weather is damp, especially during the summer months. But then uncertainty in rainfall condition is the greatest drawback

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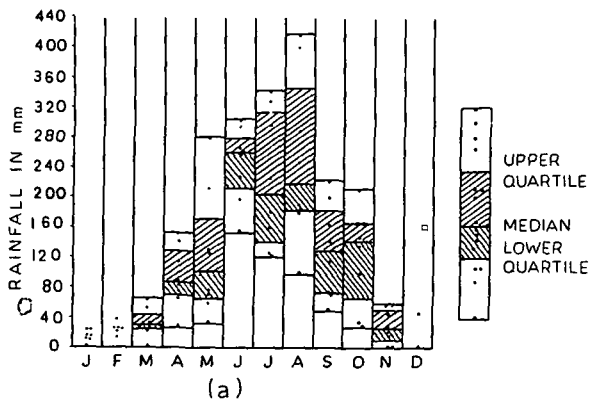
16. These are "Eastward-moving upper-air troughs often extending to lower levels and sometimes even to the mean sea-level ...", H.P.Das, Geography of Assam P.42

"The greater percentage of rain during winter is caused by the western disturbances, but the total amount of rain never exceeds 3 inches (7.6cm)". Ibid., P.46



### CLIMATIC DIAGRAMS

RAINFALL DISPERSION DIAGRAM  
1968-1975  
(DIPHU)



RAINFALL DEVIATION  
(DIPHU)

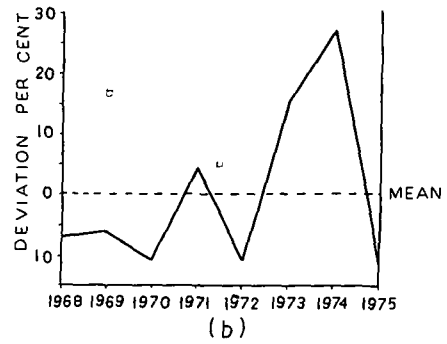


Fig 16

HYTHERGRAPH  
1931-1960  
(LUMDING)

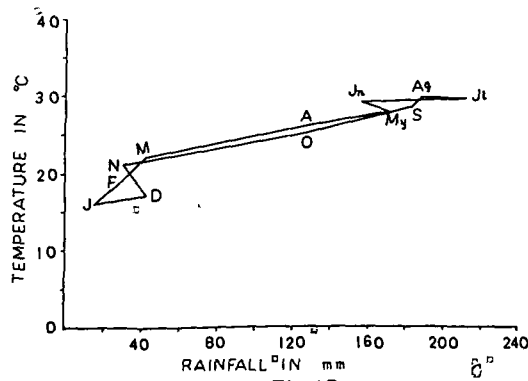
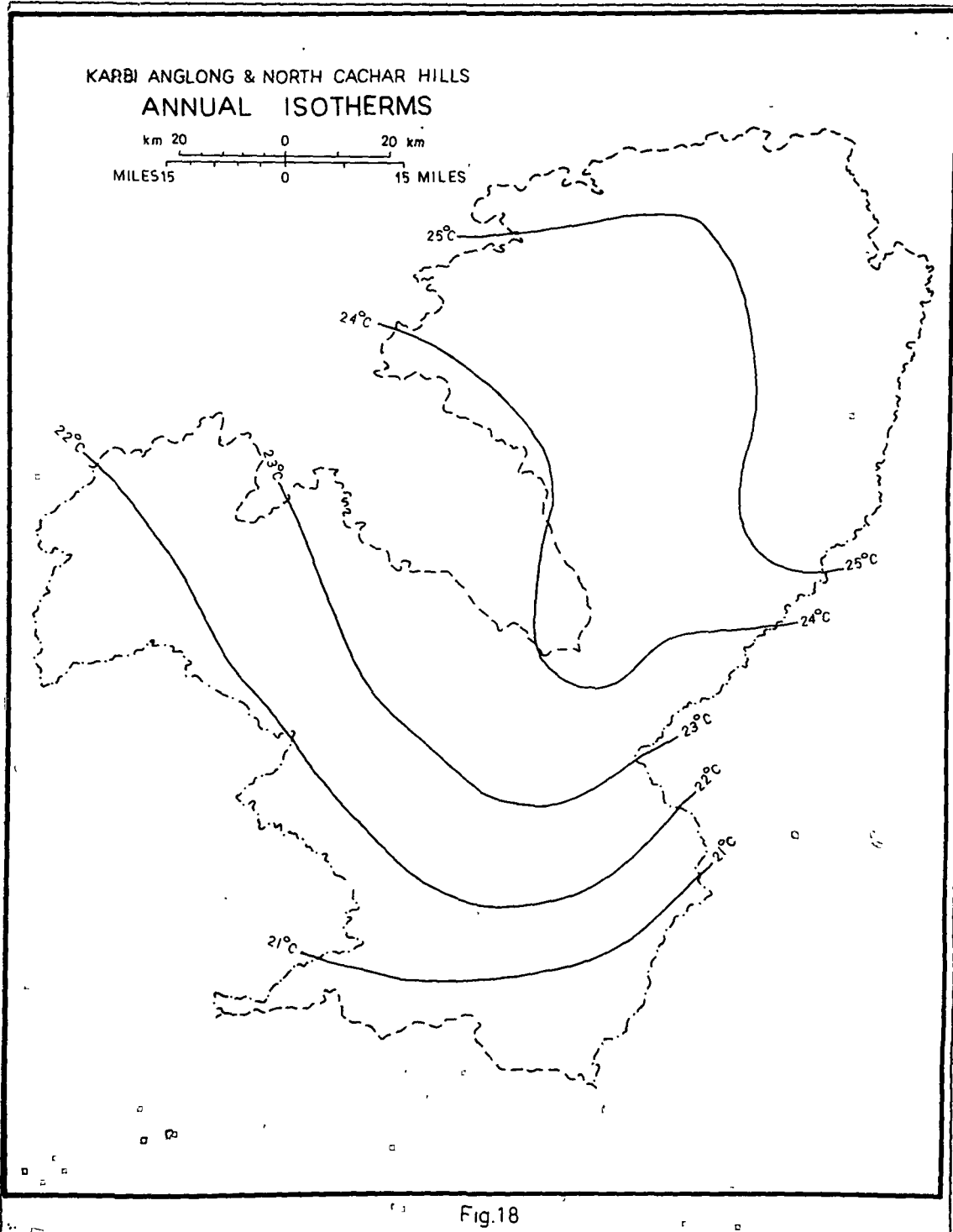


Fig 17



for the main crops like rice and jute. Moreover, many parts of the plain areas (the areas of high settlements concentration) suffer from flood that damages crops. Therefore, under these climatic situations crops greatly suffer, and eventually the people in general.

#### SOILS<sup>17</sup>:

Soil is formed from the weathered materials of rocks, and is composed of four major constituents : inorganic particle (nitrogen etc.), organic material, water and air. Worcester, from the geological point of view, has classified soil into

- a) residual - forming just on the place where the parent rock had been weathered, and
- b) transported - forming at a distant place after being transported from the place of parent rocks. According to L.Symons the factors determining soil characters are : a) parent materials, b) climate, c) relief, d) vegetation, e) soil, fauna and bacteria, and f) man's utilization. Whether a particular type of soil is residual or transported, its character always depends upon the above factors. From the agricultural point of

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17. The introductory note is given from the following sources:

- i) Symon, L., Agricultural Geography (London, 1972), P. 32
- ii) Worcester, P.G., A Text Book of Geomorphology (New Delhi, 1965), PP. 130-31.

view a soil having sufficient quantity of 'humous', that is, the organic substance is the most important. Sometimes this substance, although formerly present, is lost due to leaching that usually takes place under heavy rainfall condition. Thickness of soil layer varies from fraction of an inch to many feet.

On a broad basis the soils of Karbi Anglong and North Cachar Hills can be divided into four types<sup>18</sup> as shown in the soil map (Fig. 19).

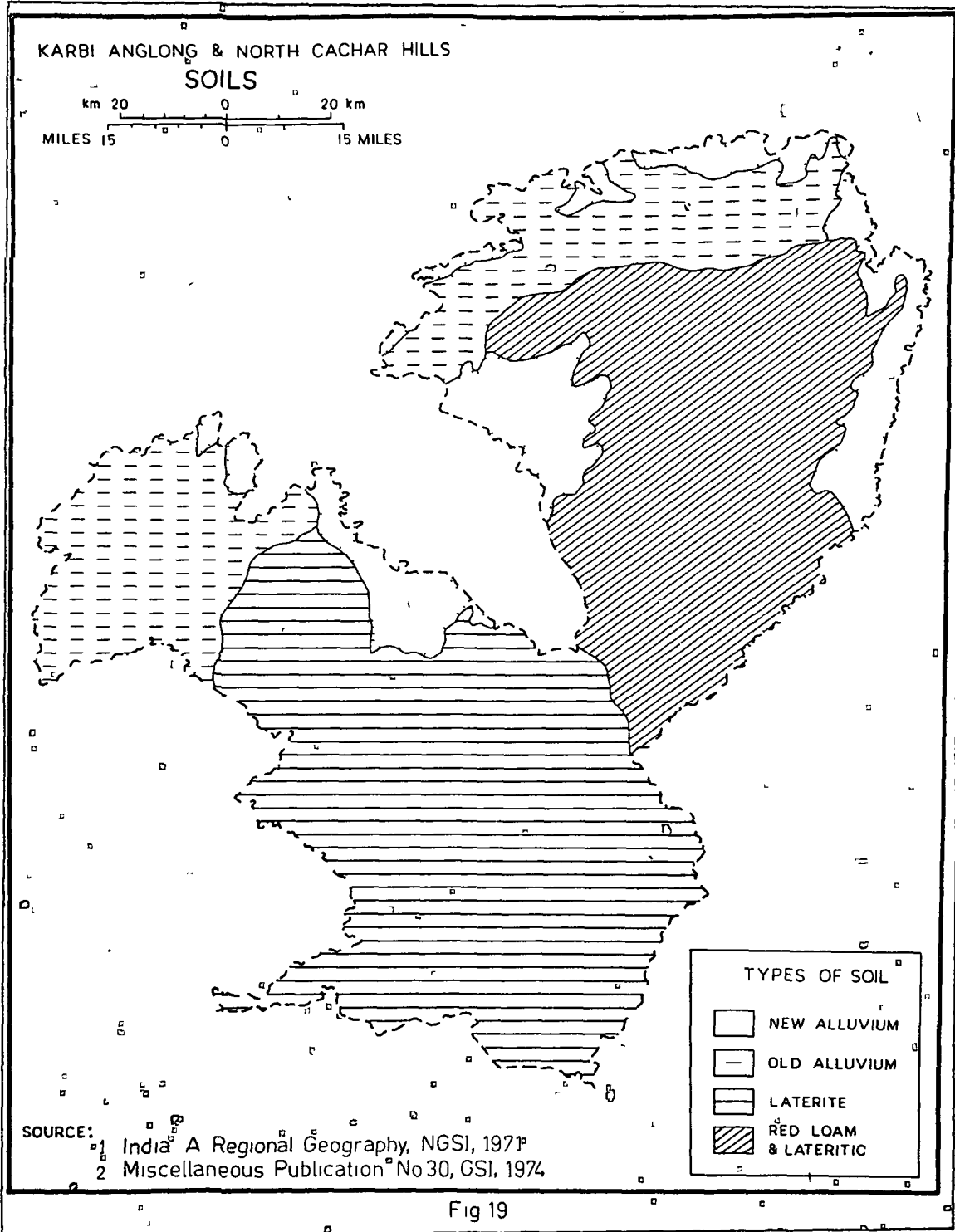
The plains of the region are composed of new alluviums. Such soils in North India are popularly known as Khadar. New alluviums are somewhat sandy, medium in porosity due to fine texture and presence of some amount of clay, grey in colour and excellent from the point of view of agriculture. They are often acidic and well support evergreen vegetations.

Old alluviums are found along the northern portion of the Chenghe-Arnam plateau, and the western portion of the Hamren plateau. Old alluviums, also called

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18. Singh, R.L. (Ed), India a Regional Geography (Varanasi, 1971), PP 684-85.

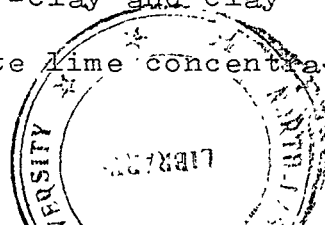
Singh, G., A Geography of India (Delhi, 1970), PP.56-57.



Bhangar in North India, are composed of coarse gravel usually found above the flood level. Its texture varies from coarse to clayey loam with a varying degree of nitrogen. There is low percentage of phosphate but considerable amount of potash. These soils are used for the cultivation of rice, fruits, vegetables and tea in Diphu Sub-division adjoining the Nowgong and Sibsagar districts.

Laterites form generally in sandstone areas under high rainfall condition. It is an end product of decomposition, found in regions of heavy rainfall, the rocks having being completely leached out, leaving high proportion of iron and aluminium as residue. It is therefore, a ferruginous aluminous rock. It is soft and sticky when wet but hard like brick when dry. Less important for cereals and other crops but considerably good for cashew and tapioca. It has got reddish or yellowish red colour. Eastern part of Hamren and the entire North Cachar come under this soil belt.

Red loam and lateritic soils derived from granites, gneiss, charnokites etc., relatively richer in clay-forming minerals and poorer in silica. The texture of these soils varies from loams to silty-clay and clay loam. Sometimes these soils facilitate lime concentra-



tions in the form of nodules or thick veins. The red loam and lateritic belt occupies the major parts of Diphu Sub-division. The soils are rich in acidity, organic matter and nitrogen. They are good for the cultivation of fruits, potatoes and rice in the hill slopes and terraces.

#### NATURAL VEGETATION :

The main types of natural vegetation found in the Karbi Anglong and North Cachar are :

- i) Evergreen, ii) Deciduous
- iii) Mixed deciduous, iv) Wet Savannah (hygrophilous) grasses.

Evergreen vegetations are found in high rainfall areas or in moderate rainfall areas having acidic soils. The plains of new alluvium, especially the Dhansiri valley, and also North Cachar Hills there are luxuriant evergreen vegetations comprising mostly bamboos and canes. *Dendrocalamus strictus*, a variety of bamboo and grinitic gneiss. *Bambusa arundinacea*, another variety of bamboo, grows well and commonly in the moist soils (with high acidity) especially in depressions and lower slopes along the streams of North Cachar. North Cachar is also rich in Bhelu tree - a kind of soft wood.

In the north of Dimasa plateau, where rainfall ranges from low to moderate, the deciduous and mixed deciduous appear. Grasses and miscellaneous trees, such as Teak, Bogari, Simul and Dimaru etc., grow here.

Wet savannah (or tropical savannah) grasses grow luxuriantly near the river banks and depressions. They grow in moist and acidic soils, and can stand high temperature and heavy rainfall. Along the border of Kaziranga Reserved Forest (on the north of Diphu Sub-division) and the Nambar area of Dhansiri valley, for instance, such hygrophilous grasses grow even two to four metres high and become abode of herbivorous and other animals.

Due to this diversified characteristic of vegetation, the region has a bright prospect for the growth of forest resources.

Forest resources : The forest resources are the greatest revenue suppliers of the region. Looking at this high economic feasibility and congenial geographical conditions of growth, the Government has given much emphasis on the development of the forest resources. It is worth mentioning that the reserved forests occupy a considerable size of geographical area of the region.

Langting Mupa Reserved Forest of North Cachar and Dhansiri and Nambar Reserved Forest of Karbi Anglong are some of the important reserved forests.

The Karbi Anglong produces hardwoods, such as Teak, Ajhar, Sal, Bansum, Bola, Hollock and Gamari etc. These are highly used for building houses, construction of bridges, and Sal for making posts and railway sleepers. Teak is greatly preferred for locomotive and fine works. Karbi Anglong also supplies considerable amount of soft woods for manufacturing plywood and hardboard. North Cachar Hills supplies mostly bamboos, canes and reeds including Bhelu trees that have great demands in cane and bamboo crafts as well as in making paper pulps.

Among minor forest products, the Rowalfia serpentina (a medicinal plant for snake bite), lac, chalmugra, Dhuma, phulijharu, patidoi, Agare are worth-mentioning. There are still many and they fetch high revenue.

From the foregoing discussions, the impact of the physical setting on the people and their economic activities in general, could be summarized as follows :

At present geology, especially the economic

geology has not been significant. So far only few minings have been done. The recent discoveries of several valuable minerals, such as atomic minerals and sillimanite, for instances, show that the economic geology has a very significant impact in the future.

Physiography has already played a very significant role. Human settlements, agricultural activities etc., are concentrated only in some particular areas where physiography acts as a determining factor.

Among several elements of climate discussed above, rainfall has the most significant influence both directly and indirectly : a) wet as well as dry areas where wet and irrigated farmings are carried on, and b) influencing the soil to be red loam or laterite or alluvium etc., whereon the type of cultivation and crop depend.

Forest wealth plays a very significant role on the life of the people in general and to the regional economy in particular. Forest wealth of the region is considered to be one of the richest in the state of Assam. Forest-based industries have a very bright future.

## CHAPTER-IV

DEMOGRAPHIC STRUCTURE

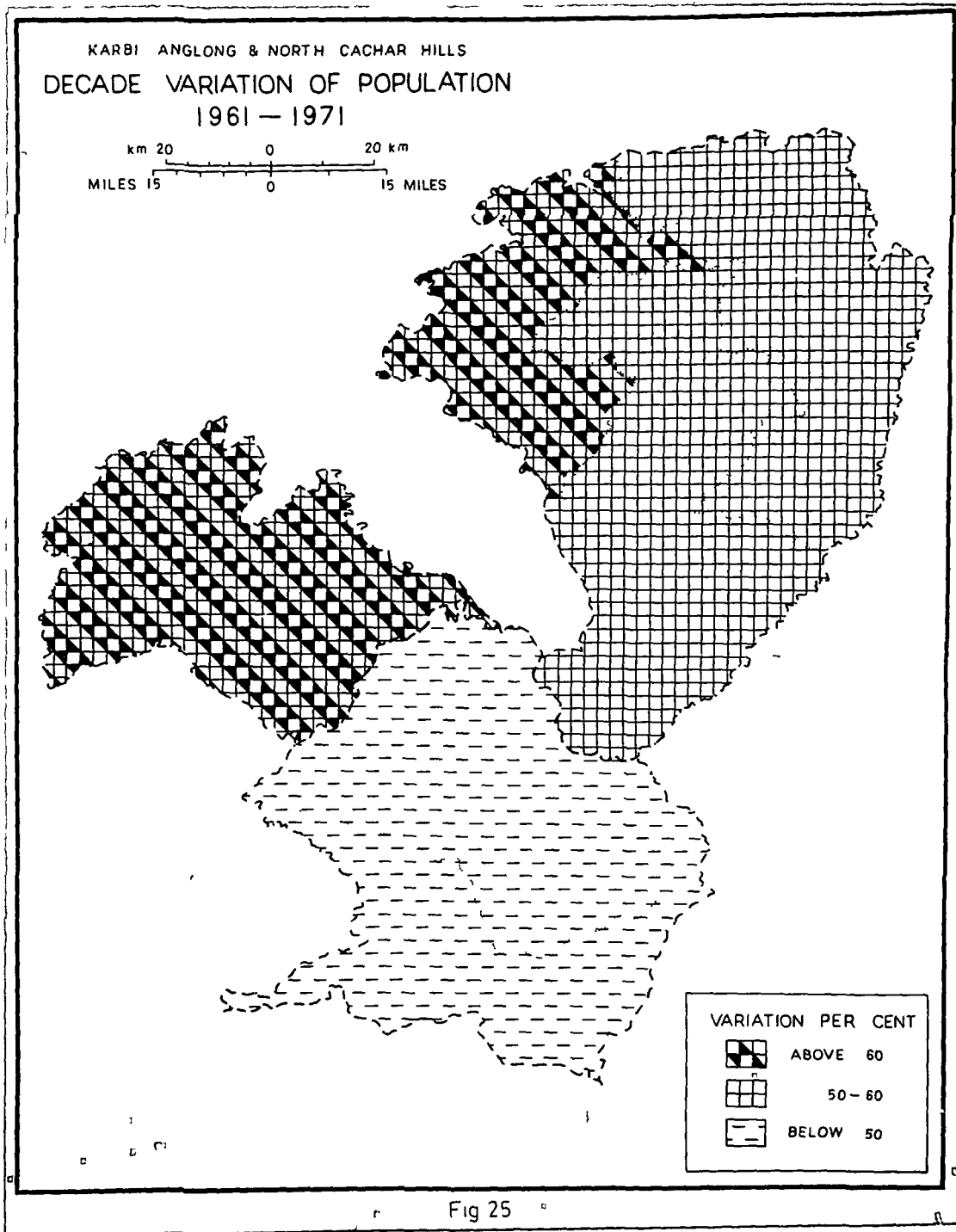
## GROWTH OF POPULATION :

Growth of population has been dealt with since 1901 to 1971. Except for first one or two decades of this century, the rest show a tremendous positive growth - much higher than the all India or the all Assam growth rate. This is especially so during the last decade. The growth is even much higher than any other district of Assam. In some decades the growth is found to be abnormally low or abnormally high. Such a phenomena indicates that the factors affecting the growth of population have been very significant in the region. The decadelike growth (variation) of population is given below.

Table No. 4

| Year | Persons | Decade variation | Percentage decade variation |
|------|---------|------------------|-----------------------------|
| 1901 | 40,812  | -                | -                           |
| 1911 | 27,296  | - 13,516         | - 33.12                     |
| 1921 | 28,913  | + 1,617          | + 5.92                      |
| 1931 | 32,844  | + 3,931          | + 13.60                     |

Source : 1961 and 1971 Census.



|      |         |           |          |
|------|---------|-----------|----------|
| 1941 | 133,402 | + 100,558 | + 306.17 |
| 1951 | 165,440 | + 32,038  | + 24.02  |
| 1961 | 279,726 | + 114,286 | + 69.08  |
| 1971 | 455,357 | + 175,631 | + 62.79  |

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From the above table it is found that 1911 Census showed a negative growth of 33.12%. This is shocking for any region in the history of its population growth. "The main factors responsible for fall in growth of population may be attributed to higher incidence of diseases like Kala-azar, Malaria, Cholera and Small pox which ravaged a considerable population of Kamrup, Goalpara and Nowgong during the period 1881-1901".<sup>1</sup> It has already been said in Chapter II, that earlier a considerable part of the present Karbi Anglong was included in the district of Nowgong (Fig. 5). Therefore, it was

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1. Bhuyan, M.C., 'Trends of Population Growth in Assam From 1871-1971'. Journal of the North East India Geographical Society Vol.V:No.1 and 2, 1973.,P.29

quite possible that parts of Karbi Anglong adjoining Nowgong was also affected by such ravages. As a result of that, the 1911 Census recorded a high negative growth. During the following two decades, however, population grew progressively.

The decade 1931-'41 was the most notable period when lakhs of immigrants from Mymensingh of East Bengal influenced into Nowgong and other districts lying west of Sibsagar. As a result, the population of those districts shot up. Karbi Anglong, being a part of Nowgong, likewise recorded population growth as high as + 306%<sup>2</sup>.

In the following decades i.e. after 1941, the influx, however, reduced to a great extent, but still continued. According to census, immigrants in the United Mikir and North Cachar Hills increased

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2. According to Prof. H.P.Das, the number of immigrants was estimated at 5,75,00 in 1931.

Source : Geography of Assam, P.131

from 5,565 in 1951 to 22,199 in 1961 giving a difference of 19,634. In addition to this, many people, after the creation of autonomous district, came in as workers in the administrative jobs, in constructions and also as agricultural workers in the virgin lands - many of them have settled down. During 1961-'71, immigrants have greatly reduced, but the job seekers and wage labourers still continue.

At the thana level, it has been found that Baithalangso and Howrahghat show the highest growth much above 60% (Fig. 25). Creation of Hamren Sub-division in Baithalangso and developmental works in Howraghat etc., have led to high growth rate. Bokajan and Diphu thanas show somewhat high growth rate ranging between 50-60%. Road extension and construction programmes, establishment of new manufacturing industries are the main factors of growth of population. Haflong and Maibong, having no significant works, compared to the above thanas, have growth below 50%.

Due to high overall population growth rate in the region, the local agricultural economy is likely to be hard pressed.

#### SPATIAL PATTERN OF POPULATION :

The general population density in the region is only 30 persons per square kilometre according to 1971 census, but it varies considerably within the region : Karbi Anglong 37 while North Cachar Hills only 16 persons. Further, at thana level (Fig. 26), the Howraghat thana has got the highest density with about 70 persons. The next highest density is to be found in Baithalangso, Haflong and Bokajan where number of persons per sq. km. ranges between 30-40. Diphu thana comes within the range of 10-20. Maibang stands lowest among the thanas with only 9 persons per sq. km.

High density in Howraghat is chiefly due to the presence of large number of populous villages and comparatively small geographical area. Except few parts, rest of it is a continuation of the Nowgong plain where there are large number of agricultural

villages. Very low density in Maibong thana is just due to reverse reasons - practically no large settlement except Maibong itself, large geographical area of the thana and extensive forest areas (reserved and unclassed) where there are hardly any settlements. Low density in Diphu thana also is due to similar reasons - little higher density is due to the presence of Diphu town itself. Rest of the thanas show intermediate density - these thanas have either both hill and plain areas occupied by considerable number of medium settlements or a town influencing the density considerably.

Rural density : Rural density per sq. km. for the entire region is only 29 persons. But while considering individually for the districts, the picture is quite contrast again. Karbi Anglong has 36 persons while North Cachar Hills only 15 persons. The following table illustrates the rural density for district, thana as well as large and medium villages (1971).

Table No. 5

| District/<br>Thana               | Total rural<br>density | Density in<br>large vill-<br>ages. <sup>3</sup> | Density in<br>medium<br>villages <sup>4</sup> |
|----------------------------------|------------------------|---|---|
| Karbi Anglong                    | 36                     | 197   | 112   |
| Baithalangso                     | 38                     | 163   | 135   |
| Howraghat                        | 67                     | 292   | 133   |
| Bokajan                          | 35                     | 134   | 81  |
| Diphu                            | 13                     | 154   | 60  |
| North Cachar Hills <sup>15</sup> |                        | 384   | 163   |
| Haflong                          | 32                     | 283   | 171   |
| Maibong                          | 9                      | 554   | 150   |

The above table shows that density in both the types of villages is higher in the North Cachar Hills. The single reason for this is that Haflong and Maibong thanas have very few of the villages in which range is very small. But in the case of Karbi Anglong, the number of such villages varies greatly from thana to thana, and the population in

3. Population 1,000 or more

4. Population ranges from 500 to 999

(as given in the District Census Handbooks, 1971).

individual villages as well. This has affected the overall density in both the categories. However, it is important to note, that the density of large villages in the case of Howraghat thana is the highest, which is 292 persons per sq. km.

The high density of population in the case of large villages in Howraghat and other thanas indicates compactness in households. This also indicates that land scarcity is likely in those settlements, which in return affects the equilibrium between local demand and supply of foods.

Urban density : Diphu with 2,040 and Haflong 1,003 persons per square kilometre give rather very low density. This low density is perhaps chiefly due to high percentage of lands under administrative blocks and quarters for the administrative workers - the commercial workers who generally confine to small areas are also proportionately small in number, that has hardly any significant influence upon the overall urban density. The other reason for low density in the towns of Diphu and Haflong is perhaps the large open spaces between houses - not compact like old cities having acute land scarcity.

POPULATION COMPOSITION :

Rural and urban : The region of Karbi Anglong and North Cachar Hills is very much rural in character with 96.62% to the total population according to 1971 census. Diphu and Haflong, the district headquarters of Karbi Anglong and North Cachar Hills respectively, were the only settlements enumerated as towns (1971). Diphu comprises 2.69% (with 10,200 persons) and Haflong 6.83% (with 5,197 persons) to the total populations of Karbi Anglong and North Cachar Hills respectively. Karbi Anglong occupies the lowest position among all the districts of Assam in respect of the percentage of urban population.

The relatively higher urban population in the case of North Cachar Hills is due to its small number of total population which is only 76,047. This comprises roughly only one fifth of the population of Karbi Anglong.

Some of the reasons of high rural percentage and correspondingly low urban percentage in the region may be as follows :

- i) The physical environment is such that majority

majority of the people depend on shifting cultivation along with which the settlements also keep on shifting. Such shifting settlements can never have any possibility to develop into towns.

ii) Very slow industrialization - industries help the growth of towns or the growth of urban population. The present two towns are service centres with solely administrative functions in which the limited number of people are engaged. Therefore, a limited number of people carrying on trade activities are associated with them.

iii) Poor transport linkages, due to which people of many villages still use foot paths for movement. Under this condition, a village can never grow into a town. Due to this, also, people have to remain away from town life.

Creation of job facilities in the urban and semiurban areas, constructions and extensions of transport lines etc. all directly or indirectly lead to the increase of percentage of urban population.

But such works have not yet been fully undertaken.

Occupational composition : There is, in the region, very uneven distribution of population in different sectors of occupation. It has already been mentioned, that about 97% of the population is rural in character. These rural people are greatly engaged in agricultural activities leaving negligible number in other sectors of occupation. Whatever population is engaged in other occupations (i.e. other than agriculture) that is chiefly contributed by the urban and semi-urban centres.

The following table illustrates occupational composition of the region giving four important sectors of occupation (1971).

Table No. 6  
(Percentage to total population of  
district/thana/region)

| District/<br>thana/<br>region. | Agriculture | Manufacturing<br>Processing<br>etc. | Trade<br>and<br>Comm-<br>erce. | Other<br>services |
|--------------------------------|-------------|-------------------------------------|--------------------------------|-------------------|
| 1                              | 2           | 3                                   | 4                              | 5                 |
| Karbi                          |             |                                     |                                |                   |
| Anglong                        | 26.14       | 3.58                                | 0.97                           | 2.22              |
| i) Baitha-<br>langso           | 29.49       | 0.34                                | 0.45                           | 1.56              |
| ii) Howra-<br>ghat             | 24.12       | 0.35                                | 0.87                           | 1.37              |
| iii) Boka-<br>jan              | 25.82       | 0.62                                | 1.10                           | 2.41              |
| iv) Diphu                      | 24.20       | 1.69                                | 2.28                           | 5.81              |
| North                          |             |                                     |                                |                   |
| Cachar Hills                   | 29.95       | 0.38                                | 1.20                           | 6.92              |
| v) Haflong                     | 28.40       | 0.49                                | 1.49                           | 9.14              |
| vi) Maibong                    | 31.73       | 0.24                                | 0.87                           | 4.34              |
| REGION                         | 26.77       | 0.54                                | 1.01                           | 3.01              |

From the above table it is found that 26.77% of the total population of the region is engaged in agriculture (cultivators and agricultural labourers). Compared to that, only 3.01% and 10% go for other services (Government employees in administrations, teachers, religious workers etc.) and trade and commerce respectively. In the industrial sector (comprising

household and other than household), the number is very negligible, which is only 0.54%. This clearly indicates how poor the region is in respect of industries.

Of the two districts, North Cachar Hills shows strikingly higher percentage in agriculture and other services than Karbi Anglong. This is perhaps mainly due to two reasons : a) proportionately higher percentage of workers (31% in Karbi Anglong and 42% in North Cachar) and b) proportionately larger number of Government employees and workers engaged in institutions run by religious organisations such as Christian Mission and Ramakrishna Mission etc. in North Cachar Hills (missionary activities are less in Karbi Anglong).

From the above table, it can be further said regarding the occupational compositions in the thanas, that agricultural sector very much dominates in all of them. Percentages in industries as well as trade and commerce are very low - except few, the rest have less than 1%. In other services, however, all the thanas have more than 1%. It is worth pointing out that these

three occupational sectors, especially the other services, have higher percentages of people in Diphu and Haflong thanas. This is no doubt due to the location of Diphu and Haflong towns in the corresponding thanas both the towns are service centres according to 1971 census.

Occupations like livestock, forestry and fishing etc., mining and quarrying; construction; transport, storage and communications - all hold negligible percentages of population. It is, however, 3.16% in livestock, forestry and fishing in the thana of Bokajan which is much above the others. Availability of extensive grasslands, forest wealths and marshy lands etc. that have been already mentioned in Chapter III, are perhaps the main factors of such a high percentage in this occupation.

From the above table 6, one could summarise regarding occupational composition, saying that industry and trade and commerce - these two means of occupation are greatly neglected in the region.

Religious composition : The following table gives the religious composition of the region (1971).

Table No. 7  
(percentage to total population of district/  
region etc)

| District/<br>region      | Hindus | Muslims | Christian | Sikhs | Bhudd<br>-hists | Jains | Other<br>reli-<br>gious<br>comm-<br>uni-<br>ties |
|--------------------------|--------|---------|-----------|-------|-----------------|-------|--|
| Karbi<br>Anglong         | 90.27  | 1.30    | 7.99      | 0.08  | 0.35            | 0.01  | -  |
| North<br>Cachar<br>Hills | 77.03  | 0.86    | 21.87     | 0.04  | 0.20            | -     | -  |
| REGION                   | 88.06  | 1.23    | 10.31     | 0.07  | 0.33            | 0.01  | -  |
| Assam                    | 72.51  | 24.56   | 2.61      | 0.08  | 0.15            | 0.09  | very<br>negli-<br>gible.                         |

From the above table it is revealed that the Hindu community constitutes far more than other communities like Muslims, Christians, Sikhs, Buddhists etc. The Hindus constitute 88.06% in the region against 72.51% in all Assam average. The Christians constitute the second largest community with 10.31% against only 2.61% in Assam. But the Muslims, usually the second largest in India, Assam and other states, occupy the third place with only 1.23% as against 24.56% in Assam. All other

communities put together constitute even less than 0.50%, and there was no person belonging to any other religion in 1971.

At the district level also, the same pattern prevails - the Hindus being the most numerous, Christians second and the Muslims third in both the districts. One of the chief reasons of the Hindus being mass majority is that all the Scheduled tribes who are not Christian or Bhuddhist have been enumerated as Hindus. Of the total Hindus more than 85% are found in Karbi Anglong. Similarly, about 88% and 65% of the Muslims and the Christians respectively are found in the district of Karbi Anglong. But it is worthwhile pointing out that within North Cachar Hills the Christians constitute 21.87% as against 7.99% in Karbi Anglong. North Cachar Hills, thus, has got the highest percentage of Christians among all the districts of Assam. This is mainly due to mass conversion of local tribals into Christianity that has been active since the latter part of the last century. Higher percentage of Muslims in Karbi Anglong is due to the contiguous Nowgong plain - one of the districts of Assam largely inhabited by Muslims (the wet cultivators).

Scheduled Castes, Scheduled Tribes  
and other Persons

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The following table and the Fig. 21 illustrates the distribution pattern of Scheduled Castes, Scheduled Tribes and other persons<sup>5</sup> in the region (1971).

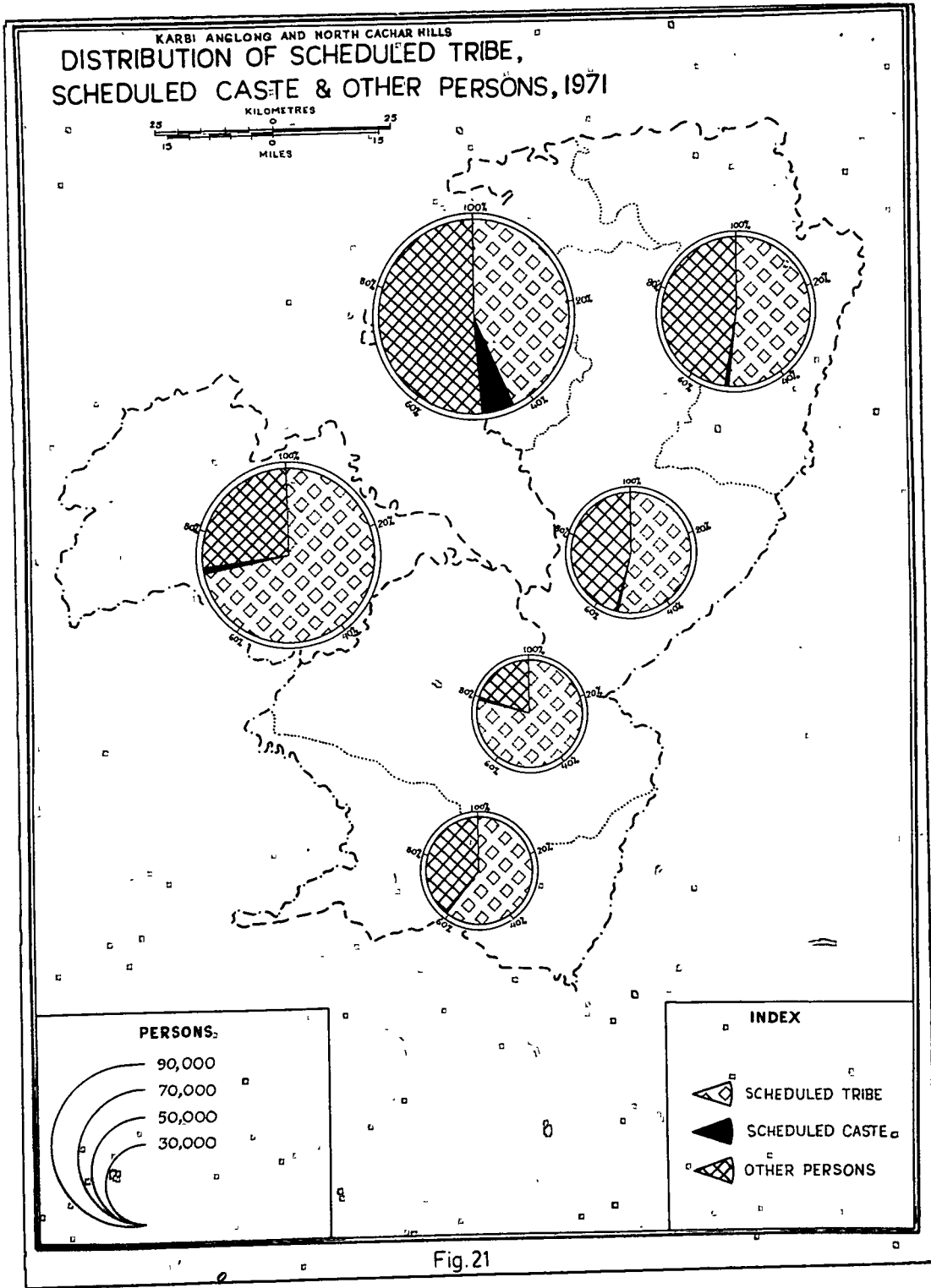
Table No. 8  
(percentage to total population of district/  
thana/region)

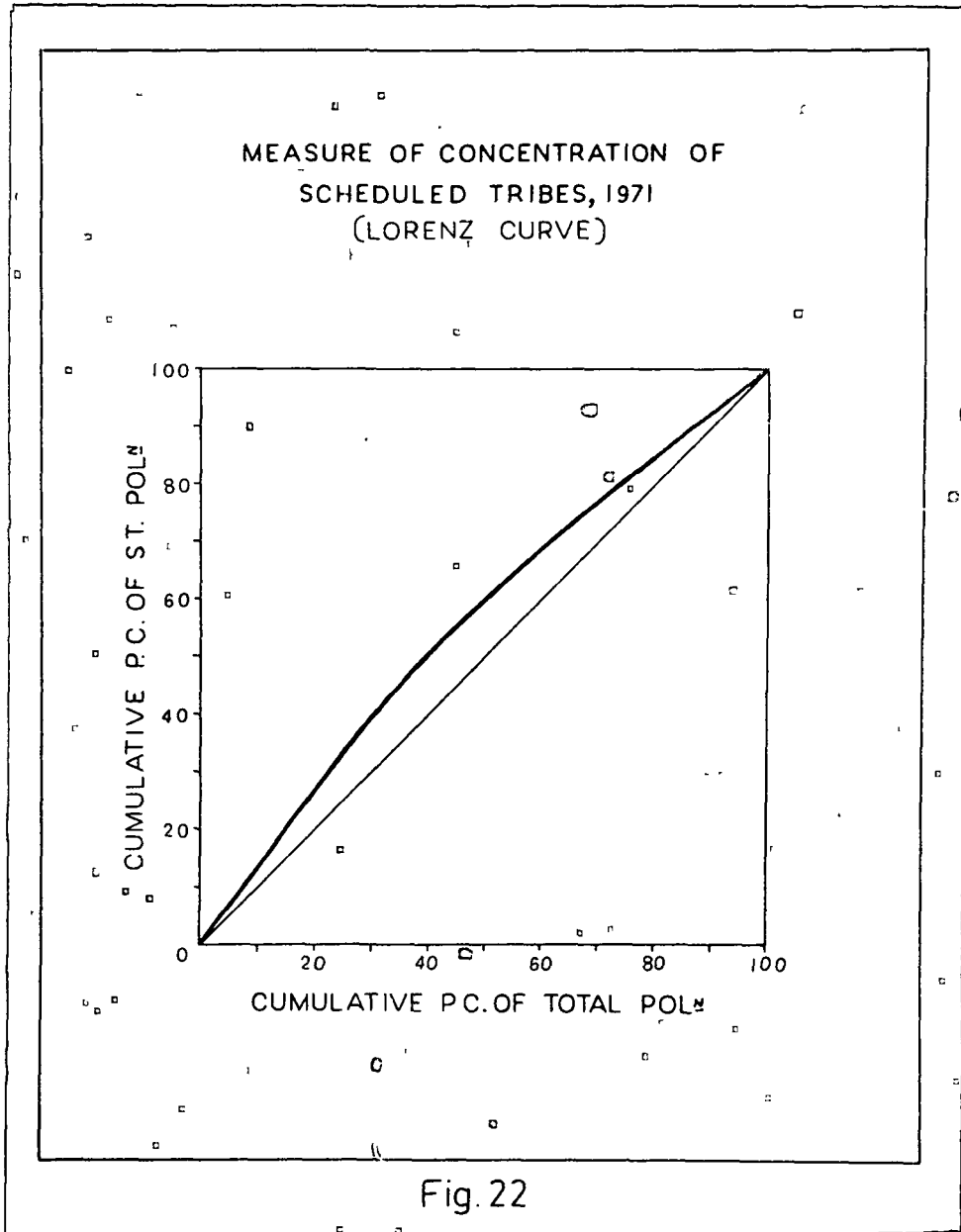
| District/<br>thana/region | Scheduled<br>Castes | Scheduled<br>Tribes | Other<br>persons |
|---------------------------|---------------------|---------------------|------------------|
| Karbi Anglong             | 2.59                | 55.37               | 42.04            |
| Baithalanso               | 1.10                | 71.88               | 27.02            |
| Howraghat                 | 5.56                | 43.36               | 51.08            |
| Bokajan                   | 0.90                | 51.65               | 47.45            |
| Diphu                     | 0.76                | 55.04               | 44.20            |
| North Cachar<br>Hills     | 1.09                | 69.15               | 29.76            |
| Haflong                   | 1.37                | 60.49               | 38.14            |
| Maibong                   | 0.75                | 79.14               | 20.11            |
| REGION                    | 2.34                | 57.67               | 39.99            |

From the above table, it is found that Scheduled tribes and Other persons are the major communities in the region. Scheduled castes constitute only 2.34% which is very small. Of the region's total Scheduled castes, Scheduled tribes and Other

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5. All the remaining persons other than Scheduled castes and Scheduled tribes.





persons, Karbi Anglong has got 92.24%, 79.98% and 87.57% (not given in the table) respectively giving an imbalanced distribution at the district level. This is due to the fact that the total population of Karbi Anglong is much larger (83.30% of the regional total) than that of North Cachar Hills. When looked into their composition in the two districts separately, it is found that Scheduled tribes in Karbi Anglong are much less than in North Cachar Hills. But, on the other hand, Scheduled castes and Other persons of Karbi Anglong constitute higher percentages, which no doubt have affected the proportion of Scheduled tribes in it. Among all the thanas, Maibong has got the highest and Howraghat the least of Scheduled tribes, and correspondingly highest of Scheduled caste and Other persons in Howraghat and least of them (0.75% and 20.11% respectively) in Maibong. Baithalangso also shows a high percentage of Scheduled tribes.

It has been found that the thanas which have better links with other areas outside the region in respect of transport or adjacent to them or have more

developmental activities, have higher percentage of Other persons. Diphu and Haflong thanas with two towns provide jobs not only in Government departments but also in private ones (Fig. 23). Following these, job seekers, Other persons also have come over many places, especially the semi-urban centres like Howraghat, Bokajan, Bakulia etc., and have taken up tertiary works, like running a shop, teaching profession, wage labour etc.

Some of the reasons of relatively higher percentage of Other persons and Scheduled castes in Howraghat and Other persons in Bokajan could be as follows :

i) About 50% of Howraghat's geographical area is plain where common Assamese people are inhabiting. Many of them have been living since early times i.e, much before the creation of the district. The same thing applies to Bokajan thana, particularly the plain area.

ii) Jamuna Irrigation Project in Bakulia of Howraghat thana and cement and plywood manufacturing, coal mining and plantations in Bokajan thana are some of the strong pull factors

of Other persons.

iii) Large number of former East Bengal jute cultivators (of Mymensingh district) who had come and settled in Nowgong, especially in Dabaka area - adjacent to Howraghat, are now found to be occupying some portions of the contiguous areas of Howraghat. These people are Muslims and enumerated as 'Other Persons'.

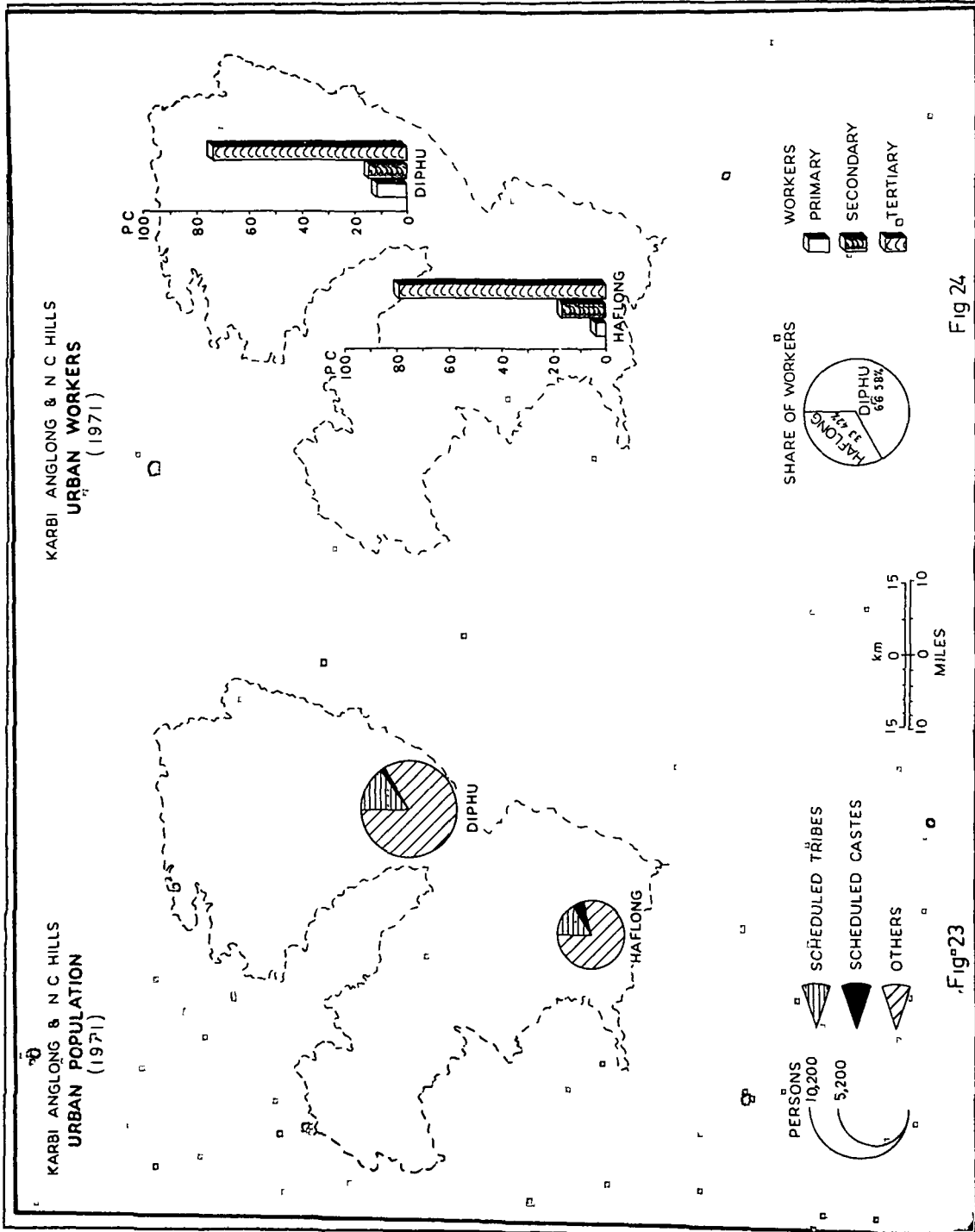
iv) Howraghat also is a place of large number of Scheduled castes, like Hira Kaibartta, Namasudra, etc. who have been living there since before the creation of the district. Such people have occupied the western portion adjacent to Nowgong.

It is worthwhile pointing out, that Maibong and Rongkhang which were the early seats of Dimasas and Karbis, are still the places of their larger concentrations.

Karbi, Dimasa, Kuki and Hmar, Garo, Lalung etc. are the common Scheduled tribes of the region. They constitute the largest group in totality.

Lorenz Curve (Fig. 22) appearing very close to the 'line of equal distribution,' however, indicates that the concentration of Scheduled tribes in the region is not very high.

Sex ratio : Sex ratio for the region as a whole is 869 which is smaller than any other district of Assam except Dibrugarh (859). But it is as high as 937 among the Scheduled tribes as a whole. In contrast to that the sex ratios of Scheduled castes (864) and of Other persons (637) are very low. From this one can draw the conclusion that high population growth in the region is chiefly due to the incoming of male population mostly belonging to Scheduled caste and Other persons, from neighbouring and other parts of the country, for earning livelihood. This is especially so with the Scheduled castes and Other persons. This very fact is further justified when their sex ratios of Haflong and Diphu thanas, having one town each, are compared with that of other thanas. Sex ratio for Scheduled castes for Diphu thana is 474 and for Haflong thana is 707. Similarly, the sex ratio



for Other persons is 590 and 627 for Diphu and Haflong thanas respectively. This phenomenon has affected not only the sex ratio in general (of the thanas) but also perhaps of the two districts and the region as a whole. Therefore, it could be said, with less doubt, that incoming male people during 1971 were mostly belonging to Scheduled castes and Other persons, and in great strength to the two towns and other parts of the two thanas. The sex ratio of the Scheduled tribes, the locals, remains well above 900 and with little differences in all the thanas. This also leads to conclusion that there is practically negligible number of outward, or inward moving Scheduled tribe population belonging to either of the sexes in all the thanas.

Literacy pattern :

There are only 22% people in the whole region, who can read and write. This is much lower than that of all Assam average which is 28.14% according to 1971 census. Even at the individual district level

the literacy figure does not go higher than Assam's average. Figures for thanas also are equally small. Haflong thana, however, shows a little higher literacy which is 37.09%. Haflong thana also gives a fairly high male literacy with 45.43%. But in Karbi Anglong, in no thana it reaches 36%. Female literacy of the region is rather very low. Urban literacy in both the towns, however, remains above 60%.

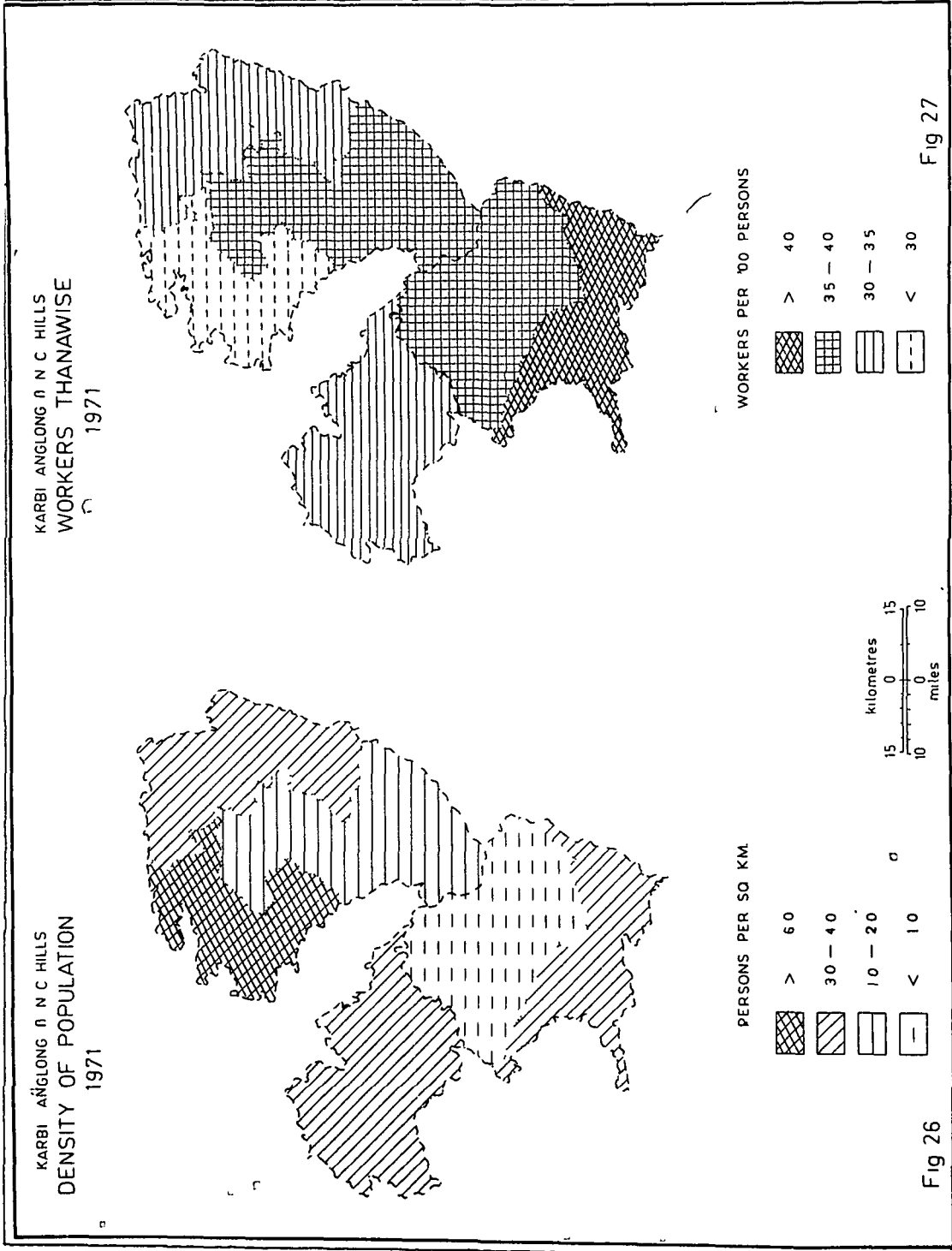
Proportionately higher percentage of urban population, higher percentage of non-agricultural workers (including that of forestry, mining, constructions, transport and Government jobs etc.) and the greater missionary activities are some of the main factors of higher literacy in North Cachar Hills in general and Haflong thana in particular.

CHAPTER VECONOMIC STRUCTUREHUMAN RESOURCES :<sup>1</sup>

High percentage of workers indicates sound economic prospect of a region in general. It, however, depends upon how the workers (human resources) are utilized. The region shows a higher percentage (32.95%) of workers than all Assam average (27.96%) according to 1971 census. But then agricultural sector is greatly dominating with 81.12% to the total workers. Of the remaining workers, 48.32% are engaged in other services. This situation simply means that the region's mining, commercial and industrial sectors etc. are highly neglected so far as the distribution of human resources are concerned. This further reveals that the region is poor in technical labourers. Of the total workers, females constitute only 12.36% as against 87.64% constituted by males. This again leads one to say that sexwise workers' share in

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1. Workers as enumerated in nine categories such as cultivators, agricultural labourers, industrial workers, etc.



the region is highly imbalanced.

The region shows a negative growth of workers during 1961-71. The percentage has gone down from 56.23 to 32.95. It is, however, difficult to tell the reason precisely for such a decrease. This might be due to the 'significant change' in the definition of worker adopted in the 1971 census. As a result of this the variation of workers comes to be 4.61%. At the individual district level, Karbi Anglong, although shares 78.76% of the total workers of the region, shows 7.67% variation. North Cachar Hills on the other hand sharing only 21.24%, shows workers' variation as high as + 8.75%. Such adverse situation in Karbi Anglong needs careful investigation.

The map (Fig. 27) showing distribution of workers for 1971 gives, that the Howraghat thana, which has the largest share in the total population and the highest density, is having proportionately smallest number of workers i.e. less than 30% to its total population. This is, perhaps, mainly due

to proportionately larger percentage of children and students who are mostly economically non-productive. Haflong, on the other hand, has got the highest number of workers per hundred persons. A large portion of workers in this thana is constituted by the Government administrative staff who usually do not keep their families and children along with them. Almost similar situation prevails in Maibong and Diphu thanas also. In Baithalangso and Bokajan the percentage of workers is slightly higher than that of Howraghat. North Cachar Hills with 42% workers proves to be richer in human resources than Karbi Anglong with 31%.

Categories of workers :<sup>2</sup> The three broad categories of workers have been given in the following table (1971).

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2. All the nine categories of workers have been broadly categorised into three basic groups :-
- i) Primary : Cultivators; Agricultural labourers; Livestock, forestry etc. and Mining and Quarrying.
  - ii) Secondary : Manufacturing, processing, etc., Constructions.
  - iii) Tertiary : Trade and Commerce; Transport, storage, etc., and Other Services.

Table No. 1

(Percentage to district/region total workers)

| District/<br>thana/<br>region | Primary      | Secondary  | Tertia-<br>ry | Depend-<br>ency |
|-------------------------------|--------------|------------|---------------|-----------------|
| Karbi                         |              |            |               |                 |
| Anglong                       | 86.74        | 2.30       | 10.96         | 220.94          |
| i) Baitha-<br>langso          | 29.17(92.11) | 0.45(1.41) | 2.05(6.48)    | 210.94          |
| ii) Howra-<br>ghat            | 27.48(90.15) | 0.41(1.33) | 2.59(8.52)    | 271.52          |
| iii) Boka-<br>jan             | 19.67(86.61) | 0.50(2.21) | 2.54(11.81)   | 198.09          |
| iv) Diphu                     | 10.42(68.84) | 0.94(6.27) | 3.77(24.89)   | 174.30          |
| North                         |              |            |               |                 |
| Cachar Hills                  | 73.10        | 2.30       | 24.60         | 138.63          |
| v) Haflong                    | 37.67(66.48) | 1.56(2.75) | 17.44(30.77)  | 125.61          |
| vi) Maibong                   | 35.43(81.77) | 0.74(1.72) | 7.16(16.51)   | 155.66          |
| REGION                        | 83.85        | 2.30       | 13.95         | 203.47          |

Note : Figure in bracket stands for percentage to total workers of the thana. (Based on 1971 Census)

The above table shows that the region's distribution of workers in three broad categories is very uneven. The primary sector is dominating by many times of the secondary and tertiary sectors combined.

Leaving aside the mining, forestry and hunting and other primary activities, the agricultural sector alone holds more than 81% (stated above) of the total workers.

Primary activities, especially the agriculture, are still much more predominant in Karbi Anglong, with 86.74%. Secondary activities, however, are equal in both the districts. But the tertiary activities show a very varied picture in the two districts. The figures being 10.96% and 24.60% for Karbi Anglong and North Cachar Hills, respectively. This indicates proportionately larger number of workers engaged in trade and commerce, transport and communication and other services etc., in the North Cachar Hills.

The table further illustrates that among all the thanas of Karbi Anglong, predominance of primary activities is highest in Baithalangso thana. It shares 29.17% of the district's total primary workers. Within itself, again, the primary workers constitute 92.11% of its total workers. Highest

number of secondary and tertiary workers are to be found in Diphu which might be due to various administrative services, small scale industries and retail and whole sale trade etc.

In North Cachar Hills the concentration of primary workers is more or less same in both the thanas. But in the case of secondary and tertiary workers, the Haflong thana gives a much striking picture. This is due to similar reasons as in Diphu thana (both Diphu and Haflong thanas have one town each, and being service centres their contributions of tertiary workers must be significant). Fig. 27 shows the distribution of workers in general.

Dependency : Dependency has increased from 77.83 in 1961 to 203.47 in 1971. Such a tremendous variation is due to the change of definition of 'worker' in 1971 census, and not due to the actual increase of non-working population.

The dependency ratios, in general, are much higher in the case of the thanas of Karbi Anglong, particularly Howraghat and Baithalangso. The

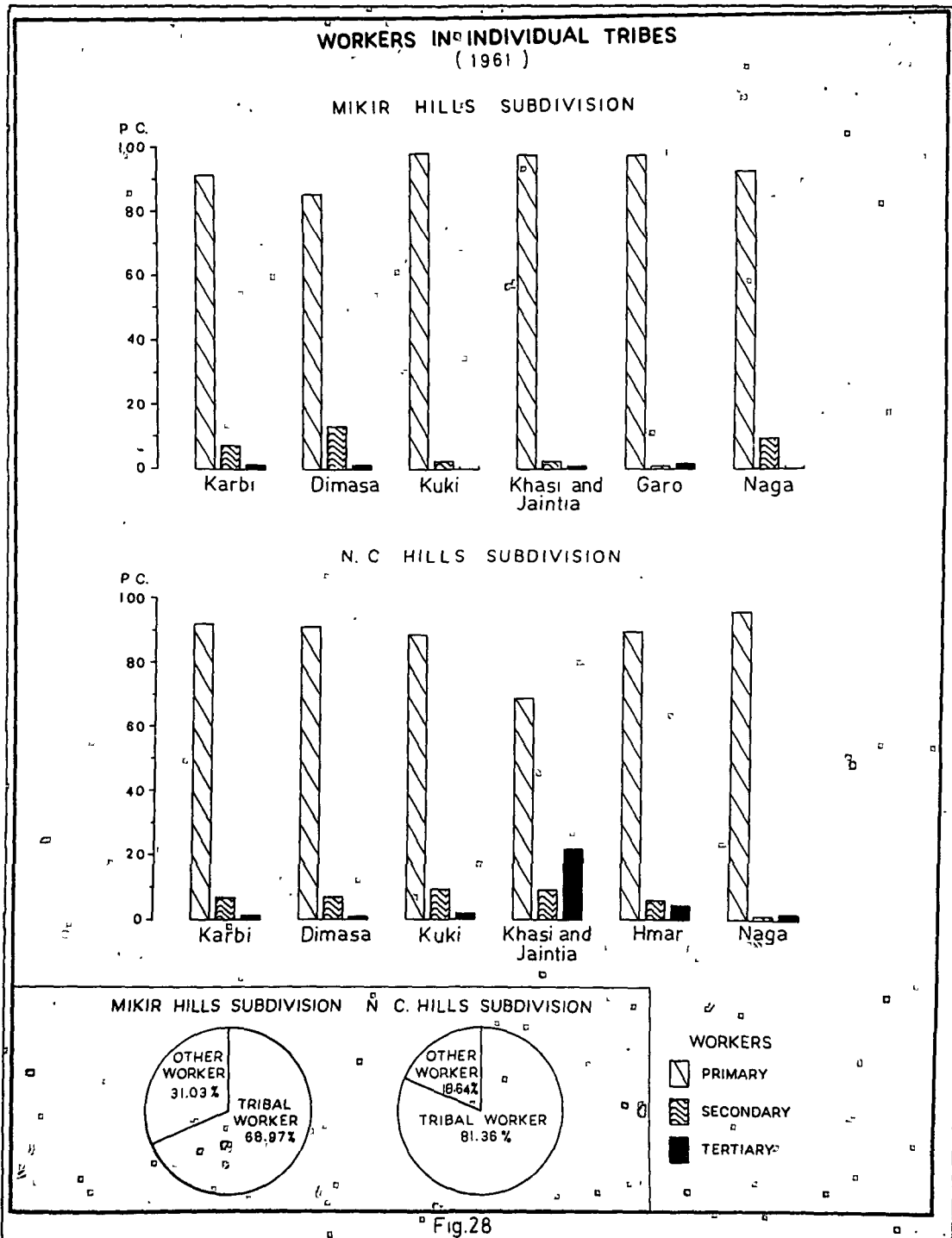
high dependency and the high decadal variation (Fig.24) of above + 60% indicate high growth of non working population - perhaps children. Less dependency ratio in the thanas of North Cachar Hills is due to proportionately larger number of workers, especially that of the tertiary sector.

Tribal workers ;<sup>3</sup> The position of human resources among the individual tribes, gives the similar picture (Fig. 28). In the Karbi Anglong district (Mikir Hills Sub-division in 1961), all the tribes show high percentage of primary workers - exceeding 90%. In the case of Kuki tribe, it is almost 100%. Secondary workers constitute about 10% to 15% among Karbi, Dimasa and Nagas. Tertiary workers are more or less negligible in most of them.

In the case of North Cachar Hills (North Cachar Hills Sub-division) the Karbi, Dimasa and Kuki tribes show almost similar kind of workers' distribution in the three categories. Naga tribe

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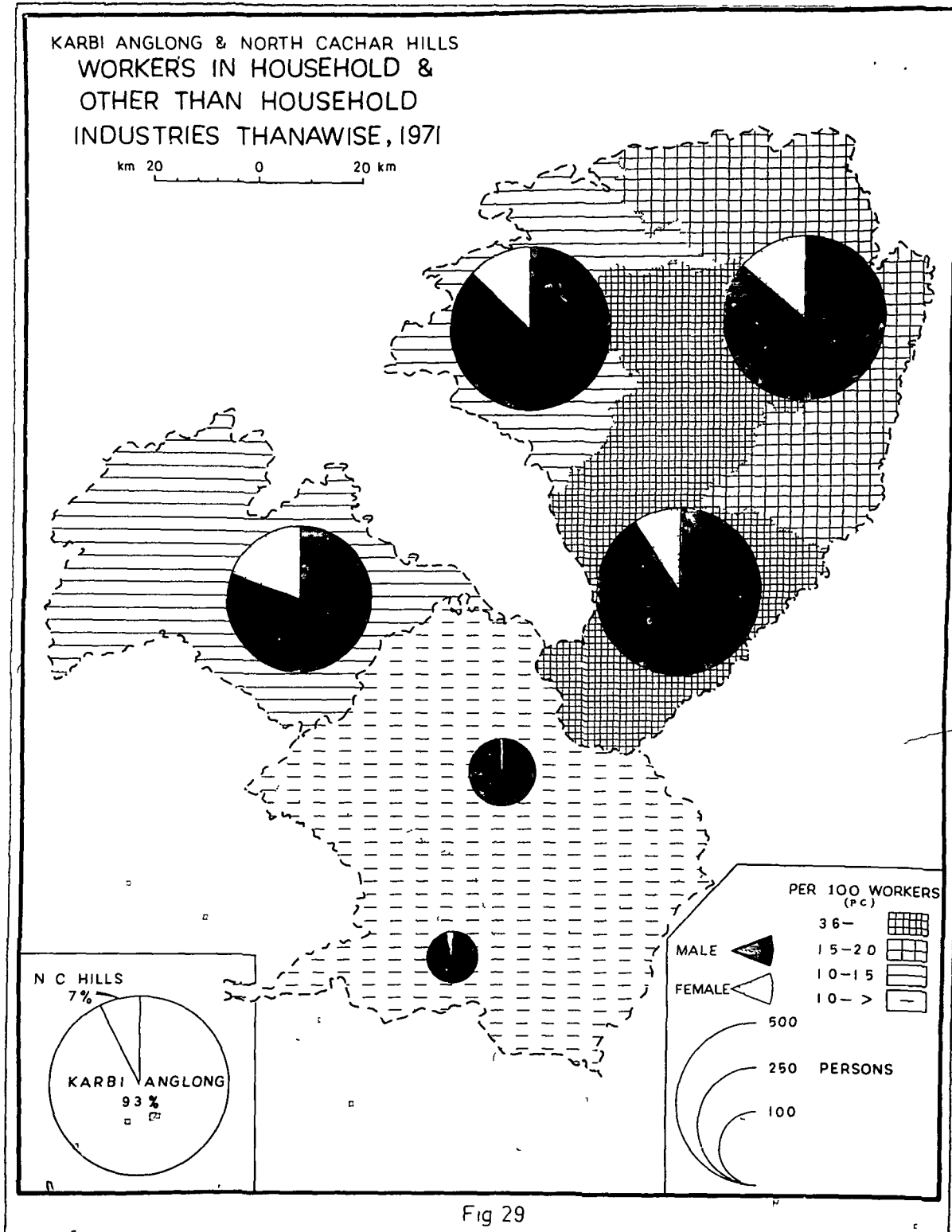
3. Figures for individual tribes for 1971 not available. Therefore, that of 1961 have been analysed.



shows above 95% in primary works, while in secondary and tertiary only 1% and 2% respectively. Khasi and Jaintias, and also Hmars show fairly large number of secondary and tertiary workers, ranging from about 8% to 10% in secondary and from 5% to 22% in tertiary works. It is worth noting that among all the tribes Khasi and Jaintias together constitute the highest percentage of tertiary workers.

The Fig. 28, at a glance gives the impression that primary sector is very much dominating among the tribes of the region. Jhum cultivation and hunting are the main primary activities of the tribes.

Workers in household and other than household industries : There are very few people engaged in household and other than household industries in North Cachar Hills (Fig. 29). In both the thanas the figures remain below 100 persons. But in the case of Karbi Anglong, the figures for such workers range from about 300 to 500. The choropleths indicate percentage of such workers to the total workers thanawise. Thus Diphu has been



found to be the highest with 3.6%. Haflong and Maibong have less than 1% each. High percentage in Diphu thana is chiefly due to the influence of the Diphu town in and around which the works like repairing of bicycles, motor vehicles, radio, clock and watch etc., black smithing, pottery making (earthen), ghee preparing and bamboo and cane furniture making etc. are going on. Diphu being more populous than Haflong, provides better market facilities, and hence better scopes for the manufacturing, processing and repairing etc. to flourish.

Urban workers : The distribution pattern of urban workers in three broad categories is more or less similar in both the towns of Diphu and Haflong (Fig. 24). The tertiary workers constitute more than 75% to the total workers of both the towns. Similarly, the figure for secondary workers is approximately 15% in them. But the primary workers constitute little more than 12% in Diphu whereas they are only about 4% in Haflong. Out

of the total urban workers of the entire region, Diphu comprises little more than two third, while Haflong only one third, however, Haflong is more tertiary in nature.

In the end, conclusion can be drawn saying, that the human resource position (with high positive variation) is more sound in North Cachar Hills, and the Haflong thana in particular. Karbi Anglong, although shares higher percentage of workers of the entire region, but within itself the situation is adverse. High dependency ratio during the last decade created an unsatisfactory situation in the district especially in areas of highest density and highest population growth, for example, Howraghat.

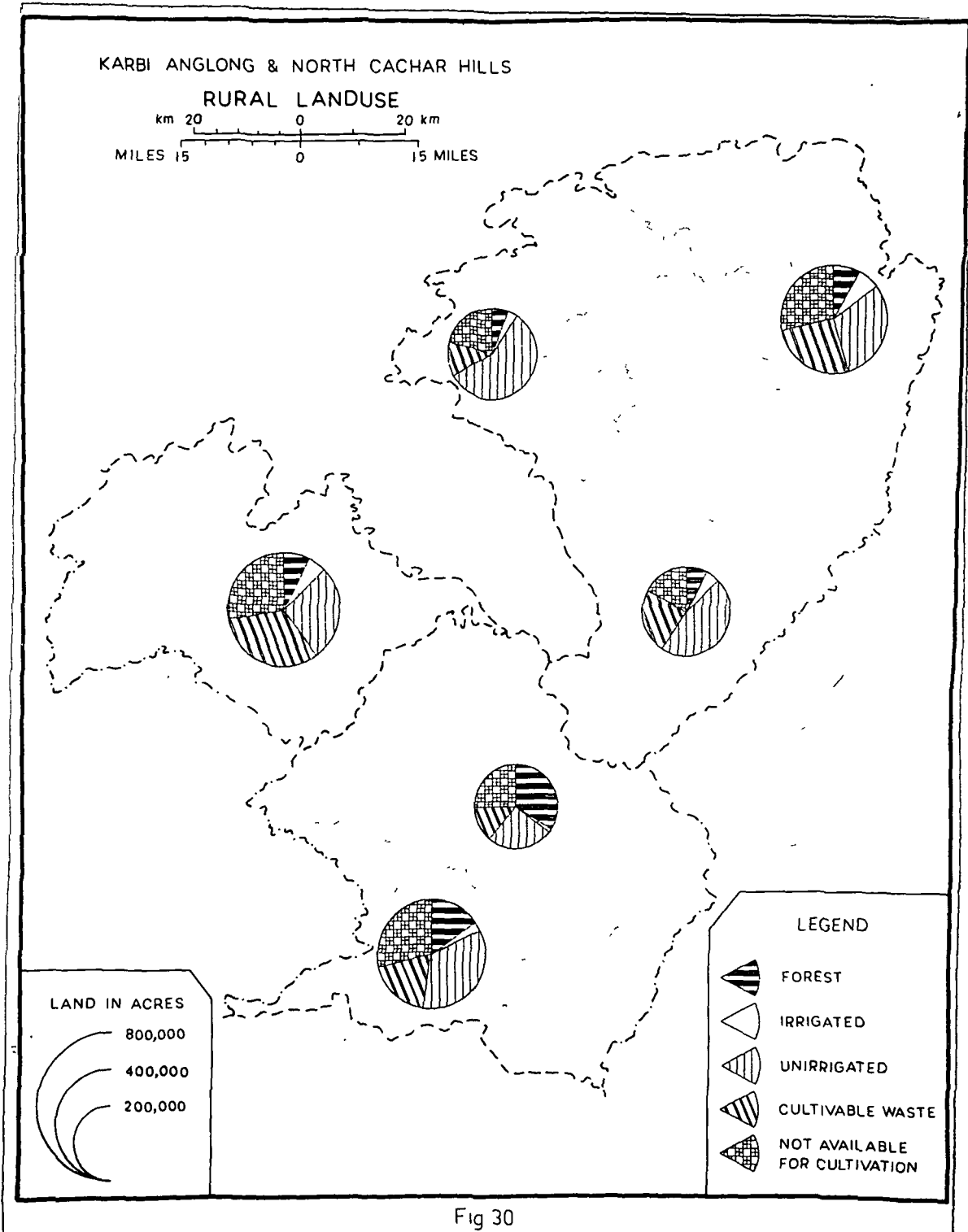
#### LAND - USE :

The data about land use is available in 1971 census which gives land use details in the case of rural areas (Fig.30).

The region seems to be keeping relationship between the size of land under five categories shown in the map and the size of population in

general. Where total population is more, the total land used tends to be more. But in Howraghat thana it is an exception, where population is largest but the total land used is one of the lowest. Why such situation prevails there - needs a careful and comprehensive field study before telling the reason precisely.

The Rural Land use map (Fig. 30) gives that proportionately larger amount of land is under use in the Haflong thana while in Maibong and Diphu it is the least. While examining the distribution pattern of workers (Fig. 27), it has been found that Haflong thana has the highest number of workers (44.32%). The thana is also one of the few where highest density of population prevails. These two factors combined have, perhaps, led to higher percentage of land used. Maibong and Diphu thanas, although have approximately 40% workers each, the population density is least, and correspondingly least percentage of land used.



Baithalangso and Bokajan thanas occupy intermediate position in respect of land use. These two thanas also show intermediate position in respect of population density and percentage of workers in them.

The Howraghat thana needs separate attention. Here, the percentage of land used to its geographical area is slightly higher than in the case of Diphu or Maibong. But while looking at its percentage of workers to its total population, it is found to be having least (Fig.27). On the other hand there prevail highest number and highest density of population. This situation reveals that the amount of land used has been proportionately small in relation to its total population.

The land under the forest is highest in the North Cachar Hills but the irrigated land is least here. Unirrigated cultivable land is highest in Howraghat with more than 50% to its total land used. Next is Diphu with roughly 50%.

Least amount of unirrigated land is to be found in Maibong. Areas not available for cultivation are high in Haflong, Baithalangso, Bokajan and Maibong ranging from 25% to 30%.

From the land use map the following important conclusions can be drawn :

i) The maximum percentage of net cultivated area (irrigated and unirrigated) and minimum percentage of cultivable waste is found in Howraghat.

ii) The maximum percentage of cultivable waste is found in Baithalangso and Bokajan thanas giving high agricultural potentiality.

iii) Forest cover is more in North Cachar Hills - ranging from about 15% to 30% of the total land used.

There seems to occur a positive relationship between the net sown area and the agricultural workers (cultivators and agricultural labourers). The following table highlights this fact for the year 1971.

Table No. 2

| District/<br>thana/<br>region. | Agricultural<br>workers<br>(percentage<br>to district/<br>thana/region's<br>total workers) | Net sown area<br>(Percentage to<br>district/thana/<br>region's geogra-<br>phical area) |
|--------------------------------|--|--|
| 1                              | 2  | 3  |
| Karbi Anglong                  | 84.00 (81.32)  | 25.00 (72.87)  |
| i) Baithalangso                | 91.70 (28.16)  | 20.50 (17.76)  |
| ii) Howraghat                  | 89.60 (26.48)  | 35.00 (20.23)  |
| iii) Bokajan                   | 77.00 (16.95)  | 27.40 (17.81)  |
| iv) Diphu                      | 66.40 ( 9.74)  | 19.66 (17.07)  |
| North Cachar<br>Hills          | 71.46 (18.67)  | 19.46 (27.13)  |
| v) Haflong                     | 64.10 ( 9.49)  | 17.38 (18.61)  |
| vi) Maibong                    | 81.25 ( 9.19)  | 26.33 ( 8.51)  |
| REGION                         | 81.25 ( 100 )  | 23.02 ( 100 )  |

Note : Figure in bracket stands for percentage to the regional total in both columns 2 and 3.

The above table, however, shows an exception with Baithalangso thana. Here, the agricultural workers are highest (91.70%) against a small percentage

of net sown area (20.50%). Further, it has got the highest percentage of agricultural workers (28.16%) against a low percentage (17.76%) of net sown area of the regional total. These reveal that there are proportionately larger number of agricultural workers engaged in proportionately smaller average of net sown area in the Baithalango thana.

Highest percentage of agricultural workers is chiefly due to the non availability of any significant transport nodes, semi-urban or urban centres etc. where there could have been scopes for administrative, industrial, commercial or other economic activities to be carried on by the non-agricultural workers. It is, however, worth mentioning that this thana with high percentage of agricultural workers and cultivable waste has a bright agricultural prospect - possibly with least amount of intensification.

The data for land use pattern of all the large (49) and medium (142) sized villages are available. It has been found, that about 50% of

of the geographical areas of large as well as medium sized villages is under net sown area in the Karbi Anglong district but very low in the North Cachar Hills - only 10% and 26% respectively. The situation is rather critical in North Cachar Hills especially Haflong thana where the cultivation is limited.

When calculated the agricultural density<sup>4</sup> for all the large and medium sized villages combined, it is found to be much higher in the case of the thanas of North Cachar Hills (759 and 504 persons in Haflong and Maibong respectively). Haflong has got the highest agricultural density. Somewhat similar situation prevails in Baithalangso and Howraghat thanas with 352 and 312 persons respectively. Further, if the population growth rate continues to be high like at present (Fig.25) and no improvement is done in agriculture, the local agricultural economy of these two thanas is likely to be hard pressed in near future.

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4. See Appendix I

**AGRICULTURAL ECONOMY :**

Agriculture is the mainstay of the economy of the region. Except for the Government farming, the agricultural production is done mainly for the local consumption, therefore, no surplus production that aims at commerce in the true sense. Few crops, like mustard, cotton, pineapple, sweet potato, banana etc. are raised by the local people for cash.

The type of cultivation and distribution of crops, vary from place to place according with the variations of relief, rainfall, soils etc. Due to the presence of both hills and plains, the cultivation varies from sedentary to shifting type. Similarly, the yield of crop, paddy for instance, varies greatly between hills and plains. Greater part of the region receives average annual rainfall (Fig. 12) ranging from 1,100 mm to above 1,300 mm which is adequate for the major crops, like rice and maize. The scanty and erratic nature of rainfall in the central portion, however, affects the proper

growth and harvest of the crops - irrigation, therefore, is a must there. Temperature ranges from about 21°C to about 25°C on average which is adequate for the major and common crops. The southern face i.e. the Barail area where temperature is little less, is an ideal place for most of the fruits, especially pineapples and oranges. The plain portion where new alluvium is the main type of soil, wet and irrigation farming are ideal. In the hilly portion, different types of soil favour the growth of valuable species of forests and plantation crops, such as rubber, coffee, tea and cocoa etc.

In the hilly portion which covers nearly 80% of the region's geographical area, the land tenure and private land ownership are not prevalent among the tribals who practise jhum (shifting cultivation). Land belongs to the jhumming community, and their individual interest on land is not there. Moreover, due to shifting nature of their villages, small population, low purchasing

power, traditional habits and beliefs of the tribal people, the amenities and infrastructural facilities, such as education, marketing of agricultural produces, high yielding varieties of seeds, pesticides, chemical fertilizers etc. that could help growth of agricultural economy, cannot be easily provided.

Land tenure and private land ownership are limited only to the plain areas that cover roughly 20% of the region's total geographical area. In such areas the average size of land holding (operated) per man engaged in cultivation for the medium and large villages have been found to be only 3.36 acres which is less than that of Assam average (4 acres approximately)<sup>5</sup> Further, due to the lack of marketing<sup>6</sup> and credit facilities and inadequate trainings for farmers

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5. Average size of holding for 1970-'71 :

Karbi Anglong 1.80 hectares (4.45 acres)  
 North Cachar Hills 1.56 hectares (3.85 acres)  
 Average of the two districts 1.76 hectares  
 (4.35 acres)  
 Average Assam 1.47 hectares (3.63 acres)

Source : Economic Survey, Assam,  
 1975-'76, P.14.

etc., the agricultural economy has not got the proper momentum.

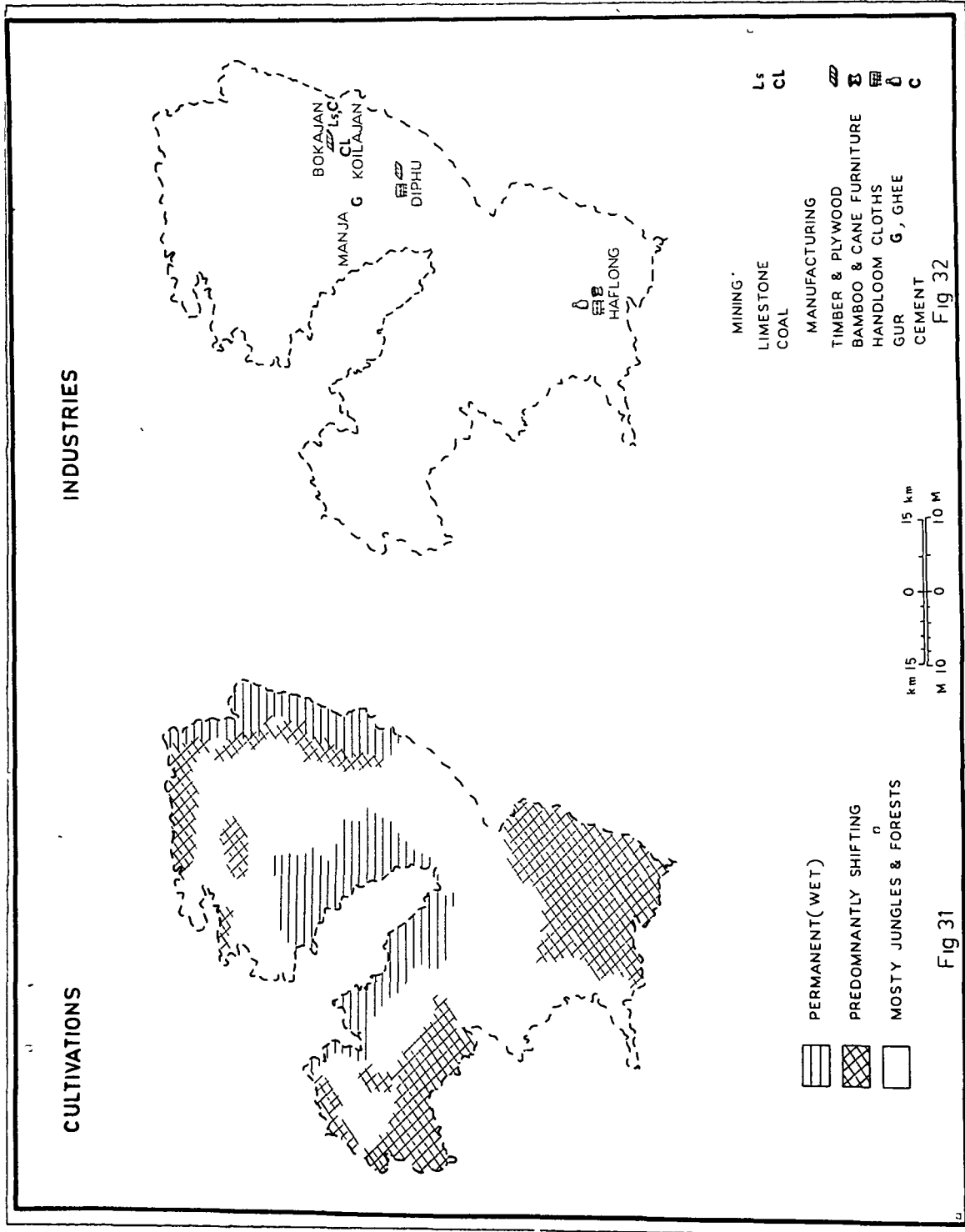
Considering the physical landscape, the weather conditions and the social setup, the region has two types of cultivation (Fig.31), viz:

- a) Permanent (wet) and
- b) Shifting (jhum).

The Rongkhang, Howragnat and Bokajan plains where rainfall ranges from moderate to heavy (1,250 mm or 50" on average), water accumulates in the fields (or where there are scopes for irrigation), soils are alluvial, the wet cultivation predominates. Rice, jute, etc. are the main type of crops. Wet cultivation is associated with permanent settlements. Old alluvium and red loam soils associated with plateaus and hill slopes, provide congenial situations for the jhum cultivation where hill rice, maize, potato, pineapple, etc. are commonly grown. Oranges also grow quite well in such soils.

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6. The marketing scheme in the region was introduced in 1957 and there are at present five marketing societies. Among them the one in Howragnat and contd...



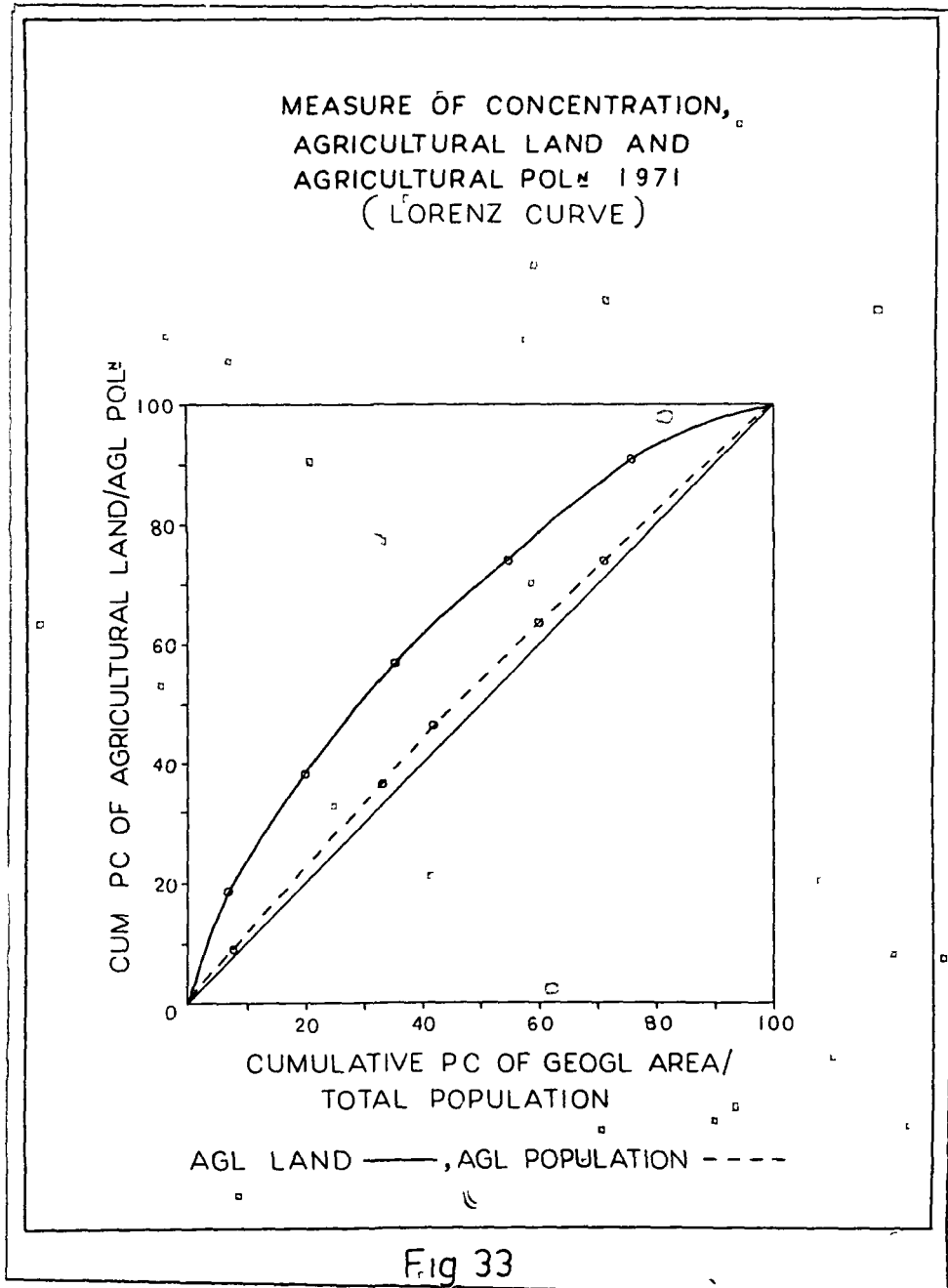
The jhum cultivation predominates where there are very few flat lands or areas where the tribal people form the bulk of the population.

Concentration of agricultural land and agricultural population :<sup>7</sup> The Lorenz Curves (Fig. 33) bend in the same direction giving positive correlation between the agricultural land and agricultural population in 1971. The curve for the agricultural population running very close to the 'line of equal distribution' indicates that almost half of the total population are agricultural workers. The curve for the agricultural land going somewhat away from the 'line of equal distribution' indicates that the concentration of agricultural land is somewhat less while compared to the geographical area. The

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another in Langhin are the biggest in Assam. But it is regrettable that these two societies have been suspended due to their management difficulties. A cotton mill that was established in 1955-56, had to be stopped after working for two years owing chiefly to the failure of the marketing societies, which dealt with its finished products. This had greatly discouraged the cotton growers.

contd...



considerable gap maintained by the two curves indicates weak correlation between the two.

Carrying capacity of land :<sup>8</sup> It has been found that the thanas having high population growth, high density and high agricultural density etc. have higher carrying capacity. But it is an exception in the case of Haflong thana. Baithalangso and Howraghat have the carrying capacity of 54 and 44 persons per sq. Km. respectively. In Maibong and Bokajan the carrying capacity is 37 and 32 persons respectively. Diphu has 20 persons while Haflong only 17 persons per sq. Km. of net sown area. It is to be noted that the thanas having towns have the least carrying capacity. It has also been already found that Diphu and Haflong thanas have the least agricultural density.

The scatter diagram and the line of regression (Fig. 34)<sup>9</sup> illustrates that there is a strong positive correlation between the two variables,

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A special scheme known as Hill Development Scheme is being implemented in the Tribal Development Blocks of Nilip, Rongkhang and Diyung etc. with the purpose of marketing the agricultural products of the tribal people. But during the last decade, since when it formed, it has not shown any significant achievement.

Source: Bordoloi, B.N. District Handbook of United Mikir and North Cachar Hills (Tribal Research Institute, Shillong 1972), PP 82-85.

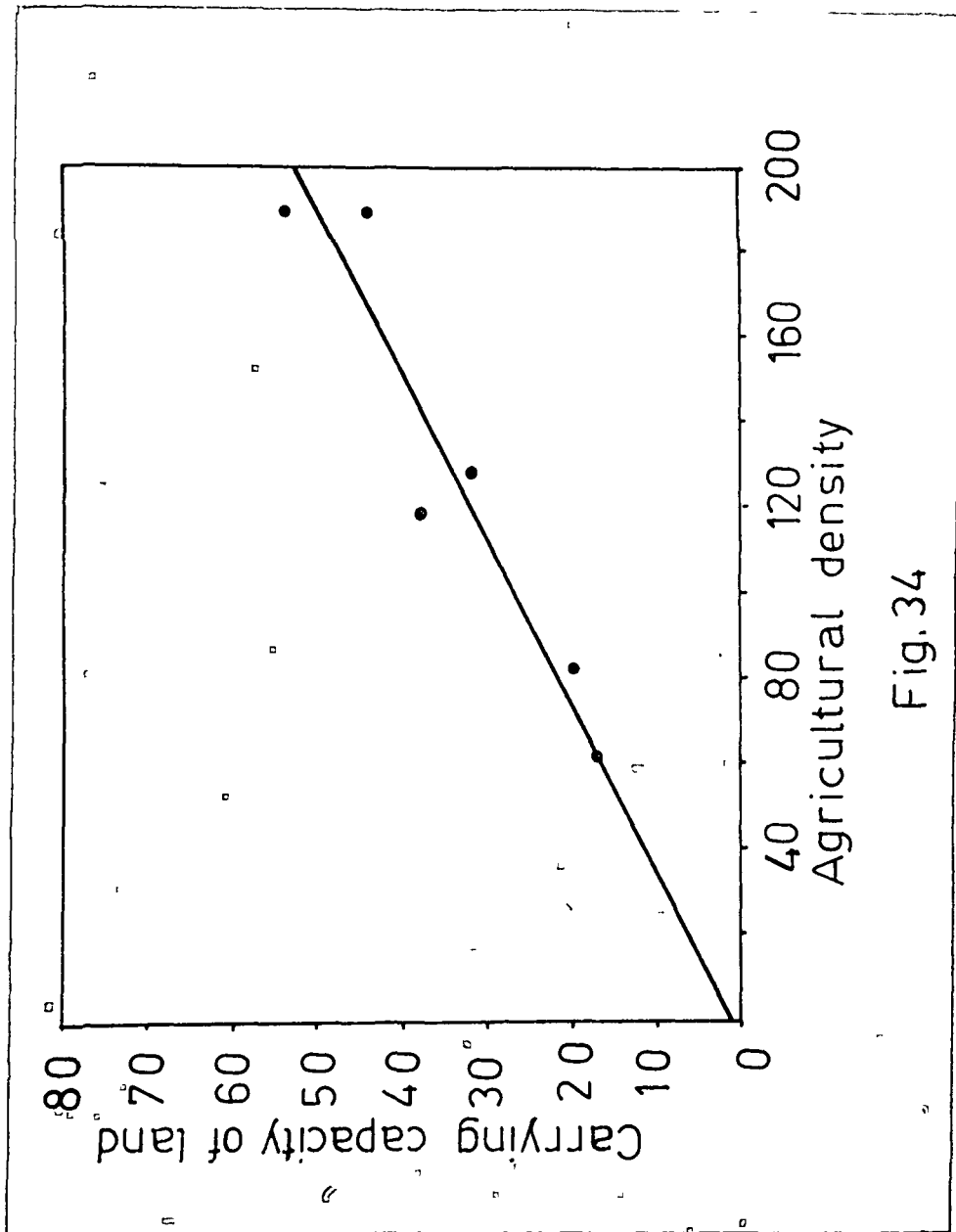


Fig. 34

of agricultural density and carrying capacity of land. The value of  $r$  (i.e. coefficient of correlation) is found out to be + 0.949 which is very significant. Again, since the regression coefficient is significant, it is revealed that there has been large number of agricultural population for a relatively higher agricultural density, and vice versa. In other way, it can be interpreted that a relatively small number of agricultural workers have not been able to produce the food locally required by a large number of people per unit of net sown area. It is possibly due to low level of technology and unimproved method of cultivation.

Intensity of agriculture :<sup>10</sup> The intensity of agriculture is found to be higher in the case of Karbi Anglong (25) than in North Cachar Hills (19). Among the individual thanas, Howraghat has got the highest intensity which is 35. The next highest is Bokajan with 27.40. In Baithalangso and Diphu the intensity is 20.50 and 19.66 respectively. In North Cachar Hills, Maibong has got

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7. Agricultural land i.e. net sown area. Agricultural population i.e. agricultural workers.

the highest with 26.33 while Haflong only 17.38.

It is important to note that the thanas having urban population have the lesser intensity of agriculture. This could be due to less percentage of agricultural workers to the thana workers (Table No. 2). But in the case of other thanas, having no urban population, the percentage of agricultural workers ranges from about 80 to about 92, and correspondingly higher intensity of agriculture is to be noticed in them.

Intensity of irrigation :<sup>11</sup> The intensity of irrigation is rather low for all the thanas - not reaching even 20 in any of them. By far, the Howraghat thana, where the net sown area comprises 35% to its geographical area (highest) has got only 6.01% of irrigated area. This is the least in the

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8. See Appendix I

9. The six dots indicate six thanas.

The line of regression stands for  $y$  and  $x$  that is, carrying capacity of land is taken as dependent variable and the agricultural density as independent variable.  $b$ , that is the regression coefficient, is found to be significant.

10. See Appendix I.

11. See Appendix I

whole of Karbi Anglong district. Intensity is somewhat higher in Bokajan and Baithalangso with 18.23 and 15.84 respectively. In the whole of the region Maibong is the least rainfall area, but the intensity of irrigation is only 4.82. It has been found, in the climatic column (Chapter II), that part of Baithalangso i.e. Rongkhang block, southern Howraghat (where most of the permanent cultivations are done) and southern Diphu fall within low and highly rainfall erratic areas (Fig.12 and 16a). Moreover, these areas are the most populous ones. Therefore, a low irrigation intensity indicates adverse food situation which is likely in such areas.

Crops and crop combination :<sup>12</sup> The important crops grown in the region are : rice, maize, wheat, pulses, mustard, jute, cotton, sugarcane,

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12. Block map and block level data for North Cachar Hills could not be found, and therefore, map for crop combination has not been possible to prepare.

orange, lemon, pineapple, potato, groundnut and to some extent tea, coffee, rubber, cashew and cocoa. Bulk of rice and wheat is produced by the plain portion while maize is widely grown in the region. Tea, rubber, coffee, cashew and cocoa are cultivated in limited areas, and mostly managed by the Government agencies. Some of these tree crops are doing very well, and their yield and quality have been reported to be among the best in India. Most of them, however, have been planted recently and still are at the experimental stage.

By applying Weaver's method<sup>13</sup> for crop combination, it has been found that Howraghat, Bokajan, Rongkhang, Amri and Socheng blocks of Karbi Anglong have only one crop predominating i.e. rice. Lumbajong and Nilip have all the seven crops. Rice, mustard and maize appear as first, second and third crops in terms of area in almost

13. Weaver's formula : 
$$\sigma^2 = \frac{\sum (\kappa_i - \bar{\kappa})^2}{N}$$

Where  $\sigma^2$  is the index,  $\bar{\kappa}$  is the theoretical percentage,  $\kappa_i$  is actual percentage and N is the number of crops included in the test. Area under each crop has been converted into the actual percentage to the total cropped area blockwise. The minimum of  $\sigma^2$  gives the best fit.

all the seven blocks. Amri and Lumbajong are the principal maize growers. Lumbajong also produces sugarcane, mustard and jute. Bokajan produces jute, sugarcane, potato and wheat. Nilip is an important producer of mustard. Bulk of jute comes from Howraghat, Lumbajong and Bokajan while that of wheat from Rongkhang.

It is worth mentioning that out of the total rice average of the whole district of Karbi Anglong, about 50% is under the Howraghat block and nearly 100% of the average under tea is in the Bokajan block. The Table No. 3 gives the percentage of acreage under each crop blockwise, Karbi Anglong, 1972-73.

From the analysis of crop combination it is clear that the blocks occupying plains came under one crop combination region. Due to large concentration of population and great demand for food, monoculture (rice) prevails.



In the North Cachar Hills, since there is lack of enough plain area, river valleys are the pockets to which the wet rice cultivation is limited. Hill rice predominates throughout the district. In the Barail area of the district, the horticultural crops, especially that of citrus fruits like orange and lemon and also to a considerable extent pineapple are grown. Many tribal communities, like Kuki, Hmar and Zemi Naga raise tapioka and use as food to supplement shortage of rice.

Table No. 3  
(percentage of acreage under each crop to the total cropped area blockwise)

| Name of block          | Rice  | Maize | Jute | Sugar-cane | Mustard | Wheat | Potato |
|------------------------|-------|-------|------|------------|---------|-------|--------|
| Howra-ghat             | 93.47 | 0.82  | 1.63 | 0.16       | 2.77    | 0.43  | 0.71   |
| Bokajan                | 76.58 | 3.84  | 5.11 | 10.23      | 1.21    | 0.47  | 2.56   |
| Rong-khang             | 81.03 | 1.51  | 3.16 | 0.82       | 7.68    | 5.25  | 0.55   |
| Nilip                  | 71.82 | 5.26  | 3.57 | 2.63       | 10.21   | 1.50  | 5.00   |
| Socheng                | 91.65 | 4.16  | 0.38 | -          | 3.10    | 0.33  | 0.38   |
| Lumba-jong             | 52.10 | 7.10  | 5.31 | 10.63      | 20.62   | 2.82  | 1.42   |
| Amri                   | 82.63 | 8.03  | 2.65 | -          | 5.73    | -     | 0.96   |
| Karbi Anglong district | 83.35 | 2.88  | 2.73 | 2.81       | 5.62    | 1.33  | 1.28   |

Note : Other cropped areas are negligible, and hence omitted (Based on Annual Programme, 1973-74, Department of Agriculture, Mikir Hills district, Diphu P. 9).

Agricultural potentiality :<sup>14</sup> The

total agricultural potentiality of the region is 22.15. Individually, Karbi Anglong has 24.69 while North Cachar Hills only 16.90. Among all the thanas, Baithalangso has got the highest with 32.05 while Howraghat the least - only 12.11.

The following table gives a comparative illustration of the high and medium<sup>15</sup> agricultural potentialities with average population density of villages as well as the percentage of agricultural population to the total district/thanawise for 1971.

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14. See Appendix I. Agriculture potentiality for the rural areas only.

15. i) High potentiality : 1,000 acres or more cultivable waste in a village.

ii) Medium potentiality : 500 to less than 1,000 acres of cultivable waste in a village.

(For finding out potentiality, villages having 500 acres or more cultivable waste have been selected).

Table No. 4

| District/<br>thana | High Potentiality |                       |                                    | Medium Potentiality        |                   |                                   | 9                                    |       |
|--------------------|-------------------|-----------------------|------------------------------------|----------------------------|-------------------|-----------------------------------|--------------------------------------|-------|
|                    | 2                 | 3                     | 4                                  | 5                          | 6                 | 7                                 |                                      | 8     |
|                    | Number of village | Density of population | % agricultural population to total | Agri-cultural potentiality | Number of village | Density of population per sq. km. | % agricultural potentiality to total |       |
| Karbi Anglong      | 58                | 16                    | 27.94                              | 43.10                      | 151               | 37                                | 24.83                                | 26.11 |
| i) Baithalangso    | 39                | 12                    | 29.64                              | 47.50                      | 25                | 36                                | 28.64                                | 27.90 |
| ii) Howra that     | Nil               | -                     | -                                  | -                          | 3                 | 101                               | 21.83                                | 23.39 |
| iii) Bokajan       | 8                 | 34                    | 29.66                              | 33.60                      | 100               | 40                                | 24.10                                | 27.30 |
| iv) Diphu          | 11                | 18                    | 32.95                              | 31.20                      | 23                | 20                                | 26.77                                | 20.90 |
| North Cachar Hills | 26                | 4                     | 40.94                              | 21.10                      | 49                | 10                                | 37.22                                | 18.51 |
| v) Haflong         | 22                | 4                     | 43.65                              | 20.20                      | 34                | 12                                | 39.57                                | 18.51 |
| vi) Maibong        | 4                 | 7                     | 27.25                              | 28.90                      | 15                | 8                                 | 29.99                                | 18.50 |

Note : Based on 1971 Census.

The above table shows that the villages with higher agricultural potentialities have lesser densities of population while compared to that of the medium potentialities (col. 3, 5 and 7, 9). In another word it could be said that as village population density increases the agricultural potentiality decreases, and vice versa (therefore, there lies a negative correlation between agricultural potentiality and population density in the villages). But in the case of percentage of agricultural population to the total there is practically no difference between the two categories of agricultural potentialities. This clearly indicates that proportionately the equal number of agricultural workers in the first category have not been able to bring as much land under cultivation, as in the second category. It is mainly due to proportionately less population which has lesser demand for food, and hence, there is higher percentage of cultivable waste. (i.e. agricultural potentiality) in the first category.

The Table No. 4 further shows that the thanas of Karbi Anglong have higher agricultural potentialities in both the categories indicating greater scope for the expansion of agricultural land. The small agricultural potentiality in North Cachar Hills is chiefly due to very limited plain area or river valley that could be brought under cultivation with less effort. Further, it is possible to conclude that such expansion could be easily made in the thanas of Baithalangso and Bokajan as the agricultural potentialities in both the categories are more. Howraghat, on the other hand, has got the least agricultural potentiality although the demand is highest due to highest population. There is no village having 1,000 acres cultivable waste, and there are only 3 villages having 500 to 1,000 acres of cultivable waste. Therefore, to meet the local demand for food, Howraghat has to have more intensification in the method of cultivation.

Problems of agricultural development : In a wider sense, the problems hindering agricultural development can be two as follows :

i) Shifting nature of the villages which practise extensive jhum cultivation causing serious damage to soils in most parts. Unless villages are settled permanently, no cadastral survey is possible, and, consequently, the introduction of bull-drawn plough or the innovation of modern techniques such as use of tractors, use of chemical fertilizers, high yielding varieties of seeds as well as irrigation that are mostly meant for sedentary cultivation, cannot be provided to the cultivators even at a very subsidised rate. Further, such villages are very much governed by the traditional beliefs and superstitions which are rather sociological problems, and are quite deep-rooted in the minds of the tribal people. Therefore, they are not ready to accept any change that affects their tradition. Moreover, most tribal villages are

small in size and scattered. Village regrouping is not easy due to their traditional belief etc. Therefore, to bring about change for development in agriculture is very uneconomic, and appears to be time consuming at the moment.

ii) Lack of proper roads and communications has greatly hindered the carrying of agricultural implements as well as holding of agricultural demonstration and distribution of high yielding varieties of seeds etc. in the interior places. Due to this, even though there might be scopes for converting gentle hill slopes into terraces, for instance, has not been possible. The lack of roads and communications, therefore, has been indirectly influencing the tribal people to remain traditionally static which is affecting agricultural development in return.

Level of agricultural development : To find out the level of development for agriculture, the thana level data have been taken as block level data were not available. Taking percentage net sown area

to total thana's geographical area, percentage irrigated area to thana's net sown area and the acreage of net sown area per agricultural worker of the thana as variables, composite indices have been found out by ranking method given by Kendall. According to this method, Haflong, Bokajan and Diphu have occupied the 1st, 2nd and 3rd ranks respectively. Maibong occupies the 6th i.e. the last rank. Baithalanso and Howraghat occupy the 4th and the 5th ranks respectively.

Strategy and public efforts for agricultural development : Stabilization of the jhummiya communities through rehabilitation has been given the greatest emphasis as part of agricultural development programme in the region during the plan periods. Some of the steps <sup>16</sup> undertaken for this purpose are :

- i) Introduction of the cultivation of cash crops like coffee, black pepper, cashewnut etc. as a soil conservation measure.

- ii) Top dressing of jhum land with chemical fertilizers.
- iii) Establishment of compact villages in the plain areas by rehabilitating the people drawn from the hills (several 'model villages' or 'adarsha gaon' have been established in this connection but proved to be less successful).
- iv) Introduction of terraced cultivation.
- v) Reclamation of waste land suitable for wet land cultivation etc.

Apart from these there have been established seven seed farms to raise improved seeds, technically known as 'A' Class seeds, Taichung Native - 1 and IR - 8 for example. Apart from distribution of high yielding seeds, demonstration and trials on improved practises etc. are also carried on in these seed farms.

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16. Bordoloi, B.N., District Handbook, United Mikir and North Cachar Hills (Tribal Research Institute, Shillong 1972), PP. 55-58.

Improved horticultural plants and grafts are raised in the Diphu Fruit Nursery and distributed to growers according to need. Minor irrigation projects, fertilizer demonstration and trial on cultivators' field, compost and green manure scheme, horticultural development scheme, crop competition, wet paddy cultivation scheme, jute development scheme and cotton development scheme etc. have been undertaken by the district agricultural authorities.

In addition to these, plant protection measures, introduction of improved agricultural implements such as bulldozers for reclaiming uneven jungle lands, tractors for ploughing etc. are some of the important measures taken by the District Councils and State Governments for the development of agriculture in the region.

Livestock and poultry : The following table gives the livestock and poultry position in the region for 1972.

Table No. 5

| District                        | Cattle         | Buffaloes     | Poultry<br>(fowls,<br>ducks<br>and<br>others) | Horses, goats<br>sheep, pigs etc. |
|---------------------------------|----------------|---------------|---|-----------------------------------|
| 1                               | 2              | 3             | 4   | 5                                 |
| Karbi<br>Anglong                | 137,674        | 35,755        | 325,317                                       | 292,625                           |
| North<br>Cachar<br>Hills        | 28,876         | 24,032        | 111,781                                       | 83,311                            |
| <b>TOTAL</b>                    | <b>166,550</b> | <b>59,787</b> | <b>4367,098</b>                               | <b>375,936</b>                    |
| Percentage<br>to Assam<br>total | 2.87           | 12.24         | 4.92  | 4.50                              |

(Based on Livestock Census, 1972)

The Table No. 5 shows that among all the items the buffalo contribution to the Assam total is 12.24% which is quite significant. But Karbi Anglong comprises about 60% of the total buffalo heads of the region. Karbi Anglong with damp and hot climate, plenty of grass lands, marshy areas, larger acreage of wet paddy fields (where buffaloes are commonly used for tilling) etc. provides a more congenial situation for buffaloes to be larger in number than North Cachar Hills. The higher percentages of cattle, poultry, horses and goats etc. in Karbi Anglong are chiefly due to larger human population who need the animals for day-to-day life.

Fisheries : Karbi Anglong, although a hill district, has plenty of scopes for the development of pisciculture in the rivers like Kopili, Jamuna and Dhansiri etc. and marshy areas and depressions (locally known as 'beel') which are innumerable in the plain areas. Lowlying depressions are usually inundated by annual floods and water stored up, and the amount is sufficient for fish even during dry

season. The Diphu Lake and the Haflong Lake provide good scope for fish production for the local urban people. Karbi Anglong had 6 Government owned and 384 private owned fishery tanks and 2 fish farms during 1974-'75. The District Councils of Karbi Anglong and North Cachar Hills maintain some of the 'beel', lake and river fisheries. The execution of fisheries development programme is in the hands of the Fishery Department of Assam Government.

#### INDUSTRIES :

Karbi Anglong and North Cachar Hills are among the industrially most backward districts of Assam. It is, however, cannot be denied that the cottage industries, especially weaving of eri-silk and cotton and basketry, did exist among the local tribals even much before the Ahom invasions and British occupation of the region. During the British occupation the region experienced a distinct phase of industrial development in respect of lumbering, tea plantation and mining of coal. After independence greater emphasis was given on the forest and agrobased industries in

order to exploit the vast forest resources and to develop the agricultural economy of the region. Therefore, most industries were established during the last two decades only. By 1975, the region had 27 registered factories (25 in Karbi Anglong and 2 in North Cachar Hills) including rice mills, edible oil mills, tea factories, plywood factories, saw mills, mechanical engineering workshop, electricity supply, gur khandsari mill and the cement factory (Fig.32).

It has been mentioned earlier in the economic geology portion, chapter III, that the region is rich in mineral deposits, especially limestone and coal. Apart from minerals, the region is also equally rich in forest wealth, fruits, sugar cane and fibre crops like cotton and jute. The Kopili Project (biggest in North Eastern India) can supply hydro-electric power at a reasonably cheaper cost - all the areas of the region fall within the radius of about 200 kilometres from the site of power generation. Therefore, all

these lead one to say that so far as the raw materials and powers are concerned the region is self sufficient for industrial development.

Adjacent to the region, there are populous districts of Nowgong and Sibsagar on the north and Cachar on the south which can provide a big market for the industrial goods of the region. Lunding, Dimapur and Bokajan the important railway centres that are located just on the border of the region can serve as the gateways for the movements of industrial raw materials and finished products. Lunding being the rail head of Nowgong, Karbi Anglong and North Cachar Hills, and also being the most important junction in the centre of Assam, can play a very crucial role as transit point in the marketing and transport of industrial commodities.

But then the developmental works of the industries face great many problems, such as unhealthy climate, rugged topography in most parts, acute shortage of labour and technical personnel, paucity of capital of the District Councils and above all

the weak road network etc. These adverse conditions have, no doubt, been playing strong role in retarding the speed of industrialization in the region.

Type of industries : The mining and manufacturing industries (Fig. 32) can be further subdivided into the following :

- i) Mining and mineral-based.
- ii) Forest-based
- iii) Agro-based
- iv) Other small scale and cottage industries.

The important coal mining centres are Koilajan, Selvetta and Khunbaman of Karbi Anglong. Koilajan also produces high grade quality limestone. A cement factory has been recently established at Bokajan by the Cement Corporation of India to utilize the coal and limestone of Koilajan. This is the only cement factory in Assam at present. There are proposals to set up one lime plant and one cement plant at Garampani of North Cachar Hills under the public sector in near future.

Apart from these, certain other mineral-based industries which could possibly be developed are : sulphuric acid manufacturing from the coal of

high sulphur content, ceramics from the quartz and glass sands of Hamren and Chenghe-Arnam areas, brick and pottery making etc. from clays of Selvetta of Karbi Anglong.

Saw mills and plywood factories are the important forest based medium and small scale industries in the region. There are nine saw mills and two plywood factories in the Karbi Anglong district alone. It is estimated that approximately 7.80 lakh cubic feet of timber can be extracted annually from the forest reserves for the use in plywood industry. A paper mill is likely to be set up under the private sector by the Bengal Paper Mills (Private) Ltd., in the Langting area of North Cachar Hills from where sufficient quantities of bamboos as raw materials can be obtained. Bhelu, simul and bamboo that are excellent for paper pulp, are abundantly grown (Chapter III) in North Cachar Hills.

Among the agro-based industries mention may be made of rice mill, flour mill, edible oil mill, tea factory and khandsari factory. In Karbi Anglong along there are twelve such factories out of which

eight are tea factories - located in Bokajan area. The khandsari factory at Manja has recently started production. There is one flour mill and one combined flour and rice mill at Diphu. Howraghat and Langhin have one flour mill each.

There are proposals to establish one fruit preservation unit at Haflong and one citronella cultivation-cum-distillation unit at Garampani. The Assam Industries Development Corporation Ltd., a State Government undertaking, is playing a pioneering role in this regard.

Spinning and weaving of Endi, Muga and cotton; carpentry, blacksmithing, mat making, bamboo-cane goods making etc. are some of the very popular and lucrative small scale and cottage industries of the region. The Carpentry Production Centre and Doll and Toy Making Centre both at Diphu and Blacksmithing and Carpentry Production Department. Weaving is a very commonly practised household industry in the districts. The women, especially the Karbi women are expert weavers and they often dye their own yarns and cloths out of raw indigo and other wild herbs. Making

of ghee and other dairy products is usually prevalent among the Nepali graziers whose livelihood is cow rearing.

Such industrial goods have great demand outside the region. They can fetch high price to the Government, co-operatives as well as individuals provided quality of the goods, transport and marketing facilities are improved.

#### LEVELS OF ECONOMIC DEVELOPMENT :<sup>17</sup>

The levels of economic development of the thanas have been determined with the help of composite indices found out by the Kendall's method from the following variables :

- 1) Percentage workers to the total population of the thana
- 2) Percentage workers in trade and commerce to the total workers of the thana

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17. See Appendix II

No variables from transport and communication could be possible as this has been treated separately in Chapter VI.

- 3) Percentage workers in household and other than household industries to the total workers of the thana
- 4) Percentage net sown area to geographical area of the thana.

According to the total ranks given in column 6, Appendix II, Diphu thana shows the least rank i.e. highest developed. Bokajan occupies the second and Haflong the third position. The total rank for Baithalangso is the highest meaning thereby the economically least developed in the region so far as the above variables are concerned.

Due to the location of Diphu town and number of semi-urban centres, like Bokajan, Harihajan and Manja etc., the thanas of Diphu and Bokajan occupy higher levels with higher percentages of workers in industries (household and other than household) as well as trade and commerce. National and State Highways as well as the railway line with two important junctions of Luming and Dimapur on the border, have certainly influenced the industrial

and commercial activities of these two thanas much higher than others. But from the point of view of total workers and the net sown area these two thanas give a reverse picture. In respect of total workers and net sown area, Haflong occupies the intermediate level. But it is poor in trade and commerce as well as industrial works. Haflong thana occupies the lowest level when considered the industrial workers. This is perhaps due to smallness of the Haflong town (population hardly above 5,000), large percentage of workers in other services, such as administration, teaching and religious professions etc. Howraghat, the most populous thana, occupies somewhat high levels when considered the net sown area, industrial workers and the trade and commercial workers. This is primarily due to the larger number of large and medium villages (having semi-urban characteristics in many of them) well as greater nodality and connectivity while compared to others. This situation has certainly influenced the level of

economic development of the thana. Baithalangso and Maibong are weak in almost all the variables as considered. Maibong, however, shows fairly high level when the total workers alone is considered. Poor transport and communication facilities and almost absence of any industrial works worthcounting have greatly hindered the economic development of these two thanas.

#### PROBLEMS AND PROSPECTS :

The region faces great many problems. Problems are not only geographical but also social and political, and all combined, have affected the economic development of the region either directly or indirectly. Ruggedness of topography in greater parts, skeletal transport net, shortage of local skilled labourers for the medium and large scale industries, paucity of capital especially of the District Councils, lack of local entrepreneurship, shifting nature of mass population, lack of proper

marketing facilities and organizations etc. are some of the great problems. Moreover, location of the region itself can be considered as problem in some respect. The eastern and the western sides are flanked by the states of Nagaland and Manipur and Meghalaya. The region has got to maintain good political relationship with these states for peaceful co-existence whereupon the economic prosperity of the region depends to a great extent.

Provided such problems are eliminated or minimised, there are scopes for the development of minerals and water power resources, mineral - and forest-based industries of medium and small size, such as cerramics, cement, pottery, paper and paper pulp etc. Cottage industries, including carpentry, based on bamboo and cane, cotton and Endi silk and various kinds of valuable woods of local production have a very bright prospect. There are also great scopes for the development of fisheries as has been discussed earlier.

o

Although the region is occupied by rugged and rocky lands at many places, there are ample scopes to develop agriculture including animal husbandry, in various ways. Terracing of gentle hill slopes, establishment of sufficient irrigation works, stabilization of the jhummiyas, village re-grouping etc. although are long processes of agricultural development, afforestation of valuable species, plantation of tree and horticultural crops at present have proved the region to be having a promising future, and hence, the economic development of the region in general.

CHAPTER VITRANSPORT AND COMMUNICATION

Transport is the key for development and prosperity. It brings together the resources, the people for a meaningful economic transformation. The natural environment of the region has created a permanent barrier for any proper development of means of transport and communications.

The revolution of transport and lines of communication could be analysed as follows :

Pre-British Period : From the 'Historical Base' (Chapter II) few of the transport routes may be traced out. During the pre-British time i.e. the Ahom-Kachari time, some transport routes developed, and they were utilized mainly by the soldiers on expedition or by the people who migrated under economic or political pressure. The routes, so developed, also have relationship with the physiography of the region. The important transport routes have been given below (Fig.4) :

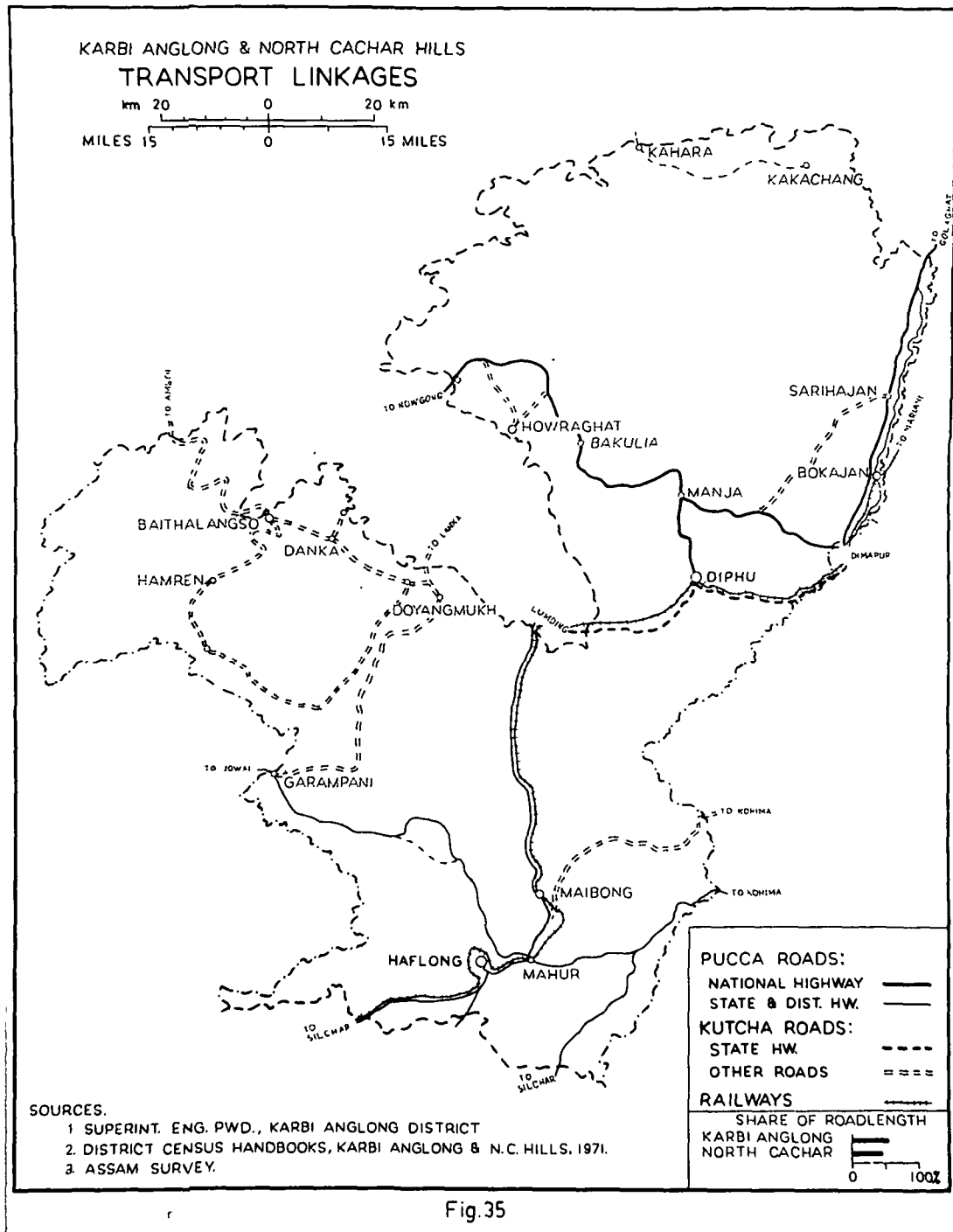


Fig.35

i) Kohima - Maibong route : The Kohima - Maibong route developed as a result of migration of the tribes who had come from Burma via northern hills of Manipur. The Karbis who trace their origin from Burma followed the same route. They moved towards Maibong along the northern and north western flanks of the Japvo and the Barails. The route partly falls within the upper course of the Dhansiri river. This tract is the lowest (about 4,000 ft. or 1,219.51 m) lying between Barail-Japvo on the south and the main Naga-Patkoi hills on the north and north east.

ii) Dimapur - Maibong route : The Dimapur - Maibong route lies on the tract through which the Dhansiri river is flowing. The eastern tributaries of Diyung, Mahur and Dhansiri have eroded the tract to the height of about 1,500 ft (457.32 m). The tract is somewhat smooth, and facilitated easy movement of the Dimasa Kacharis who shifted their capital from Dimapur to Maibong. Later on, the Ahom soldiers, too, followed the same route when they attacked Maibong. This route further facilitated trade activities between the Brahmaputra valley and the North Cachar Hills.

Dhansiri is also a good navigable river.

iii) Maibong - Rongkhang route : The Maibong - Rongkhang route developed as a result of migration of the Karbis who left Kachari kingdom and established their new kingdom at Rongkhang. They moved along the eastern flank of the Jaintia hills until they came to the Kopili river and followed it down the plains of Rongkhang. The tract lies roughly at the height of 1,500 ft within North Cachar and about 500 to 1,000 ft. in Rongkhang area. The lower part of Kopili is almost horizontal, and at many places it is quite navigable. This route, later on, provided the trade facilities between the Jaintia and the Kachari kingdoms.

iv) Maibong - Cachar route : The Maibong - Cachar route developed as a result of movements of the people between Cachar and North Cachar Hills. It is passing through the Jatinga valley which is a mountain pass through the Barails. The average height of the route in the hill tract is about 3,000 ft. (914.63 m). The Kacharis followed this route when they again shifted from Maibong to Khaspur in the upper Barak valley. From the very early time it has been strategically important,

for it is the only route connecting Barak valley, with that of Brahmaputra through North Cachar Hills.

British Period : The most spectacular development that took place in the region during the British period was the construction of railway lines. The first line connected Lunding and Dimapur i.e. the Nowgong and the Sibsagar plains via southern Mikir Hills. The second line connected Karimganj and Badarpur of Barak valley with Lunding through North Cachar Hills and the Barails. The lines were constructed during the last decade of 19th and the first decade of 20th centuries (Fig. 5). The Lunding - Badarpur line served the important purposes like :

- a) tea, coal and oil from Upper Assam and timber from North Cachar Hills and Mikir Hills were transported to Calcutta port via Sylhet without much delay (it took longer time via Brahmaputra and North Bengal) ;

- b) proper administration in the hills especially to keep watch on the rebellious Nagas ;
- c) due to quicker movements of commodities, the mining, lumbering and tea industries of Upper Assam grew faster.

Therefore, as a result of such transport facilities both the region and Upper Assam were benefited.

Post-British Period : After independence only the road developments took place in the region. The present roads (Fig. 35), especially in North Cachar Hills, were constructed following the early routes of migration. The important roads of the region are as follows :

i) Jowai-Garampani-Haflong road : This road was hurriedly constructed to connect Cachar with rest of Assam when Cachar lost its road connection as a result of separation of Sylhet following independence. From Garampani on the Kopili to Haflong on the Diyung, this road has roughly followed the old Maibong - Rongkhang route.

ii) Political Project road : This road has been

specially constructed parallel to the railway line from Diphu to Naojan with the purpose of checking the activities of the Naga hostiles. The forests on both sides of the road were cleared and the settlements grew there.

Therefore, this road serves the dual purpose of control of the Naga hostiles and growth of settlements.

iii) Diphu-Manja-Parakhowa road : The Diphu-Manja-Parakhowa road connects Diphu with Nowgong. This road serves the most densely populated and developed part of the region. Regular transport service on the road is a great benefit to the plain of Howraghat where there is no railway line. This is a part of the National Highway No. 36.

iv) National Highway No. 39 : The National Highway No. 39 passes through the plains of Bokajan, Harihajan, Nambar etc. connecting Dimapur with Golaghat. It serves the cement, plywood manufacturing, and limestone and coal mining industries of Bokajan and its neighbourhood. It also serves tea and lumbering industries of Bokajan and Nambar apart from passenger traffic.

v) Doyangmukh-Dankamukam-Baithalangso

road : This road forms the main artery of the Hamren Sub-division and the plain of Rongkhang in particular. The road has been extended from Baithalangso to Hamren and then further to Rongkhang. The Hamren Rongpongong section has been recently completed and serves the most backward part of the area. Moreover, it provides the connection between west Karbi Anglong and Jaintia Hills.

vi) Diphu-Lumding-Haflong road : The Diphu-Lumding-Haflong road runs parallel to the railway line following the Diyung river, and forms the main artery of North Cachar Hills. After the separation of Khasi and Jaintia Hills from Assam, this road has gained lot of importance. This is the only road directly connecting North Cachar Hills with rest of Assam. The road helps tremendously in carrying out administrative activities and maintaining reserved forests and lumbering industries in the district of North Cachar Hills.

There are a few roads connecting North Cachar Hills with Nagaland as shown in the road map (Fig. 35)

There are no direct road links between the region and Manipur due to the presence of high Barails and Japvo along the border. The Forest Department is also maintaining some jeepable roads. These roads although become unusable during monsoon, provide great communication facility during the rest of the year. At many places gravelled roads run through places where there are no human settlements, but vast forest belts.

#### GENERAL ROAD PATTERN :

By seeing the map (Fig. 35) one could easily say that roads are most developed in three important areas, viz. southern and eastern parts of Eastern Karbi Anglong i.e. Diphu Sub-Division and the southern part of North Cachar Hills. The National Highway No. 36 runs in east west direction between Parokhowa and Dimapur connecting all the important places like Bakulia, Manja etc. A part of it connects Diphu with Manja. This is the most important part of the region from the point of view of human settlements and agricultural activities. The eastern part of the

Diphu Sub-Division is served by the National Highway No. 39 which runs between Golaghat and Dimapur (both lie outside the region) connecting places like Bokajan, Harihajan (Sarihajan) and Barpathar etc. The southern North Cachar Hills is rather an area where the roads have converged into Mahur from all directions i.e. Garampani, Silchar, Kohima and Lunding. Among these roads the Lunding - Haflong road, which divides the whole district into two equal halves is the most important. Because this is the only road which directly connects the Cachar district with the Brahmaputra plain.

Another place of growing importance recently is the Sub-Divisional headquarters of Hamren. There are no direct links between Diphu and the places of Hamren - all links via Lunding and Lanka of Nowgong district.

Northern half of Diphu Sub-Division and that of the North Cachar Hills practically do not have any road except mere footpaths used by the people of interior places.

Table No 1

## LENGTH AND DENSITY OF ROADS AND RAILWAYS

Roads : The lengths of roads maintained by the P.W.D. is given below :

(Length in kilometre upto 31st March 1975)

| District           | National Highways | State High ways | Major Dist-ric roads | Other <sup>1</sup> | District total | Density per sq. km. | Population per km. <sup>2</sup> |
|--------------------|-------------------|-----------------|----------------------|--------------------|----------------|---------------------|---------------------------------|
| 1                  | 2                 | 3               | 4                    | 5                  | 6              | 7                   | 8                               |
| Karbi Anglong      | 172.30            | 89.36           | 326.59               | 343.91             | 932.16         | 0.09                | 407                             |
| North Cachar Hills | -                 | 344.65          | 163.92               | 244.05             | 752.62         | 0.15                | 101                             |
| REGION             | 172.30            | 434.01          | 490.51               | 587.96             | 1684.78        | 0.11                | 270                             |

Source : based on Statistical Handbook, Assam 1976, P. 196.

1. Village roads etc.

2. Density in kilometre per sq. km. of area.

The table above gives that although road kilometreage is higher in Karbi Anglong (comprising 55% of the regional total), the density per sq. km. is less than in North Cachar Hills. Only this much of road has to serve more than 83% of the region's population. Moreover, the number of population for per kilometre of length is coming out to be 407 in Karbi Anglong and only 101 in North Cachar Hills. This reveals that the benefit derived from road is much less in Karbi Anglong in respect of population.

Railway : Out of altogether 193.16 kilometres (approximately), 30.77% is in Karbi Anglong and 69.23% in North Cachar Hills. Excepting Howraghat and Baithalango thanas, rest four thanas have been connected by railways as shown in the map (Fig. 35). The following table gives lengths of railways<sup>3</sup> for each thana and their percentages etc.

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3. The railway density has not been calculated since there is only one line each in both the districts. Hamren Sub-Division of Karbi Anglong is separated from the rest of the district and therefore density would not give the correct picture. Instead, the

Table No. 2

| 1       | 2                        | 3                   | 4               | 5                    | 6                       | 7                      |
|---------|--------------------------|---------------------|-----------------|----------------------|-------------------------|------------------------|
| Thana   | Length of railway in km. | Percentage of total | Persons per km. | No. of settle-ments. | No. of persons to thana | Percentage population. |
| Maibong | 73.26                    | 37.93               | 227             | 108                  | 16,666                  | 47.21                  |
| Haflong | 46.62                    | 24.14               | 530             | 80                   | 24,686                  | 60.59                  |
| Diphu   | 53.28                    | 27.58               | 486             | 62                   | 25,893                  | 52.78                  |
| Bokajan | 20.00                    | 10.35               | 990             | 58                   | 19,790                  | 24.74                  |
| REGION  | 193.16                   | 100                 | 451             | 308                  | 87,035                  | 19.11                  |

(N.B. - Howraghat and Baitthalengso do not have railways) Source : based on 1971 Census.

The above table reveals that within four kilometres from the track there are 108 settlements in Maibong comprising 47% of its population. Number of persons served by one kilometre in average is only 227 - the lowest in the region. Compared to Maibong, Haflong serves about 61% of its population with railways. The high number of people falling in each kilometre length is due to the town of Haflong.

In Diphu thana, too, about 53% of its population who live in just 62 settlements, is served by railway directly. About a thousand persons are served by each kilometre of railway in Bokajan thana. The length is only 10% of the regional total. Although number of settlements served is only 58 and percentage of its population

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area on both sides of the track upto four kilometres distance covering number of settlements and population who get direct benefit, has been taken into account. Population per kilometre and its percentage to the thana's total population etc. have been calculated and given in the table. The settlement and population figures include the towns and their population as well.

only 25, the thousand figure further indicates that a proportionately very large number of population is getting the benefit of per kilometre railway in Bokajan. But only 19% of the regional population is served by railway. Such low percentage is due to the absence of railway in Baithalangso and Howraghat the most populous thanas of the region. Out of the total railway kilometre 69% lies within North Cachar Hills.

The above analysis of the table could be summarised saying, that except for Bokajan thana, the railways serve about 50% or more of each individual thana's population which is quite considerable. Further, it could be concluded that in these thanas (except Bokajan) majority of the population are living within four kilometres of the railway track thus getting the benefit of railway transport.

#### CONNECTIVITY :

The transport and communication of the region is very backward, and there are hardly one or two nodes, such as Mahur, Manja, Diphu and Baithalangso. Except for Manja and Diphu there are no direct transport links among other nodes.

Important transport nodes like Dimapur and Luding are lying just outside the regional boundaries. Therefore the connectivity analysis cannot be done. However, poor nodality and less number of links clearly indicate the backwardness of transport and communication in the region.

#### PASSENGER TRAFFIC :<sup>4</sup>

The buses belonging to the Assam State Transport Corporation ply on the following important routes :

- 1) Nowgong - Manja - Diphu road
- 2) Diphu - Lanka - Baithalangso road
- 3) Diphu - Luding - Haflong road
- 4) Gauhati - Shillong - Haflong road
- 5) Golaghat - Bokajan - Dimapur road

There are regular bus services on the above roads. Most of them have been introduced recently. There are also bus services of the Assam State Transport Corporation between Diphu and Dimapur via Manja introduced only few years back. Bus services of the corporation is also

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4. Due to lack of data the volume of traffic could not be possible to give.

there between Haflong and Silchar, and Baitha-langso and Hamren. It is worthwhile to mention that Diphu has been recently connected with Gauhati by bus services via Nowgong.

There are also private bus services on the same routes over which the public bus services are there. Therefore the places away from these routes practically do not have any transport facility.

In many places there are no transport and communication for thousands of square kilometres the mere village. footpaths connecting main lines become practically useless during rainy season when streams swell up. Forest roads, in most cases, do not touch the settlements. Moreover, introduction of regular bus services could not be done, for there are no population for many kilometres; maintenance of roads is very difficult especially the bridges - all these difficulties incur heavy expenditure and loss to the Government and private agencies. Another great disadvantage is that many villages

are small in size (ranging from less than 12 to 200 people especially in North Cachar Hills) and they are shifting in nature. Weekly private buses on market days, however, offer a great means of transport to the local tribal people. In general, the tribal people themselves use the means of transport for local produces. But to carry building materials and machineries etc. from outside, and to get labourers for wages, is really a headache for the departments concerned. In the plain parts, however, the situation is somewhat improved. The so called inaccessible hilly areas in respect of vehicular transport, could support many forest-and-mineral-based industries, and help growth of permanent settlements and the development of the region in general provided the transport condition is improved.

CHAPTER VIISETTLEMENTSEVOLUTION OF SETTLEMENTS<sup>1</sup>:

Early settlements took place as a result of the in-migration of various tribes of whom mention has been made in the Chapter II. Prior to the migration of such tribes, it is not known about the evolution of any settlement in the region.

The Karbis who followed the Kohima - Maibong route had established their settlements along the tracks through which they moved. Such settlements were possibly never permanent, since they moved with the shifting cultivation. It is to be noted that the Karbis are low hill dwellers and found Maibong area congenial for their living. Maibong area is a low flattish part of the upper Diyung river valley in the Dimasa plateau (Fig. 7 and 10). They were inhabiting this area until the Kacharis shifted their capital

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1. 'Rural settlement' and 'village' have been used as synonymous terms. For the purpose of study the 1971 Census definition has been followed.

from Dimapur to Maibong. When the Karbis, at a later date, further migrated from Maibong towards the Kopili, again some temporary settlements came into existence. There is now very few or no Karbi population but still many non-Karbi villages are found which are known by Karbi words. Some of them are Longsokro, Langkhor, Phonglo, Umrangso, Langmiklu, Labong and Puralangso etc.

The most important settlements that developed in the early time in the region were the permanent villages and the two urban centres of the Kacharis. Before coming to occupy the Maibong area, the Kacharis were inhabiting the Brahmaputra valley where they established permanent villages. Number of such villages flourished in and around the present Dimapur area - the seat of the early Kachari king. For the same way of living, they erected permanent houses and established villages in Maibong. The Kacharis were already familiar with plough cultivations, and therefore occupied only those places where plough cultivation could be carried out and thus Maibong again

became the place of their permanent settlement (i.e. Kachari villages).

In due course of time with increasing population, the limited river banks became insufficient for cultivation, and they gradually paid attention to jhum cultivation also. Since they are permanent dwellers by nature, only the jhum lands are rotated while the village sites remain permanent.

The use of bricks, stone walls and pillars that have been discovered from the ruins in Dimapur and Maibong prove that the Kacharis attained a level of settlement development and urbanization during 14-16th century, much higher than the Ahoms. The types of building materials and architectural designs and construction works could be compared with that of Bengal and other parts of India of that time.

Simultaneously the Jaintias had established their settlements in the areas of Hamren contiguous to the Jaintia territory. Such villages were possibly permanent. Unlike the Kacharis, the Jaintias are plateau dwellers, and more used to strip and jhum cultivation rather than plough. Obviously, the

villages are also either permanent or semi permanent in nature. When the Karbis came to occupy the northern and the north eastern parts of Hamren (i.e. Rongkhang), the entire area experienced a vigorous phase of settlement growth. From the point of view of the establishment of the Karbi kingdom, it could be accepted that gradually the Karbis, like the Jaintias, became permanent dwellers, especially along the foothills of the Rongkhang plain. Here, the villages have both hill and plain lands for cultivation. Village site is permanent but the jhum lands keep rotating.

The tribes who had entered the region during the Kachari and the British regimes, had mostly established their settlements along the slopes of the Barails i.e. south and south eastern parts of North Cachar Hills. This is due to the fact that, perhaps they also followed the same Kohima - Maibong route via north of Manipur. These villages are inhabited mostly by the Kukis, Hmars and Zemi Nagas who are exclusively jhum cultivators. But due to the increase of population and number of villages, the jhum cycle has been

reduced and many villages have become permanent.<sup>2</sup>

The construction works - opening of roads and railways, establishments of tea gardens and other plantations; opening of mining, lumbering etc. during the late and post British periods had drawn large number of people from the plains as workers and traders. Thus number of mining, lumbering, plantation and road side settlements developed in the region.

The influx of refugees during British and post-British periods also contributed a lot towards the growth of settlements in the plain areas.

The establishments of sub-divisional head quarters at Diphu and Haflong gave an impetus towards the growth in the size of urban centre. The policy of the government which encouraged the growth of many settlements at strategic places (Chapter VI) as a part of its measures against the Naga raiders. Many police outposts were erected to keep watch on the raiders.

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2. There are many villages which have been established on the hill tops avoiding suitable valleys. The reason being that the people can easily watch the coming of enemies and take defensive measures. Due to these inter-tribal feuds, many villages cannot remain permanent.

Later on, such places became the permanent sites for sales for local commodities.

After the extension of the transport lines to the interior places for administration purposes, many villages have come down to settle nearby and to get the benefit of transport and trade. This is well marked in the case of Khasi and Jaintia villages. Such extensions have also helped the concentrations and growth of many settlements near the towns.

The evolution and growth of settlements have been faster during recent years as a result of incoming of large number of population from outside following the developmental activities in the region.

#### TYPES OF SETTLEMENT :

It is a difficult exercise to decide the types of settlement, as there is no set criterion to tackle this problem. However, the 1971 Census has been taken as the base. There are two types of settlements namely a) inhabited villages and b) uninhabited villages<sup>3</sup>.

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3. It has not been defined as to what is actually an uninhabited villages.

There are altogether 2,108 villages in the region, and out of that 1931 are inhabited and 177 are uninhabited.

The inhabited villages have further been divided into large, medium and small according to population size<sup>4</sup>. According to the 1971 Census, there are 49 large, 142 medium and 1,740 small villages in the entire region. Such villages, district and thana-wise, have been given in the following table.

Table No. 1

| District/<br>thana       | Inhabited villages |        |       |       | Uninhabited<br>villages | Grand<br>total |
|--------------------------|--------------------|--------|-------|-------|-------------------------|----------------|
|                          | Large              | Medium | Small | Total |                         |                |
| 1                        | 2                  | 3      | 4     | 5     | 6                       | 7              |
| Karbi<br>Anglong         | 49                 | 132    | 1,272 | 1,451 | 154                     | 1,605          |
| Baitha-<br>langso        | 9                  | 38     | 461   | 512   |                         |                |
| Howraghat                | 21                 | 62     | 238   | 317   |                         |                |
| Bokajan                  | 15                 | 25     | 336   | 376   |                         |                |
| Diphu                    | 2                  | 7      | 237   | 246   |                         |                |
| North<br>Cachar<br>Hills | 2                  | 10     | 468   | 480   | 23                      | 503            |
| Haflong                  | 1                  | 8      | 227   | 236   |                         |                |
| Maibong                  | 1                  | 2      | 241   | 244   |                         |                |
| REGION                   | 49                 | 142    | 1,740 | 1,931 | 177                     | 2,108          |

The above table shows that Karbi Anglong has

4. Large : 1,000 and above, medium : 500 to 999 and small : 499 and less persons.

villages as many as more than three times that of North Cachar Hills. The largest number of the large and the medium villages are to be found in Howraghat thana (Fig. 38) although it occupies only the third place in total. The reason is due to the larger acreage of plain lands and better transport facilities in it. The large villages including the sub-divisional headquarters, and the medium villages are mostly found to be associated with the permanent cultivations in the plains, administrative works, reserved forest settlement, trade and small and medium industrial works.

Many large and medium villages, especially in the Howraghat and the Bokajan thanas, have attained the semi-urban characteristics accommodating large number of non-agricultural population i.e, population engaged in trade and commerce, industry and teaching etc. On the contrary, in the thanas like Diphu, Maibong and Haflong where practically no plain, such scopes are not available, and as a result the villages have less pulling power for outsiders.

Why there are more small villages ? One has to refer to the following reasons :

a) limited amount of suitable lands that could support a village with large population, b) villages disintegrate - each part becomes separate village in a separate site under the headship of a man after whose name the village comes to be known. Since the villages in most cases, are not cadastral, the villages can separate at any time they want. Further it may be due to the hilly nature of the region which affords little space for large settlements.

The average size of village for the region is 228 persons. But the North Cachar Hills has only 148, whereas Karbi Anglong 254 persons, per village on average. These average figures do not hold good when individual village sizes are considered. The size varies from less than 10 persons to over 6,500 persons. Small villages predominate in both the districts, the percentage being 87.66 in Karbi Anglong and 97.50 in North Cachar Hills. Usually, the villages are small or medium. Some of the villages are exceptionally large. The Chelabar Reserved Forest settlement of Howraghat, for instance, has the population of 6,632 according to 1971 Census.

It is the single largest settlement enumerated as rural in the whole region.

According to the 1971 Census there are only two towns i.e. Diphu and Haflong. Both the towns have been identified as 'service towns' according to the functional category. It means that at least there are 75 percent of the male working population carry on non-agricultural activities such as administration, trade, transport and construction etc. On the basis of their population size, Diphu has been classed as Class IV and Haflong as Class V towns in 1971. Considering the net work of transport and poor economic conditions as well as the tribal character of population, one could not expect urban development of a balanced type.

#### CHARACTERISTICS OF SETTLEMENT :

The Karbi people have a liking for the hill tops. Their villages are scattered in nature and they do not live in compact settlements. The villages are, therefore, small and named after Gaonbura (village headman). They shift the village along with the jhum cultivation or to a new site when there is any natural

calamity or epidemic.

Their houses are strongly built on wooden posts on a raised platform, and for the super-structure bamboo is used. Thatch is used for roofing purposes. Watch houses for jhum fields are usually built on top of trees above 20 ft. or so from the ground.

Almost similar pattern is followed by other tribes such as the Zemi Nagas, Kukis, Hmars and the Mizos etc. With little differences due to their individual traditional customs, beliefs and local circumstances.

Zemi Nagas, Kukis and Hmars prefer hill tops to valleys as hill tops provide better advantages for defence from any raids. Houses are often clustered or compact. The Mizo villages, compared to others, are better off. Each village has a church. The houses are quite spacious but no partition inside. They are well kept and sanitation is fairly good.

In contrast to other tribes, the Dimasa Kacharis have a tendency to live on the bank of rivers. Therefore, every Dimasa Kachari village is

found to be situated on the hill slope with a river or a stream running by. The houses are generally built in two rows facing each other leaving sufficient space in between. Each village has a protective fencing all around with two gates one at the top and the other at the bottom<sup>5</sup>.

Thus, the layout of villages depicts influences of social and ethnic characteristics as well as the physical landscape.

Unlike the villages in the hills, the villages in the plains are well defined with cadastral survey and fixed landed property belonging to the individual members or the households of the village. Villages are located in the midst of the agricultural fields all around or when there are hills, just on the foothills leaving the open fields for cultivation. The villages, like any common village in the plain

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5. Bordoloi, B.N., District Handbook, United Mikir and North Cachar Hills (Tribal Research Institute, Shillong, 1972) P. 18.

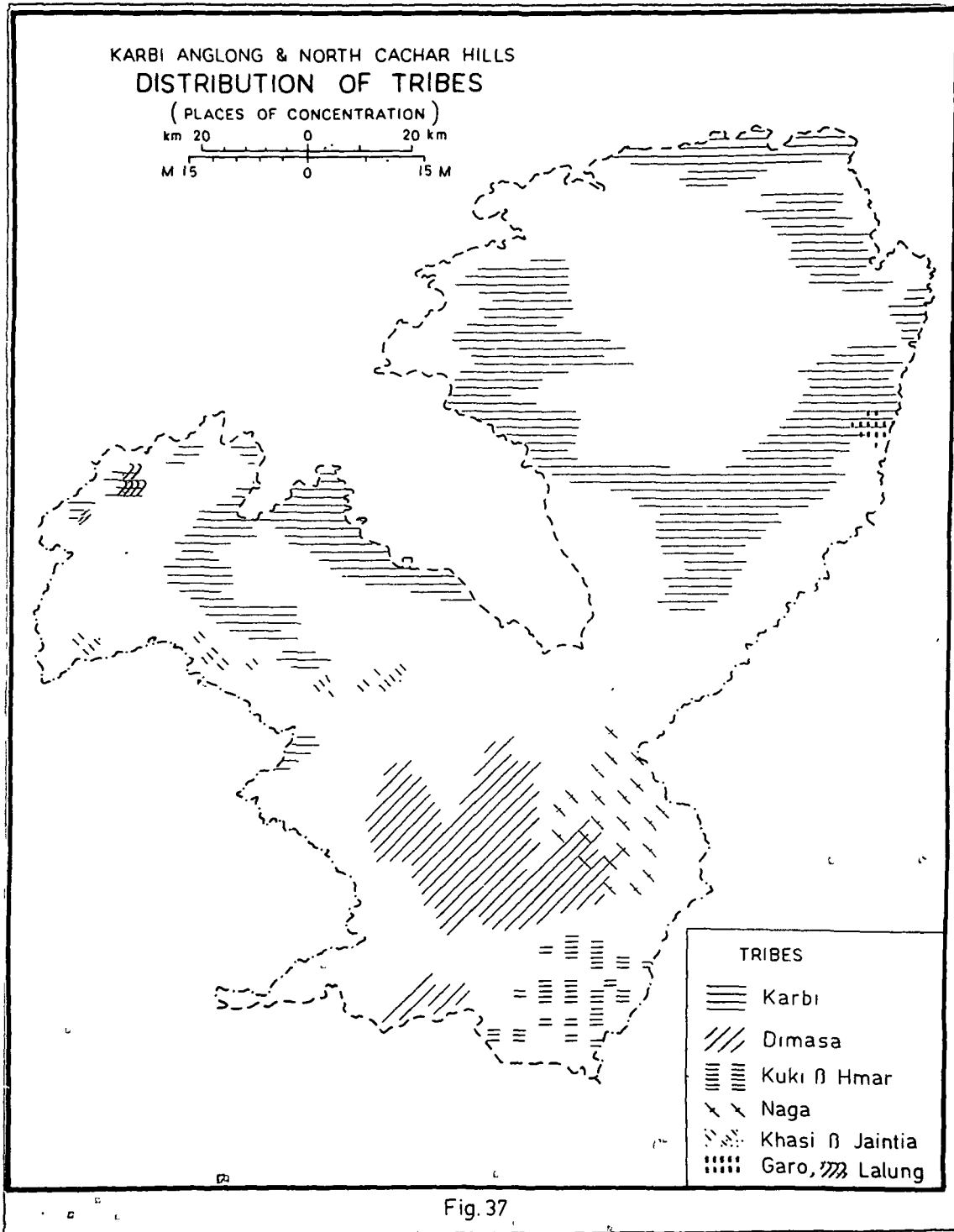
And also personal observation of the scholar.

district of Assam, are connected with village foot paths, roads or sometimes with highways. One or more lanes often pass through the village. There may be several hamlets in one village.

The houses are built of bamboo, woods or even concrete with thatch or cast corrugated iron sheets - erected around a courtyard, one or a few houses around it and a kitchen garden. Unlike the houses in the hills, the houses in the plains are erected just on the ground.

A village having good transport and communication facilities may have few shops along the road or even a weekly hat (market), household industries like blacksmithing, pottery works, craft furniture and basket making etc. In a village there may be several communities and religious groups sharing the same public facilities like schools, dispensary and health centre, post office, seed farm etc. apart from their own.

It might be mentioned that the tribal and non-tribal villages in most cases look alike. The tribals have adopted and accepted the common ways of



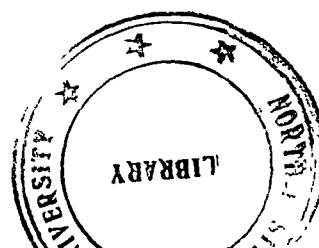
living of the plain people. Tribal villages practically do not show any distinction from others.

#### SPATIAL PATTERN OF SETTLEMENT :

Dispersal : There are four most important areas where settlements have largely concentrated (Fig. 38). They are i) Howraghat plain, ii) Rongkhang plain, iii) Bokajan plain and iv) Haflong - Maibong area. In the whole region, the above three plains hold as much as 30.55% of the total number of settlements, 81.63%, 59.86% and 26.72% of the large, medium and small villages respectively. In the case of Haflong - Maibong area, mostly the small villages have concentrated around them.

On observation, the map (Fig. 38) further shows that there are certain areas where settlements are either absent altogether or very sparse, and they are :

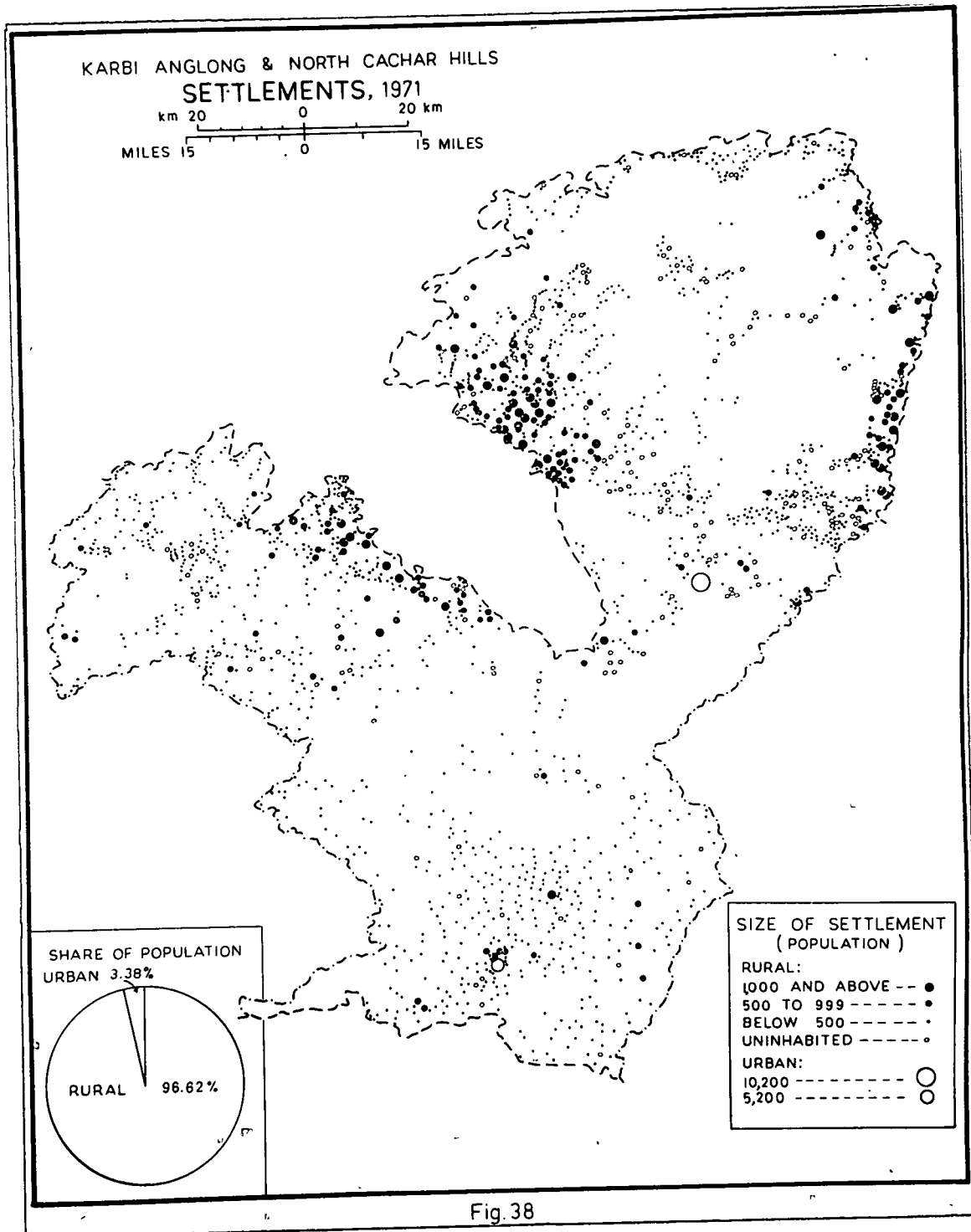
a) Settlement is absent in the hilly and rugged areas, rising above 3,500 ft., of the Chenghe - Arman as well as the Hamren plateau. Settlement is also absent in most places having the altitude of



of 1,500 - 3,500 ft. in the Chenghe-Arnam plateau. Such places that are rugged, high in altitude as well as composed of gneiss and Shillong group of rocks tend to be either devoid of settlement altogether or very sparse - chiefly due to poor fertility. But in the case of the Barail range although most places rise above 4,000 ft., settlement is absent only along the crest of the range which is not easily accessible.

b) Settlement is also either very sparse or absent altogether in reserved forest areas like the Dhansiri reserved forest, Nambar reserved forest of eastern Karbi Anglong and the Langting-Mupa reserved forest of North Cachar Hills. In such areas the forest departments do not allow any jhum cultivation that causes serious harm to the forest wealth. As a result of that settlements are absent except in few limited pockets.

The overall distribution of settlements is uneven - ranging from large concentration of populous villages to sparse less than a dozen people villages.



The following table further highlights the dispersal of settlements in accordance with physiographic units.

Table No. 2

(Inhabited rural settlements in each physiographic divisions, 1971)

| Physiographic divisions. | Large | Medium | Small | Total | Settlements per 10 sq.km. |
|--------------------------|-------|--------|-------|-------|---------------------------|
| 1                        | 2     | 3      | 4     | 5     | 6                         |
| Chenghe Arnam plateau    | 4     | 20     | 406   | 430   | 1                         |
| Hamren plateau           | 1     | 17     | 363   | 381   | 2                         |
| Dimasa plateau           | 4     | 16     | 410   | 430   | less than 1               |
| Barail range             | -     | 4      | 96    | 100   | less than 1               |
| Rongkhang plain          | 8     | 20     | 113   | 141   | 1                         |
| Howraghat plain          | 19    | 43     | 241   | 303   | 3                         |
| Bokajan plain            | 13    | 22     | 111   | 146   | 1                         |

From the above table it is found that the Chenghe-Arnarn plateau and the Dimasa plateau, being the largest physiographic units, include largest number of villages. Among all the physiographic units the Barail area has got the least number with

only 100 settlements. It may be mentioned that there are only a few or no large villages in the units other than the plains as could be seen from the table.

The table above further illustrates that density of villages for each 10 sq. km. of area is not high. For the region it is only one village as is the case with few other units. Barail range, and Dimasa plateau have even less than one village which implies really very thin distribution. But in the case of Howraghat plain there are three villages which for a hill district it is quite considerable. In addition to this, Howraghat plain also has got the highest numbers of large and medium villages indicating thereby possible land scarcity among the people. Similarly Hamren plateau also has two villages for a 10 sq. km. area. For a plateau which is agriculturally not sound, and there are considerable number of medium villages, this figure seems to be high.

The spatial distribution of settlements in the region reveals three important determinations, such as i) physiography, ii) transport lines and iii) semi-

urban or urban centres especially those located in the hills.

Plains and river valleys (even in the hills and plateaus) attract people and settlements due to availability of scopes for agriculture and easy movements. In the interior places where there is less scope for commerce, people tend to concentrate near the roads or railways. As for instance the Bakulia - Mahendijua (Manja) road, Lunding - Diphu road, Diphu - Dimapur road and the Haflong - Cachar road via Jatinga, etc. In backward and hilly areas any urban and semi-urban centre becomes the focus of learning and cultural activities etc. apart from its services in administration and commerce as is the case with Diphu, Maibong and Haflong.

Settlement pattern\* : Three important settlement patterns have been identified : uniform, linear and random (Fig. 38)<sup>6</sup>.

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6. The NND index shows significantly approaching uniform and random in the case of (a) and (c) samples respectively. But in the case of (d)

\* See Appendix III

Uniform settlement pattern has developed in the uniformly flat alluvial plains of Howraghat. All the settlements shown within the area of the sample lie below 500 ft. contour, which is roughly the demarcating line between hills and plains. Uniformity in relief, soil type and rainfall distribution etc. have influenced the settlement pattern to be uniform. Such uniform is also noticed in the identical areas of other two plains, namely Bokajan and Rongkhang.

Random pattern are often noticed over the plateau surfaces especially where there are poor transport facilities or the big streams are absent. Eastern part of Socheng block is such a place which has been taken as sample. This area lies above 1,500 ft. and falls within high rainfall and laterite soil belt where people do mostly shifting cultivation. Therefore, the settlements are distributed randomly.

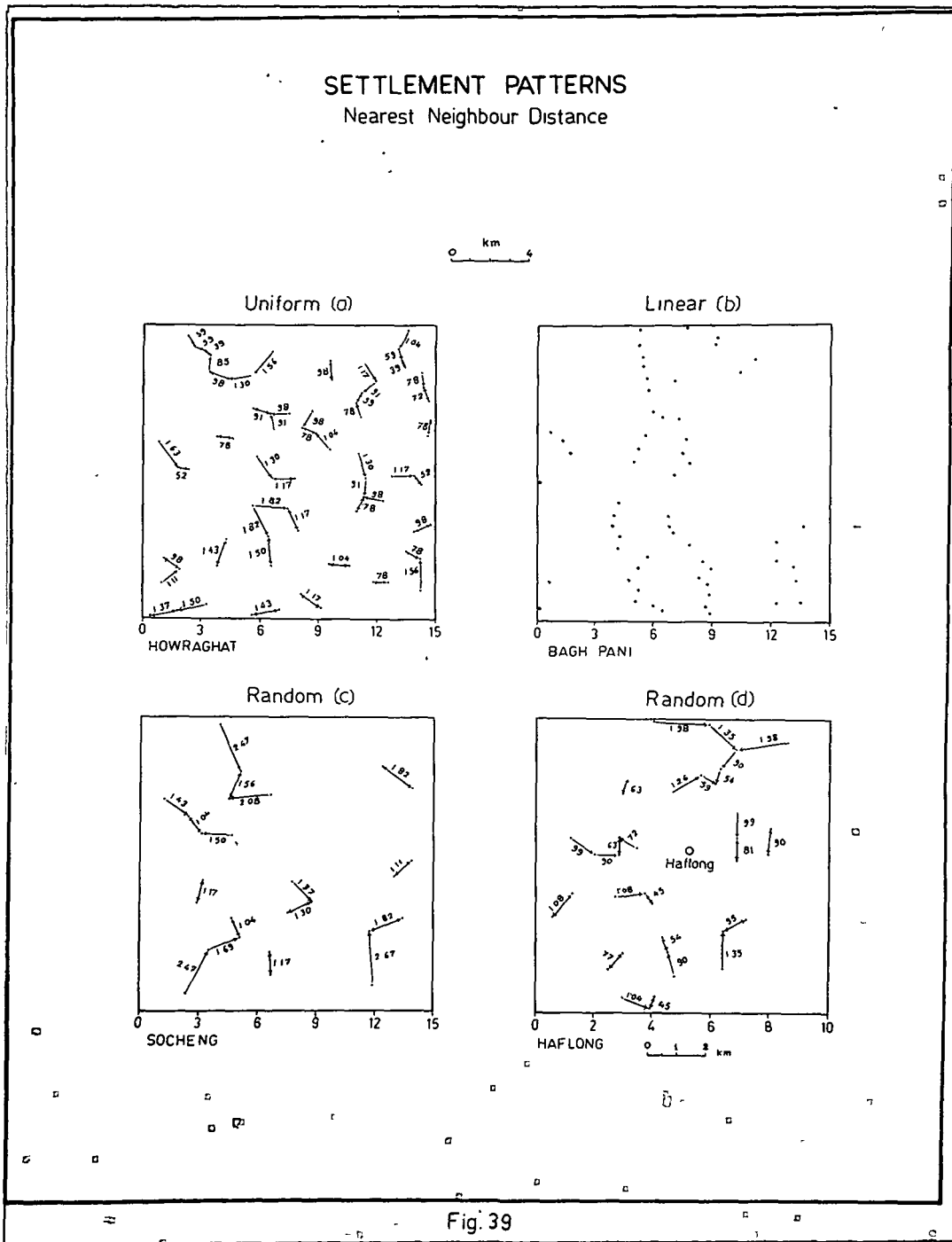
Around the Haflong town also settlements have formed random pattern with a tendency to become clustered close to it. Such villages are partly

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it is neither significantly random nor clustered. In the case of sample (b) settlements roughly show linear development and therefore NND analysis is not applicable.

dependent on agriculture and partly on commerce that they carry out with the town. According to 1971 Census there are number of non-tribal villages, locally known as 'Khuti' or 'basti' mostly inhabited by Nepali graziers and plainsmen coming from Bengal, Bihar and plain districts of Assam. Due to lack of sufficient wet agricultural lands and transport facilities etc. such villages tend to concentrate near the urban and semi-urban centres. The same phenomena is noticed in other urban and semi-urban places located in the hills.

The linear settlements shown in the sample (b) are located along the upper courses of the Dikharu river within the Howraghat thana. All the settlements shown here, fall above the 500 ft contour. Such medium rivers as Dikharu serve the purposes of transport (wherever the course is horizontal and smooth) as well as wet paddy cultivation along the banks in the interior places. Other places being comparatively less advantageous from these two important aspects, can hardly attract villages. Similarly examples could be cited from the Kaliani, Daigurung, Jatinga and Umkhen rivers etc. In the Fig. 38 (b) settlements,



running in vertical direction, form a roughly linear pattern. The same phenomena is prevailing along other rivers mentioned above.

Household and population : The following table gives household and population distribution pattern according to villages for each district and thana (1971).

Table 3

| District/<br>thana       | Percentage<br>of inhabited<br>villages to<br>the district | Percentage<br>of house-<br>hold to<br>the dis-<br>trict. | Household<br>per inhabi-<br>ted village | Persons<br>per house-<br>hold. |
|--------------------------|---|--|---|--------------------------------|
| 1                        | 2   | 3  | 4                                       | 5                              |
| Karbi<br>Anglong         | 100   | 100  | 44                                      | 6                              |
| Baitha-<br>langso        | 35.29   | 31.65  | 39                                      | 6                              |
| Howraghat                | 21.85   | 34.37  | 67                                      | 6                              |
| Bokajan                  | 25.91   | 22.74  | 38                                      | 6                              |
| Diphu                    | 16.95   | 11.24  | 29                                      | 5                              |
| North<br>Cachar<br>Hills | 100   | 100  | 29                                      | 5                              |
| Haflong                  | 49.17   | 48.91  | 29                                      | 5                              |
| Maibong                  | 50.83   | 51.09  | 29                                      | 5                              |

The above table shows that in Karbi Anglong district the Baithalangso and Howraghat thanas have almost similar household distribution pattern. Similarly in the case of Haflong and Maibong thanas of North Cachar. In the thanas of Bokajan and Diphu the share is not only less but also their difference is great. While compared column 2 and 3 i.e. percentage of inhabited villages and the percentage of household respectively, they show some positive correlation. But this is an exception in the case of Howraghat thana, i.e. with less percentage of inhabited villages it gives the biggest percentage of household. This simply means that villages are large - persons per household remain 6 as in others (column 5) while the number of household is 67 (column 4).

The above table further shows that the size of household remains almost same - ranging from only 5 to 6 persons on average giving similar distribution pattern throughout the region. Comparatively higher size of household in Baithalangso, Howraghat and Bokajan thanas might be due to correspondingly higher dependency ratio (Chapter V). This is possibly due

to higher percentage of children, educational institutions etc.

Urban morphology of Diphu : Diphu town has got the area of 5 sq. km according to the 1971 Census. The entire area has been divided into ten functional zones (Fig. 36). Since it is a service town, maximum areas have been devoted to administrative and residential purposes. Most of the buildings for residence are government quarters. The administrative buildings are located all around the residential areas. A few patches for schools have scattered all over the town, but the main area including the major institutions like high schools, colleges, Hindi Training Centre, Basic Training and Industrial Training Institute etc., is located towards the west adjacent to the administrative zone.

The business (both retail and whole sales) area is located on the southern side of the town. It starts just from near the railway station on the south, and forms a continuous belt of shops and hotels for about a kilometre in north-east and south-west direction.

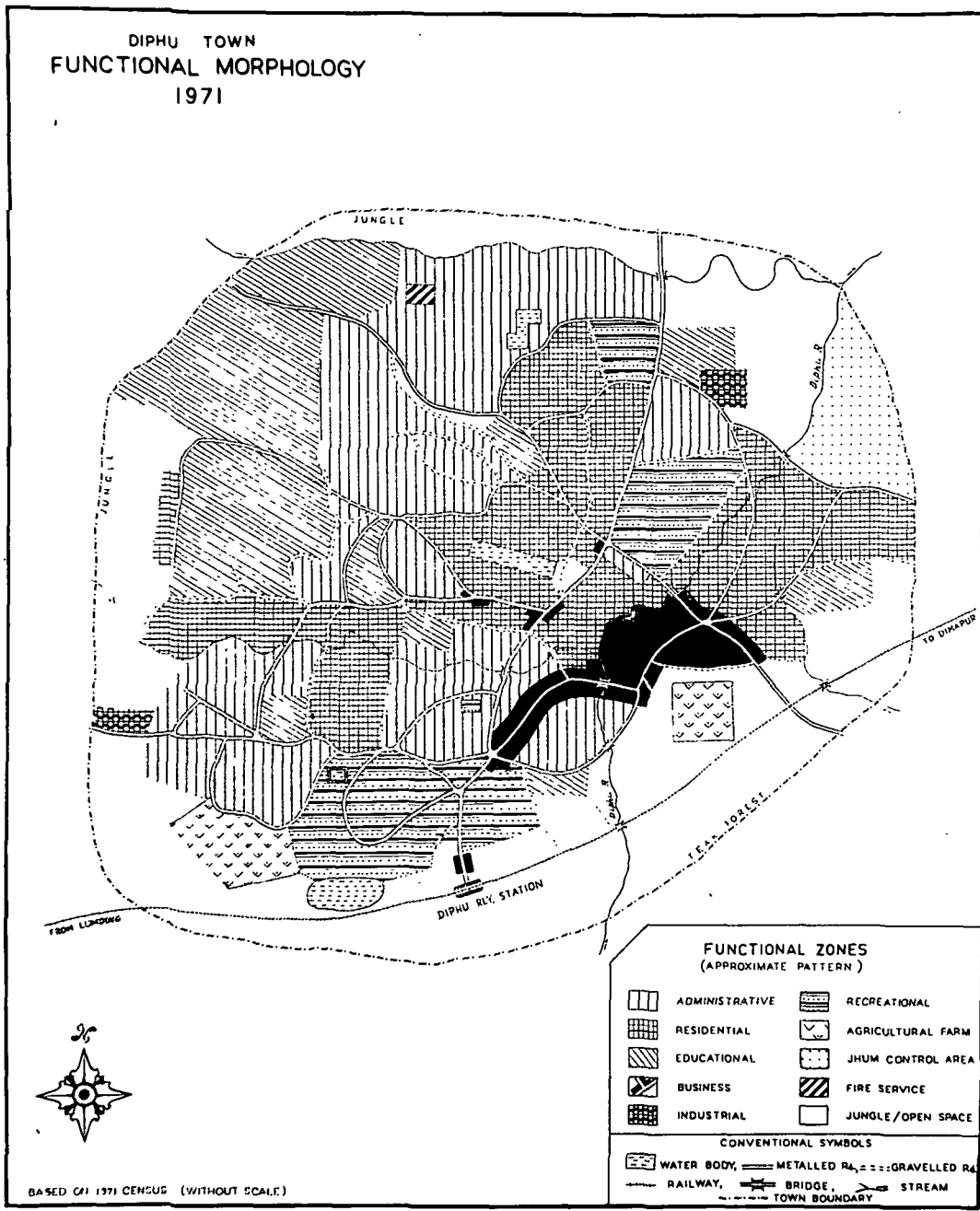


Fig.36

The actual business area is limited within two important nodes each having five radial roads. Other parts of the town do not have any business area in the true sense, but few shops have sprung up on the sides of the main road that runs in north - south direction.

There are only two industries (small scale) falling within the town boundary - one is the saw mill on the south western corner and the other cottage industry on the north eastern corner. There are three important areas for recreation including playgrounds, parks, clubs etc., all touching the central main road. No private agricultural land has been included within the town boundary. The three patches shown in the map (Fig. 36) are experimental farm, sericulture and jhum control area - all maintained by the District Council. Gew open spaces and jungles are here and there in the town. Main forest and jungle areas lie outside the town boundary.

The National Highway No. 36 passes by the north of Diphu. An extension of the highway connects Diphu with it from Mahendijua. Diphu is further connected by roads and railways with Lunding on the

west and Dimapur on the east.

In summary about settlements following points can be noted :

- i) From very early times semi-permanent settlements took place with the incoming of the shifting tribes who migrated from east and south east. But later on there started permanent settlements, even towns, by the tribe who entered the region from the north i.e. the Brahmaputra valley.
- ii) Settlements indicate four types of important influences : a) purely hill nature due to shifting cultivation, b) habits of establishing villages on hill tops due to inter-tribal feuds, c) habits of establishing villages near the river banks with plough cultivation even in the interior places due to the previous influences received in the plains, d) permanent villages due to permanent or fixed landed property (as in the case of the plain part of the region) or permanent source

of livelihood and permanent transport etc.

AMENITIES :

Amenities available in a village indicate the standard of the village. Greater the number of amenities the higher the standard of the village.

Amenities are very unevenly distributed in the region. The villages in the plains enjoy much more amenities than that of the hills. There are three basic factors for such a disparity in the distribution of amenities among the villages, such as a) temporary or permanent location and b) size of population. The shifting villages, as in the hills, cannot be provided with amenities while in the permanent villages it is possible. When the villages are too small, less than a dozen people, for instance, it is difficult to think of providing any amenities especially those which are permanent such as school, dispensary etc., c) the location of the village which may help in making it a nodal point to serve other villages.

Therefore, for the purpose of studying amenities, only the large and medium size villages (all are permanent of course) have been taken into consideration from 1971 Census. Such villages number altogether 191 in the whole region.

Out of six amenities given in the census, four have been dealt with special care, such as i) school (primary, middle and secondary), ii) medical, iii) pucca road and iv) post office.

For 179 villages there are 236 schools in Karbi Anglong, and for 12 villages there are 21 schools in North Cachar Hills. This gives more than one school per village in both the districts. But actually the distribution pattern of schools is very irregular from village to village. In some villages all the types of schools are located, and in some not a single school even though the size of population is more than 1,500. Whereas there are cases, within the same thana, having less than 800 people but has got 5 primary schools and 2 middle schools. Such uneven distribution of educational facilities causes uneven distribution of literacy among the local people. In no village, of course, there are high schools or colleges. High schools and colleges are in the towns.

There are 22 and 12 health centres (including dispensary etc) in Karbi Anglong and North Cachar

Hills respectively. North Cachar Hills having only 12 large and medium villages and with 12 health centres enjoys higher medical facilities than Karbi Anglong.

Unlike Karbi Anglong, no village (large or medium) in North Cachar Hills has been touched by pucca road. There are 36 villages having pucca road facility in Karbi Anglong. Again, out of 191 villages, 7 villages in Karbi Anglong and only 1 village (Maibong) in North Cachar Hills have train facility. Such disparities in roads and railways cause disparities in transport too.

As regards post office, there are only 31 villages having this facility. But in North Cachar Hills there are 5 post offices for only 12 villages. For remaining 179 villages of Karbi Anglong there are only 26 post offices. This shows that postal amenities are higher in North Cachar Hills although such villages have comparatively less population.

At the individual thana level, the Diphu thana has the least of all the four amenities that have

been taken into account. No large or medium village of it has any post office or medical amenity (so far as the health centre, dispensary etc. are concerned). It has also got the proportionately least number of schools. Although the railway line is passing through it, no large or medium village derives the benefit of railway directly.

From the above analysis, the villages of Diphu thana can be concluded as the most backward so far as the four vital amenities are concerned. Villages of North Cachar Hills enjoy comparatively more amenities.

CHAPTER-VIIILEVELS OF DEVELOPMENT

The study of levels of development is a very important part of any regional study in geographical context. As has been said earlier in the Chapter I, that regionalization or identification of micro-regions is one of the objectives of the present study - the identification of micro-regions, of course, depending on the levels of development. Most of the analyses although are based on the informations at thana level, it has been found that the region's six thanas which ultimately give only six observations are not adequate for levels of development or for regionalization. One, however, could do levels of development on the thana basis, but for such a small region of only 15,222 sq. km. it does not hold good or serve the purpose. Therefore, it appeared as a great problem and a serious thought had to be put for finding out an alternative.

To have sufficiently larger number of observations and to do levels of development more precisely, the village level data have been found to be suitable, and therefore, taken from the 1971 Census. Altogether 468 (24.24% to the total inhabited villages) villages have been selected from all the three categories. Out of these there are 49 (100%) large, 71 (50%) medium and 348 (20%) small villages. The medium and small villages have been taken randomly.

It is, however, important to point out that census does not give certain necessary informations like total kilometreage of roads or railways or footpaths etc. falling within the village and the village boundary for the region. Villagewise production of crops and other commodities which are very important for their economic analysis, are also not available. Therefore only those informations have been taken as variables which are readily available in the census. The variables are given below :

- 1) Percentage workers to the total population of the village.

- 2) Percentage net sown area to the geographical area of the village.
- 3) Percentage industrial workers to the total workers of the village.
- 4) Percentage workers in trade and commerce to the total workers of the village.
- 5) Percentage workers in other services to the total workers of the village.
- 6) Literacy of the village.

Considering the above variables composite indices<sup>1</sup> by means of Kendall's method have been found out for all the 468 observations. The composite indices, thus obtained, have been divided into three categories of equal dimensions. The villages falling in different categories, therefore, automatically got divided accordingly. These categories of villages have been named i) developed ii) less developed and iii) undeveloped.

The composite indices are plotted on the proper points of location of the corresponding

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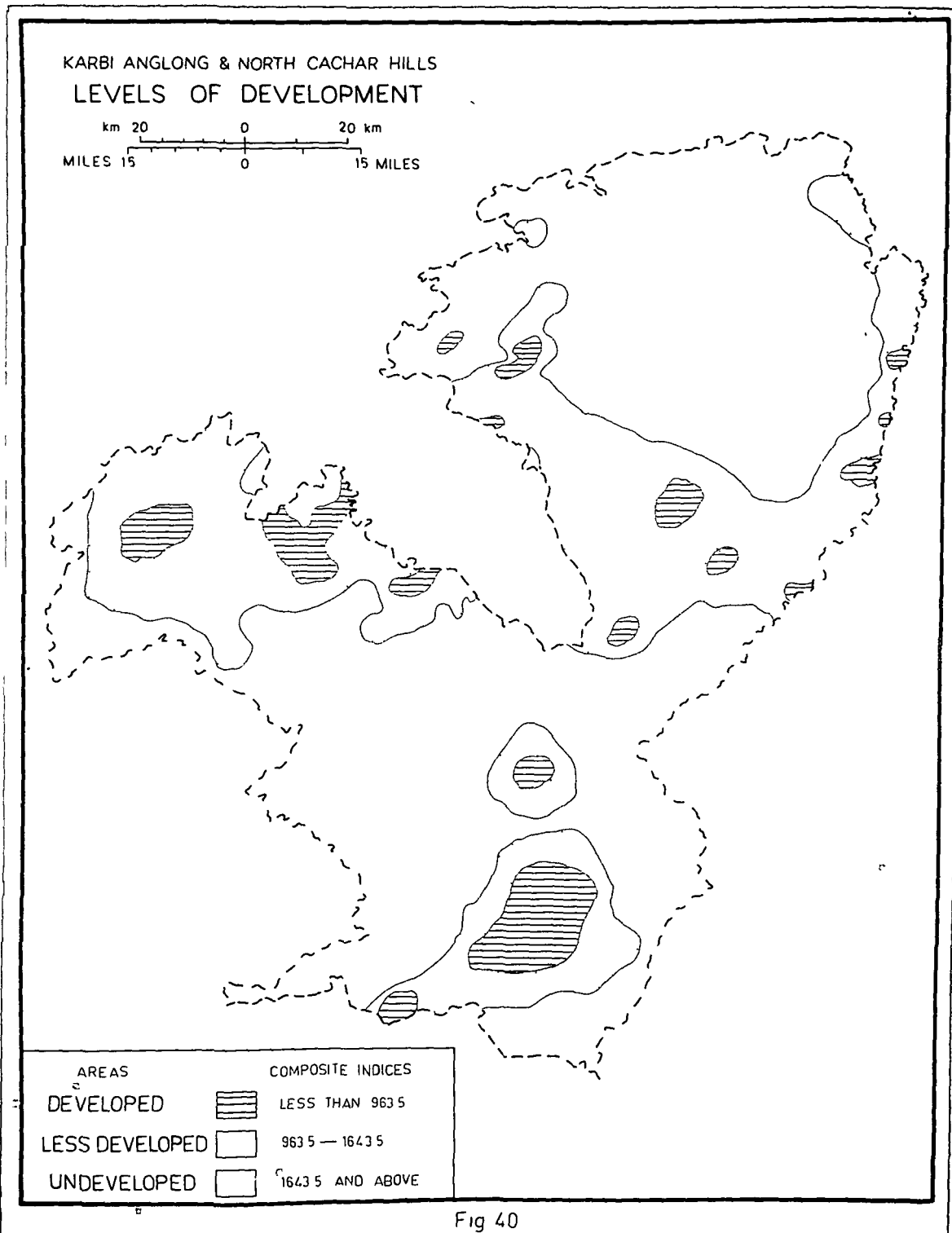
<sup>1</sup> To prepare the composite index the observations under each variable have been ranked. This eliminates the

villages in the map first, and then isolines valued at 963.5 and 1,643.5 drawn by interpolation. Thus these two isolines have divided the whole region into number of units of the three categories (Fig. 40). The demarcations, however, cannot be treated as rigid or hundred per cent accurate.

Developed areas<sup>2</sup>: The developed areas occur into 15 isolated patches comprising approximately 10% of the total geographical area of the region. These patches include mostly the thana headquarters and the large villages which have acquired either semi-urban characteristics or the social amenities are comparatively more. In such places the population of the villages ranges from 500 to a thousand or a few thousands. It is interesting to note, as shown in the map (Fig. 40), that the developed areas occur along the river valleys of upper Diyung and Jatinga of North Cachar Hills and Jamuna, Dikharu and Dhansiri of Karbi Anglong (Fig. 10). These are the 'scale effect'. Moreover, since the observations have been taken as percentages for the variables, the 'weightage problem' does not arise. The composite index have been found out with the following formula :

$$I_j = \sum_{i=1}^n R_{ij}$$

where j is any village, n is number of variables and R is rank.



the areas where the region's most of the permanent cultivations are carried on or industries are located or there are better transport and communications as well as other infrastructural facilities are available (as discussed in earlier chapters)<sup>2</sup>.

One of the most striking features with the developed areas is that the land utilized especially the net sown area tends to be very high. In Baitalangso and Howraghat thanas, the villages falling in such areas, above 60% of the total geographical area is devoted to cultivation. It is primarily due to the fact that these settlements are having higher density of population, which necessitates cultivation on higher amount of land. In rest of the thanas it is less than 50% in most settlements, where non-agricultural functions tend to be comparatively higher. In some of the developed areas where non-agricultural functions tend to dominate, the percentage of net sown area is much less. This is especially so in the Maibong - Haflong tract of

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2. Since the units are not contiguous they are simply called 'areas' which is more appropriate.

North Cachar Hills, where the figure is as low as 25 in some of the villages. In this particular area it is further observed that of the total workers, the workers engaged in non-agricultural activities such as industries, trade and commerce and other services comprise comparatively higher percentages. This is due to the location of number of non-agricultural settlements like Police Training Centre, mission compounds, bazars and bastis (a village inhabited by the people coming from different states like Bihar, West Bengal and also from Nepal).

Literacy is high - in some cases even more than 60%. In Bokajan thana, the developed areas include mostly the plantation settlements like that of tea gardens and reserved forests and also few mining and manufacturing centres e.g. Bokajan.

Less developed areas : The less developed areas occur covering most of the places of low altitude and the big river valleys of the region. The less developed areas comprise approximately 25% of the region's total geographical area. Unlike

the developed areas, the less developed areas occur in three major portions viz. the northern half of Baithalangso, central and southern North Cachar Hills and southern and eastern Karbi Anglong. There are more than 50 medium villages out of the 71 taken into consideration, and most of the remaining medium villages - included in the less developed areas. The less developed areas also include large number of small villages which carry on both permanent as well as shifting cultivations.

It is to be noted that the region's most of the villages (Fig. 38) fall within the less developed areas. There are practically no industries, but the horticultural crops like banana and orange etc. are grown largely. Many villages have transport facilities, even of the national and the state highways, but others do not have such facilities except the mere footpaths. Primary and middle schools are the highest educational institutions for most of the villages. Literacy is still much below 30%. Workers in activities other than agriculture comprise very small percentage in most villages

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falling within the less developed areas.

Undeveloped areas : The undeveloped areas comprising about 65% of the total geographical area occur in the rugged and thinly populated portions of the region. The northern half of the eastern Karbi Anglong and almost the entire North Cachar Hills (excepting the valley portion which is included under developed and less developed areas) fall under undeveloped areas. The undeveloped areas include a few medium and large villages and rest of the small villages that are inhabited mostly by the shifting cultivators. Areas of thick forests and jungles which do not have human population for many square kilometres also fall under the undeveloped areas.

Adverse topography, thick forests (reserved and unclassed), infertile either rocky or laterite soils lack of any road, school and other amenities have kept these areas under extreme backward condition.

### CONCLUSION

The Study of the various geographical elements of the two districts of Karbi Anglong and North Cachar Hills has shown that it is much justified to call them a geographical region. One could find the coherence in the distribution of various geographical elements within the defined boundary. The districts of Karbi Anglong and North Cachar Hills, therefore, together maintain their physical and cultural distinctions from other parts of Assam.

By looking at the present conditions of development one can say, without hesitation, that the region is very backward and there are great disparities among areas in the level of development. But the question is 'why' ?. No region, perhaps, ever could develop just like that i.e. under the prevailing traditional set up of its people. There must be some force created within, that can bring a 'new beginning', to the region. The 'new beginning', of course, involves the breaking of social, political, cultural and economic traditions to some extent and thereby giving them a new shape.

The region of Karbi Anglong and North Cachar Hills, no doubt, is a traditional one. Right from the early time of in-migration and evolution of settlements of the tribes till today there are practically very little changes or improvements in their economic and living conditions. Still today, majority of the Dimasa Kacharis, Karbis and other tribes practise shifting cultivation, live in shifting villages and follow old technology for cultivation and other purposes. Only a small section of the tribes who live in the plains or in the urban or semi-urban localities have gone ahead of the rest of their counterparts. This is simply due to the influence of the plains people who are mostly confined to the plain parts and the urban and semi-urban areas of the region.

Apart from the problems with the local tribals there are certain other problems for the region as a whole. Such problems are : high growth of population, especially in the thanas of Baithalangso and Howraghat due to in-coming of 'Other persons'; poor transport

and communication; shifting nature of the villages; low industrialization and urbanization etc.

High growth of population is likely to create adverse agricultural situation, especially where there is low agricultural potentiality e.g. Howraghat thana and North Cachar Hills district. Therefore, in the agriculturally low potential areas the in -coming of population seeking new settlement should be discouraged.

Poor transport and communication greatly hinders the mobility of people and commodities affecting the general development of the region. The region is also extremely poor in nodality and connectivity. Baithalangso, Maibong and Diphu thanas are the most backward ones in respect of transport. The main and the feeder roads should also be extended to the interior places atleast where there are settlements.

When villages keep on shifting after every three years or so, the amenities like school, dispensary post office (where apart from communications, savings account also can be opened), pucca well for hygienic

water etc. cannot be provided. Without these essential amenities no village or settlement can develop or improve its general standard. Therefore, establishment of compact villages, 'model villages' etc. should be undertaken on a large scale so that the traditionally shifting villagers are gradually encouraged to become permanent settlers. In connection with this, the terracing of gentle hill slopes for cultivation, publicity and demonstration through documentary film and exhibition etc. should go on simultaneously. This would help the tribals to understand something new. Therefore agricultural development and making of permanent settlement in the region are closely connected. Once they start becoming permanent settlers it could be easier for the Government to provide them with modern amenities or any kind of developmental facilities.

It is quite natural that in a region where there are poor transport facilities, poor amenities and scopes and the people live in shifting villages, no industrialization or urbanization is possible. Nevertheless, such programmes can be undertaken based

on thorough resource studies and plans, and then the extension and development of transport route and services would follow. The industries, of course, preferably be medium or small scale such as saw mill, plywood, bamboo and cane furniture making etc. based on local raw materials and labourers. The industrial development would automatically lead many places to urbanization. Such semi-urban and urban centres would control the local economy and bring many other opportunities for livelihood. This would not only help the general economic growth but also would control the widening of 'economic gap' between areas.

Following are some of the points to be considered while planning for a systematic and balanced development of the region :

- i) Improvement of transport appears to be the foremost concern. Apart from the improvement in transport services, the greater nodality in the transport net is very essential. This will also act as the force for the settlements to grow in size.

Once a nodal settlement takes place it is likely to grow faster because of the advantage for the movements of commodities and people. Soon, small commercial activities will follow - economy of the area thus will start improving.

ii) Efforts to improve agriculture and simultaneously establishments of forest and agro-based industries of medium and smaller scale are the secondmost important considerations. Agro-based industries and agricultural production are interdependent. Such industries should preferably be located in the nodal settlements to derive the transport facility without delay. Since these industries do not require much of technical hands the local youths can meet the demand for labour. Some of the medium and small scale industries having brighter prospect are cotton and eri-silk weaving, bamboo and cane furniture making, paper pulp manufacturing and fruit preservation and canning etc.

- iii) For the quality products skilled labourers are necessary which, of course, involves education. Therefore, to give proper training (vocational) and education to the local youths the training centres and educational institutions could be established in the nodal settlements or in the towns. This further involves the supply of more and more amenities.
- iv) Since the region is a plateau one and the agricultural fields are limited, the minor irrigation-cum-power generation projects can be established easily. The power can be locally consumed by both lighting of the houses and the industries. Therefore, such projects, apart from supplying power, can also help agriculture through irrigation.
- v) To make use of such waters there must be permanent agricultural fields. The gentle hill slopes can be converted into terraces wherever possible for this purpose. Once

the agricultural fields are permanent, it is very likely that most settlements would become permanent. This, of course, is time consuming. Once the terraced cultivation and permanent settlement are successful the introduction of other methods of improvement of agriculture become easier. This will also help to avoid shifting cultivation.

Plantation and horticulture at suitable places on extensive scale are necessary mainly to reduce shifting cultivation and to make use of vast unutilised land for the purpose of regional income.

Thus, the above points can be treated as guidelines for a meaningful planning for development of the region. Improvement in the transport conditions and the establishments of the medium and small scale industries are the most urgent needs for the region at present. Opening of large scale manufacturing and mining industries would bring a situation which the local people might fail to adjust to. Well developed transport net would atleast weaken the

forces of growth of intra-regional disparities.

The suggested industries if established with proper planning would help the region to make use of the physical and human resources without contaminating the regional personality as well as the socio-cultural entity of its people. It all, however, depends on the policy making for strategy and the execution and management of the administrative machinery.

APPENDIX I

1. Agricultural density =  $\frac{\text{Total population}}{\text{Net sown area}}$
2. Intensity of irrigation =  $\frac{\text{Area irrigated} \quad \times 100}{\text{Net sown area}}$
3. Carrying capacity of land =  $\frac{\text{Cultivators and Agricultural labourers}}{\text{Net sown area}}$
4. Intensity of agriculture =  $\frac{\text{Net sown area} \quad \times 100}{\text{Geographical area}}$
5. Agricultural potentiality =  $\frac{\text{Cultivable waste} \times 100}{\text{Geographical area}}$

APPENDIX II

Levels of economic development of  
Karbi Anglong and North Cachar Hills  
1971  
(By ranking method)

| Thana             | Percentage<br>workers to<br>total<br>population | Percentage<br>workers in<br>trade and<br>commerce to<br>total work-<br>ers. | Percentage<br>workers in<br>household<br>and other<br>than house-<br>hold indus-<br>tries to<br>total workers | Percentage<br>net sown<br>area to<br>geographical<br>area | Total<br>rank |
|-------------------|---|---|---|---|---------------|
|                   |   |   |   |   |               |
| Baithalang-<br>so | 32.16 (5)                                       | 1.41 (5.5)  | 1.06 (4)  | 20.50 (4)   | 18.5          |
| Howraghat         | 26.92 (6)                                       | 3.21 (3)  | 1.31 (3)  | 35.68 (2)   | 14            |
| Bokajan           | 33.55 (4)                                       | 3.27 (2)  | 1.87 (2)  | 27.39 (3)   | 11            |
| Diphu             | 36.46 (3)                                       | 6.25 (1)  | 3.56 (1)  | 19.63 (5)   | 10            |
| Haflong           | 44.32 (1)                                       | 1.41 (5.5)  | 0.31 (6)  | 57.56 (1)   | 13.5          |
| Maibong           | 39.11 (2)                                       | 2.23 (4)  | 0.62 (5)  | 7.94 (6)  | 17            |

(Figure within brackets stands for rank for each variable)

APPENDIX III

| Sample | $\bar{D}_0$ | $\bar{D}_r$ | R    | S.E. | Z    | Remark              |
|--------|-------------|-------------|------|------|------|---------------------|
| 1      | 2           | 3           | 4    | 5    | 6    | 7                   |
| (a)    | 1.00        | 0.86        | 1.86 | 0.05 | 2.80 | Approaching uniform |
| (c)    | 1.48        | 1.47        | 1.01 | 0.15 | 0.07 | Random              |
| (d)    | 0.88        | 0.83        | 1.06 | 0.07 | 0.71 | Random              |

$\bar{D}_0$  Ratio between the actual mean distance of nearest neighbour points and the number of nearest neighbour points.

$\bar{D}_r$  Expected mean nearest neighbour distance

R Nearest neighbour index

S.E. Standard error

Z Test of significance of the difference between  $\bar{D}_0$  and  $\bar{D}_r$

## REFERENCES :

A. Books

## Sl.No.

1. Barkataki, S., Tribes of Assam (NBT, New Delhi, 1969), ).66.
2. Barih, H., (Ed), Gazetteer of India, Nagaland (Nagaland District Gazetteer Unit, Kohima, 1970), PP. 15-35.
3. Bordoloi, B.N., District Handbook of United Mikir and North Cachar Hills (Tribal Research Institute, Shillong, 1972), PP. 18-85.
4. Das, H.P., Geography of Assam (NBT, New Delhi 1970), PP. 7-131.
5. Devi, L., Ahom-Tribal Relations (Self, Gauhati, 1968), PP. 148-149.
6. Dutta, D., History of Assam, PP.167-303.
7. Dubey, S.M., (Ed), North East India (Concept Publishing Co., Delhi, 1978), P.149.
8. Dalton, E.T., Tribal History of Eastern India (Cosmo Publications, Delhi, 1973), PP.53-54.
9. Gait, E., A History of Assam (Thacker Spink and Co., Private Ltd., Calcutta, 1963), P.300.
10. Goswami, D.N.D., Geology of Assam (University of Gauhati, Gauhati, 1960), Pr.33-126.

11. Grierson, G.A., Linguistic Survey of India  
Vol. III, Part II, P.380.
12. Gogoi, D., (Ed), Karbi Prasanga (Self, Diphu,  
1971) PP.37-45.
13. Lahiri, T.B., (Ed), Balanced Regional Development  
(Oxford and IBH Publishing Co.,  
Calcutta, 1970) PP. 29-72.
14. Lyall, C. and  
Stack, E., The Mikirs (United Publishers,  
Gauhati), P.5.
15. Mahmood, A., Statistical Methods in Geographical  
Studies (Rajesh Publications, New  
Delhi, 1977), PP.72-117.
16. Misra, R.P., (Ed), Regional Planning (University  
of Mysore, Mysore, 1969), P.11.
17. Rajan, S.V.G.  
and Rao, H.G.G., Studies on Soils of India (Vikas  
Publishing House Pvt. Ltd., 1978),  
PP. 136-42.
18. Singh, G., A Geography of India (Atma Ram  
and Sons, New Delhi, 1970), P.35.
19. Singh, R.L., (Ed), India A Regional Geography  
(NGSI, Varanasi, 1971), PP.27 and  
684-85.
20. Symons, L., Agricultural Geography (G.Bell  
and Sons, Ltd. London, 1972), PP.21-91.
21. Terang, R.B., Karbi Lantagam (Self, Diphu, 1974),  
PP.44-232.
22. Worcester, P.G., A Text Book of Geomorphology  
(Affiliated East-West Press Pvt.Ltd.,  
New Delhi, 1965), PP. 130-31.

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239

B. Papers, journals, Census Reports and Government Publications etc.

23. District Census Handbook, United Mikir and North Cachar Hills, 1961.
24. District Census Handbook, Mikir Hills District, 1971, Series - 3, Part A and B.
25. District Census Handbook, North Cachar Hills District, 1971, Series - 3, Part A and B.
26. Statistical Handbook, Assam, 1976, (Directorate of Economics and Statistics, Assam, Gauhati).
27. Statistical Handbook, Mikir Hills District, 1975 (Directorate of Economics and Statistics, Assam, Diphu).
28. Economic Survey of Assam, 1975-76, P.14.
29. Miscellaneous Publication, No. 30 (GSI, Delhi, 1974) PP.34-54.
30. A Brief Historical Account of Nagaland (Nagaland Institute of Culture, Kohima, 1970) P.21.
31. Annual Programme, 1973-74 (Deptt. of Agriculture, Mikir Hills District, Diphu).
32. National Geographical Journal of India, Vol.XVIII Parts 2 and 3, 1971, PP.77-89.
33. Journal of the North East India Geographical Society, Vol. V : No.1 and 2, 1973, P.29.
34. Silver Jubilee Souvenir, Karbi Anglong District Council, Diphu, 1977, PP.23-38.
35. Sharma R.C., Background Paper :  
'Resource Base and Problems of Regional Development in North Eastern Region (India)', Department of Geography, NEHU, P.26.