# STUDY OF AREAS AND DEVELOPMENT STRATEGY FOR REGIONAL PLANNING IN EAST PAKISTAN

by

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## ABSTRACT

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This thesis is a study of regional characteristics of East Pakistan including topography, generalized land use, transportation, economic activity location, etc. Ultimate aim of the thesis has been to identify broad regional types that are now existing and those that are most likely to emerge in the impending future as a result of the economic transition. The types of regions are then described on the basis of their economic, social and physical characteristics; their problems and prospects are discussed with a view to determining the development strategy. Finally, the strategy for regional development in East Pakistan and the corresponding policies to be followed are suggested in the general framework of the objectives and development philosophy of Pakistan as enunciated in the Third Five Year Plan as well as the Perspective Plan (1965-85).

In the concluding chapter of the thesis, some guidelines are provided in respect of what needs to be done (i.e. data needs, research requirements) in the context of regional development strategy suggested in the thesis.



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# INTRODUCTION

## Introducing East Pakistan

East Pakistan is one of the two provinces of Pakistan and lies in the eastern part of the Indo-Pak sub-continent roughly between 20°-30' and 26°-45' North Latitude and 88° and 92°-56' East Longitude. The province is almost surrounded on the three sides by Indian territory except for about 175 miles of borders with Burma in the east. On the south of the province is the Bay of Bengal. East Pakistan is separated from its counterpart West Pakistan by about 1000 miles of Indian territory lying in between.

The total area of the province, according to the Survey of Pakistan, is 55,126 sq. miles including the large rivers and 51,921 sq. miles excluding the large rivers and the foreshore.

Administratively, the province is divided into four divisions. The divisions are again divided into districts, the districts into subdivisions and the subdivisions are divided into thanas. There are 4 divisions, 17 districts, 59 subdivisions, and 417 thanas. Dacca is the capital of the province. The following are the names of the districts:

| | | |
|---|---|---|
| 1. | Dinajpur | |
| 2. | Rangpur | |
| 3. | Bogra | RAJSHAHI DIVISION |
| 4. | Rajshahi | |
| 5. | Pabna | |
| 6. | Kushtia | |
| 7. | Jessore | KHULNA DIVISION |
| 8. | Khulna | |
| 9. | Bakerganj | |
| 10. | Mymensingh | |
| 11. | Dacca | DACCA DIVISION |
| 12. | Faridpur | |
| 13. | Sylhet | |
| 14. | Comilla | |
| 15. | Noakhali | CHITTAGONG DIVISION |
| 16. | Chittagong | |
| 17. | Chittagong Hill tracts | |

## Background Statement and Purposes of the Thesis

Until the partition of the sub-continent, East Pakistan was a vast agricultural plain. Modern industry made hardly any progress. With the inception of Pakistan, East Pakistan was cut off from its raw material users in Calcutta. With a view to use the quality raw material as well as to earn foreign exchange, an industrial development program was taken by the government of Pakistan. This meant a switch-over from an agrarian economy to a semi-industrial economy. Consequently the province started evolving from a predominantly agricultural area and raw material supplier, where the scattered towns served mainly as market and administrative centers, into an area of increasing industrial activity and urban development. The Second Five Year Plan almost tripled the industrial investment over the levels of the First Plan. This commitment of the government to the industrial development of the province implied a commitment to urbanization. Urbanization in the Third and Fourth Plan periods is projected to increase rapidly in response to the increasing value of industrial investment. What is more significant is that all long term planning studies show that, if production and income goals are to be achieved, it will

be necessary for something like a tenfold increase in the population of urban areas to occur within a period of approximately 20 years. Much of the additional employment must take place in the industrial service sector, i.e. manufacturing, commerce, public and professional services including education, transportation and other public utilities, the bulk of which has to be accommodated in the cities.

Now, the inevitability of urban growth is one thing and the consequences are another. At present, East Pakistan is facing unusual urban problems if not unique. Absence of a proper approach to the problem of balanced growth of urban and rural areas and a well defined policy for the location of industries and other economic activities has further aggravated the problems. There is no orthodox solution that might be taken from the library of the city planner and applied right away. The characteristics of dense and fairly uniform distribution of rural population, the absence of large cities (according to western standards), the distinctive topography and hydrology, the scarcity of buildable land and the relatively few man-made service assets present both a challenge and an opportunity.

Traditionally, urban planning in the Indo-Pak sub-continent has been treated as a sub-branch of public works. Such an approach could be adequate when urban works were largely confined to the construction of government quarters and to ad hoc systems of public utilities. Now that the problem is one of designing a framework for the growth of an urban-industrial society, the planning function must be oriented towards establishing a pattern of size and location for urban centers that will offer optimal industrial efficiency combined with a very high order of social well being for both urban and the rural population. It is to this general end that this thesis work is directed.

Thanks to human ingenuity, recent history of city and regional planning shows that there is not only a considerable degree of freedom to shape the urban centers but also to determine their size and distribution.

The ultimate purpose of this thesis, therefore, is to identify those areas which have the future potentiality of growth and more precisely those location points which have the maximum growth potentiality and those areas which bear the risk of stagnation and virtual decline. In other words, this thesis is a study of areas aimed towards identification

of the urban core regions where economic growth tends to occur, their areas of influence, and finally the problem areas which need to be developed according to the objective of the nation for socio-economic growth.

Once these general areas are identified, their problems and prospects will be discussed and evaluated with a view to formulate a strategy for their development and sustenance. Regional development does not occur automatically; even if it does at certain points, its sustenance is surely dependent on deliberate planning efforts.

After providing some indication about the development strategy to be pursued, I shall proceed one step further to discuss the limitations for launching the strategy, i.e. information and research requirements, data needs and other organizational and institutional requirements. This will include suggestions on next steps to be taken in the continuation of the objective of this thesis.

PART-A

# I. PHYSICAL FEATURES

## 1. Relief:

Physiographically East Pakistan may be divided into three distinct units. They are (see Map no. 1):

a. The tertiary hills

b. The old alluvium

c. The recent flood plains.

The tertiary hills, which stand on the eastern and south-eastern part of the province, are extensions of the Assam Hills and the Burmese ranges. The ranges occupy Chittagong Hill tracts, parts of Chittagong and southern Sylhet districts. The average height of the hills of Chittagong Hill tracts is about 2000 feet with the elevation generally rising from west to east. The hills of Sylhet district, however, are a series of isolated and elongated hills hardly exceeding an elevation of 800 feet and they enclose between them river valleys opening to the north into the depressions (locally called haor) in the plain. These hills contain no prominent peak and their foothills gradually roll down into hillocks (tillas).

In the Chittagong Hill tracts a number of ranges run

north to south. The hills rise in tappering masses and are generally no wider than about 120 feet at the top. Many of the valleys are flat and broad and are covered with dense virgin forest, intersperced with small water courses and swamps of varying sizes.

A few low ranges run in south-easterly direction parallel to each other along the Bay coastline of Chittagong district and part of the Chittagong city lies on the outlying hillocks of this range. In the southeast end the hills form precipitous cliffs along the sea. These lower ranges enclose wide valleys of remarkable fertility and hold dense population in the Chittagong district.

The tract of old alluvium in East Pakistan is formed by early (pleistocene) deposits. The largest tract of old alluvium called Barind covers an area of 3000 sq. miles in the districts of Dinajpur, Rajshahi, Bogra and Rangpur. The surface of the region is convex and undulating with large level plains and gentle gradual slope rising from 20 to 40 feet above the flood plains. The other tract of old alluvium called Madhupur tract covers an area of 1600 sq. miles in the districts of Mymensingh and Dacca. Maximum elevation of the tract is below 100 feet above sea level everywhere and the

outline of the ridges is smooth. The land is punctuated irregularly by patches of waste land and scrub. Large trees with bushy and massive branches and foliage abound. In the Madhupur tract there are forested stretches of tall and sturdy Gajari trees which are excellent timber material.

The vast new alluvial plain is the dominant feature of the topography of East Pakistan. This vast flat alluvial plain covers the overwhelming portion of the surface. The entire region is interlaced by numerous rivers and their tributaries, Khals (brooks), and backwaters, beels (natural depressions) and swamps. Although there is no contrasting variation in the physiography, there are local variations of contours and minor physiographic features which are at times an important factor in human adjustment to the environment. Many places even 400 miles away from the coast are less than 30 feet above sea level and the slope is less than five inches per mile.

The southwestern part of the plain, the so-called moribund part of the delta covering mostly Khulna and Jessore districts, is an area of dead and decaying rivers. However, this moribund part is relatively higher and free from regular annual inundation; while the southeastern

part is lower and is being built up by active rivers. The rivers completely inundate the entire land during the monsoon. None of the large rivers in this area (covering almost the whole of Bakerganj district, parts of Noakhali and Comilla) are fordable at any season of the year. In such a natural setting, there is hardly any road in this part of the province and each household has its own boats and water transport is the dominant feature.

The rest of the plain is largely constituted by the deposits of three mighty rivers of the Indo-Pak sub-continent namely the Ganges, the Brahmaputra and the Meghna. The East Pakistan portion of Ganges and Brahmaputra is called Padma and Jamuna respectively. The plain along the great rivers Padma, Jamuna and Meghna, in the districts of Pabna, Bogra, Faridpur, Mymensing, Dacca and parts of Comilla and Sylhet is low lying. The inundation of these great rivers and their nearby tributaries commence slowly with the on-coming of nomsoon by the end of June and within a month or so the adjacent plain becomes a vast sheet of water. At the end of August water receeds, leaving the land coated with fertile silt and enriched to produce the principal crops of the year.

The plain north of the confluence of the three great rivers is of stable nature holding the tract of old alluvium almost at the center of this region. In the south of the old alluvial tract there is a depressed pocket and a large marshy area surrounds centers around the depression pocket.

Physiography of the Rivers:

The most prominent feature of the plain is the number of rivers meandering through the landscape and at the same time creating efficient drainage system with the help of their tributaries. Precipitation in the eastern Himalayas rolls down through the mighty rivers which washes the surface of East Pakistan and finally combining their courses open out in a colossal estuary into the Ba y of Bengal.

The Ganges or the Pahma and its tributaries may be called the pivotal system of the deltaic rivers of East Pakistan. Gangetic delta covers about 25,000 sq. miles and about 80% of it lies in East Pakistan.[1] The river carries an immense quantity of water and is generally very wide - constant shifting of the channel and frequent bends cause silt formation every year.

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[1]Ahmed, Nagis; An Economic Geography of East Pakistan, Oxford University Press, London, 1958, p. 14.

The major flow of Meghna is formed by the union of two rivers coming from the district of Sylhet. This river brings water from the heaviest rainfall area of the world, Cherapunji. The Meghna is a river of great depth and velocity, here and there split into sandbanks of its own formation. During the monsoon it becomes so wide that the opposite bank cannot be seen. Tides are more effectively felt in this river than any other river in India or Pakistan. Although the river is navigable all the year round, the rough surface remains a danger except in the cold season from November to February.

The Brahmaputra carries water from the Himalayas and the Assam Hills where the average rainfall is about 80 inches. The Brahmaputra is notorious for its shifting channels and formation of silt beds. No permanent settlement or structure can stand on its banks. The main stream is unpredictable and erratic. The breadth of the river measures three to four miles even in dry season.

These big rivers and streams whether large or small, while flowing through the flat area, raise their beds through deposit of silts and the streams change their courses and scatter their load in the adjoining area. This makes a continuous cycle of land formation. The new formations are

called chars and are a characteristic feature of the region of active rivers. Such dynamic action of the rivers have profoundly affected human activity, the productive forces and the pattern of environment. As Professor Ahmed puts it..... "These freshly formed sand and silt flat lands, whose formation and disappearance is due to river instability, play an important part in the life and rural economy of the people. Loss of chars by deluvial action reduces landscape and the cultivable area and often results in migration of population. On the other hand, appearance of new chars means more land for individual cultivation; it invites settlers and increases population and resources, though much inevitable litigation follows between individuals who gain or lose slices of land. The crops that these lands supply are very valuable; they require a mimimum of effort. As the land needs no ploughing nor any wedding, it is only necessary to transplant the crop when the water has receeded and to harvest before the river returns."[1] Such active condition of river is found along the Padma, Jamuna and Meghna covering the western part of Mymensingh, eastern parts of Rangpur, Bogra and Pabna,

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[1]Ibid., p. 11.

southern and southwestern part of Dacca and western Comilla and Noakhali districts. As a result market places and crossing points and transport termini of great commercial significance, shift from one place to another.

The dynamic actions of the rivers have rendered few rivers deteriorated to a large extent in the northwestern part of the province. Normal inundation like that of lower Padma, Jamuna and Meghna, do not take place in the northwestern part of the province. As a result, cultivable lands have to be left fallow for every two or three years to recoup fertility.

In the hydrology of East Pakistan's rivers floods seem to be a normal feature. If the flood is in time and the depth and duration is within normal limits nothing happens, otherwise harm and damage is inevitable. Floods of 1954 and 1955 in East Pakistan are examples of extreme misery.

3. Climate and Soil Characteristics:

In a broad generalization East Pakistan can be said to have a typical tropical monsoon climate - moderately warm, equable and humid. Rainfall figures are high almost everywhere except western parts of Kushtia and Rajshahi districts and as a matter of fact no area receives a precipitation less

than 60 inches. Specially in the south and southeast comprising Khulna, Bakeraganj, Noahkali, Comilla, Chittagong and Chittagong Hill tracts and in the north and northeast including Sylhet, Mymensingh, northern Dinajpur and Rangpur, receive precipitation from 80 to 100 inches. The south-eastern end of the province gets about 140 inches and the north-eastern portion of Sylhet district has a rainfall record varing from 150 to 200 inches (see Map No. 2).

Precipitation is mainly brought by the monsoon (during June-September) and partly by Norwester (during March-May). Although norwester rainfall is about one-fifth of the total precipitation of the province, it is of vital significance to the agricultural economy of East Pakistan. On the other hand, the character of the norwester is such that they often cause damage to life and property on land and river. Thunder storms, violence and destructive effects are special features and uprooted trees, blown off roofs, cap-sized boats and tramelled crop fields are frequent consequences of the norwester.

Heavy downpour and cyclonic storms are characteristic of monsoon. Rainfall is uneven in character and the region of heaviest precipitation along any particular track also

experiences variance. Abnormal excess of rainfall brings about unmanageable floods. Rainfall normal in amount but untimely in incidence might also result in crop failure.

Professor Ahmed[1] has attempted to present a broad generalized picture of major soil divisions and their characteristics and thereafter indicate their relevance to crop distribution. According to him the following divisions of East Pakistan's soil can be made:

(1) The red soil: Characteristic soil of the old alluvium of Barind and Madhupur tract. The soil is rich in iron, alluminium and lime but the general level of fertility is low, ploughing is very difficult on the soil specially when it is dry.

(2) Silt or heavy silt loam: Characteristic of the active deltaic region; these are the freshly deposited soils and are found in the inundated tracts of the great rivers. The soils are of great fertility, easy to plough and produce a great variety of crops.

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[1]Professor Nafis Ahmed is the author of Economic Geography of East Pakistan and is the Head of the Department of Geography, University of Dacca, East Pakistan.

(3) The clayey soils: This soil is characteristic of the depressed regions of Rajshahi, Pabna, Bogra, Sylhet and Mymensingh. The clayey bed is non-porous and holds water. The temporal waterlogging hampers cultivation. The region is single cropped.

(4) Sandy loams and clay loam: Characteristic of the large area of the plain. The soils generally occupy tracts away from the inundated silts; farthest from the levees towards depressions, they merge into clay. Because of higher percentage of silt, these tracts are capable of yielding varieties of crops both in the wet and the dry seasons.

(5) In the southern part of the province a large tract of peaty soil has formed because of marshy condition and waterlogging. These deep moist soils are suited to the cultivation of low land rice.

(6) The alkali or saline soils are characteristic of the lower part of the moribund delta (southern part of Khulna and Bakerganj) as well as the stable coast of Chittagong and are poor soils for agriculture because of their high alkaline contents and low organic and nitrogen proportion.

Summary

East Pakistan is largely a deltaic plain formed by the vast alluvial deposits of three might rivers of the Indo-Pak sub-continent. There are tertiary hills only on the outskirts of the province. Except for these tertiary hills and the tracts of old alluvium, the province is a vast plain criss-crossed by the three big rivers and their innumerable tributaries. The behavior of the rivers is of functional importance in shaping the economic life of the people. In their normal behavior the rivers are an asset; in their eccentricities they are problems. In addition to drainage, the rivers provide a year round supply of fish, facilitate cheap means of transport and most important of all serve as an agent of natural fertilizer for most of the plain from year to year.

Rainfall is more or less adequate throughout the province and the climate is moderately warm with no wide variation across the province. There are two rain periods; the norwester and the monsoon. Either a delay in the commencement of the two rain periods of their early cessation is likely to cause considerable economic loss.

The recent alluvial plain is rich in fertility while the

old alluvial tract is poor in soil character. The inland natural depressions have seasonal fertility only when submerged under water. Peaty soil predominates the southern part of the plain while the coastal areas have alkaline soil.

## II. LOCATION OF ECONOMIC ACTIVITIES

The basic economic activities of East Pakistan i.e. agriculture, forestry, fishery and mining, have to be seen in the context of the physical and climatic endowments. Interplay of relief features and rivers, rainfall and climate have shaped East Pakistan predominantly agrarian in her economy. Distribution of basic economic activity corresponds closely to the physiographic divisions and soil characteristics. (see an overlay of Maps 1, 2 & 3 )

By all definition and description, two crops stand out very prominently in East Pakistan: rice and jute. Of these, the former is mainly for domestic consumption while the latter is for sale and export and hence is the principal cash crop.

### Rice

The deltaic plain of rich allumium made East Pakistan a land of rice growers and rice eaters. In 1953-54 the area under rice was 22.2 million acres and the area under other staple food grains was as small as 1.4 million acres only or about 9.2% of the total cropped area.

Rice is extensively cultivated in every district of

East Pakistan and ninety-five percent of the area needs no irrigation; the harvest depends mainly on rainfall. Three crops of rice are grown in the course of a year. The most important one is called aman representing about 55% of the total cropped area of the province. The crop grows well in inundated areas of Mymensingh, Bakerganj, Sylhet, Comilla, Khulna and Rangpur. The harvesting season is winter. The second important variety is called ans representing about 12% of the total cropped area. This variety grows well on higher lands and is reaped in the autumn (July-August). Excessive rain and flood both are harmful for ans, nor can it stand saline water. The leading producing areas are the higher areas in Mymensingh, Rangpur, Jessore, Comilla and Kushtia. Per acre yield of ans, however, is lower than that of aman (aman 12 mnds/acre; ans 10 mnds/acre). The importance of ans rice lies in the fact that this crop constitutes much of the cultivators own consumption because most of the ans crop is sold for cash money.

The third variety is called boro or summer rice which represents only 38% of the total rice cropped area and one-eighth of that of ans. It is a hardy crop and thrives

well on marshy areas and depressed river courses. The normal per acre yield of boro rice is higher than the other two types (13.6 mnds/acre) and the cost of cultivation is less since little or no ploughing is involved. The leading producing districts are Mymensingh, Sylhet, Dacca, Comilla and Rajshahi.

Jute

The most important non-food crop is jute which has great significance in the economic life of the cultivator as well as of the nation. Since partition, jute has accounted for 1.6 million acres in the average, although there have been fluctuations. The area and yield figures since partition are contained in Table A-1.

Jute is by no means an aquatic plant; as a matter of fact, submergence under water for a long time during the growth is quite injorious to the plant. Jute is a rainy season crop and moist heat is most favorable for its growth. Light, silt-renewed soil is ideal for jute crops. The main jute belt seems to follow the zone of inundation where fresh loamy silts are deposited every year. Two consecutive crops of jute cannot be grown without manuring in the non-silted parts of the province. The old alluvial tract of North

Bengal and Madhur as well as the coastal area of saline formation are not suitable for jute cultivation. Thus the uneven distribution of jute crops between the districts is strictly due to geophysical preconditions. The leading districts in jute production are: Mymensingh, Rangpur, Dacca, Comilla, Faridpur. The medium producers are Rajshahi, Pabna, Bagra, Dinajpur and Jessore. Generally, jute crop produced on the Jamuna-Brahmaputra-Meghna flood plain is of finer quality while those grown in Padma flood plain are stronger but shorter, speckled and less glossy. It is apparent, therefore, that the main jute belt where total acreage under jute is as high as 25% of total cropped land, has not only a crop density, but the same area produces also the quality jute which means a higher price jute.

In 1947-48 the total cropped area (excluding fruits and vegetables) in East Pakistan was 25.9 million acres. The position of various important crops has been as follows in 1947-48 and 1960-61.

TABLE A-1

LAND UTILIZATION BY CROP TYPE

| | Distribution of Cropped Area | |
|---|---|---|
| | 1947-48 | 1960-61 |
| Total Cropped Area | 25,381,000 | |
| | percent | percent |
| Rice | 71.0 | 70.1 |
| Jute | 7.7 | 7.8 |
| Pulses | 5.8 | 5.0 |
| Rape and Mustard | 1.6 | 1.9 |
| Grain | 1.1 | 1.2 |
| Sugar Cane | .9 | .8 |
| Wheat and Barley | .9 | 1.0 |
| Tobacco | .5 | .5 |
| Tea | .3 | .3 |
| Other Crops | 10.2 | 11.4 |
| Total | 100.0 | 100.0 |

Source: Agricultural Census, 1960, government of East Pakistan.

Tea

Tea bush is native to East Pakistan and all of Pakistan's tea is produced in this province. Geographic features of Sylhet area are specially favorable to tea production and most of the country's production is concentrated there. As of 1958, there were 102 tea estates of which 88 were in Sylhet district, 13 in Chittagong district and 1 in Comilla. Establishing tea estates is a time consuming and costly affair; hence there has been very little increase in the total area under production. Total registered acreage under tea has increased from 73,376 acres in 1953 to 76,672 acres in 1958 but the average yield per acre has decreased from 7.75 mnds per acre in 1953 to 7.42 mnds per acre in 1958. Nevertheless, as of 1960 East Pakistan is the world's fourth largest producer and exporter of tea.

Sugar Cane

East Pakistan's climate and rainfall has made it a natural home for sugar cane. It is one of the few places in the world where sugar cane grows in wild form and hence indigenous varieties are still being used for producing sugar. Sugar cane is grown on all the seventeen districts but in seven districts insignificant acreage is given to sugar cane.

Usually sugar cane cultivation is favored in the northern part of the province where jute is not a prominent crop and where large single crop areas are prevalent. The domestic demand is so high that even in the jute belt considerable areas are devoted to this crop. Cane acreage has fluctuated from 214,000 acres in 1947-48 to 264,000 acres in 1954-55 and the last few years average has been 255,000 acres.

Tobacco

Though tobacco crop is small in proportion to the area it occupies, it is an important cash crop. Tobacco is grown usually on higher land having sandy loams and a little bit of irrigation facility. Four districts of Rangpur, Dimajpur, Mymensingh and Dacca are the large producers of the crops. About 75% of the annual crop is produced in these four districts.

About 77% of the total tobacco acreage of Pakistan is in East Pakistan. The northern and central part of the Rangpur district is the principal tobacco area of the province.

Large-Scale Fishing Areas

Having been endowed with a vast water network and a bay front, East Pakistan has two distinct and equally rich

fishery resources: (1) Inland fisheries and (2) Marine fisheries. The scanty information available on inland fishing indicate that commercial fishing on large scale is not prevalent in East Pakistan. Inland fishing takes place wherever rivers, ponds, streams, beels, or any other water bodies are found. But significant concentration in any one area does not seem to exist. It has been estimated that 75% of the people in East Pakistan catch their own family fish needs; the other 25% buy fish, but nearly all of it is of a fresh water origin and practically all sea fish of edille quality is available for export.[1]

According to the industrial survey report the extent and nature of marine fisheries are very difficult to estimate due to serious lack of precise information. However, it can be said without hesitation that most of the marine fishing has been concentrated near the estuaries of the Sundarban. About one third of the 2,300 sq. miles of low lying land in the Sundarban forest is always under water and provides excellent fishing resources. In addition, a coastal area of more than 200 miles along the Bay of Bengal

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[1]Arthur D. Little: Industrial Survey of East Pakistan, Final report to Planning Commission, Government of Pakistan, August 1961, p. 182.

encompassing the mouths of the deltaic rivers contains about 5000 miles of brackish water favorable for fish and shrimp. Biggest catch of shrimp and prawn is hauled in the islands of Noakhali, Hotiya, Sandwip, Ramgati and Boldia.

Forest Areas

East Pakistan has a comparatively large area of bbout 8800 sq. miles under forest. Forested areas are scattered. However, four basic forest regions are readily identifiable: (1) part of Chittagong and Chittagong Hill tracts districts (5500 sq. miles), (2) south of Khulna (the Sundarban area) (2600 sq. miles), (3) North and South Sylhet (400 sq. miles), and (4) the Madhupur area in Dacca and Mymensingh districts (300 sq. miles).

Mixed tropical forest and bamboo cover the major part of the Chittagong Hill tracts district and considerable parts of Chittagong and Sylhet districts. At present there are about 8250 acres of teak plantation in the Chittagong Hill tracts and Chittagong area. Recent plantations include soft woods designed to supply raw material for the plywood and veneer industries. Experimental planting of rubber is being carried out with some success in the same area.

The Sundarban forest, in the southern part of Khulna

district, constitutes 1/4 of the forest region of East Pakistan. Trees of Sundarban are peculiar to tidal swamps of brakish water and clayey soil. About 70% of timber and 55% of firewood of the province is provided by Sundarban (see Table A-2). Sundarban also produces a large amount of honey, wax and fish.

The forests in Sylhet, Dacca and Mymensingh districts consist of mixed deciduous forest with a predominance 'sal' in Dacca and Mymensingh. The limited amount of raw material available from these areas is too small to be important from the point of view of industrial development. The resource is however being fully utilized to meet the needs of Dacca primarily and those of the adjacent area secondarily.

TABLE A-2

ROUND WOOD EXTRACTION BY TYPE AND LOCATION 1959

| Region | Area in sq.miles | Production (in thousand tons) Timber | Firewood | Bamboo |
|---|---|---|---|---|
| Chittagong and Chittagong Hill Tract | 5519 | 54 | 169 | 83 |
| Sundarban forest | 2623 | 222 | 352 | -- |
| Sylhet forest areas | 401 | 7 | 34 | 20 |
| Madhupur forest | 338 | 22 | 66 | 1 |
| | 8881 | 305 | 621 | 104 |

Source: Industrial Survey of E.P., Arthur D. Little.

## Minerals

East Pakistan is remarkably poor in her endowments of minerals and natural gas. Since most of East Pakistan is an alluvial plain only a small amount of non-metallic minerals and natural gas are found here. The history of excavation is also short and recent.

Limestone is known to exist in Chittagong hill tracts, Sylhet and the offshore island of St. Martin's. About 4000 tons of limestone are mined annually from the quarry at Takarghat in Sylhet district. A deposit of low grade white clay has been found near Bijaypur in Mymensingh district. The estimated workable reserve is about 200,000 tons.

Think beds of high grade coal were encountered in a drill hole for oil near Bogra. The beds are thought to extend from western Bogra to Rajshahi. Peat deposits have been found in many districts but the biggest are the Boghia-Chanda 'beel' peat in Faridpur and the Kola-Mouza peat in Khulna with estimated reserves of 125 million tons and 8 million tons of dried peat respectively.

Search for oil by Pakistan Petroleum Company led to the discovery of gas fields near Haripur in 1957; at Chhatak in 1959 and at Rashidpur in 1960. All of these spots are in the Sylhet district. It is estimated that the Haripur reserve

can supply 20 million cubic feet per day for twenty years. The gas discovered so far is believed to be sufficient for commercial and domestic need of the province for a considerable number of years.

Power Areas

Indigenous power resources of East Pakistan are very limited. Commercial quantities of fuels in the form of oil, gas and coal have not yeat been extracted. Electricity production of the province is still small. In 1951 the installed capacity did not exceed 15,000 kilowatts. Even in 1953 there were only 4 power stations in the whole province having installed capacity of over 1000 kilowatts each. There were of course other power stations in other towns scattered over the province but they could hardly satisfy the domestic demand. The capacity of those stations are still not significant so far as industrial power supply is concerned.

However, during the First and Second Five Year Plans power generation has remarkably increased. New power projects have been taken up and old ones have been expanded in some cases.

The Karnafuli Multipurpose scheme popularly known as

Kaptair project is the large power development scheme. The site is about 30 miles from Chittagong and has an installed capacity of 80,000 kilowatts designed to produce 120,000 kilowatts ultimately.

In the period 1955-60 East Pakistan has been increasing the public supply capacity, mainly due to the additional steam plants at Siddhirganj (30,000 kw), Goalpara (16,000 kw) and Bheramara (8,500 kw) and diesel plant at Siddhirganj and Chittagong and Goalpara (15,900 kw). The position of power generation in East Pakistan around 1960 is summarized below:

| | |
|---|---|
| Karnafuli Multipurpose | 80,000 kw |
| Ganges-Kobadak* " | 10,000 kw |
| Siddhirganj Thermal Power | 42,900 kw |
| Chittagong " " | 7,000 kw |
| Goalpara " " | 26,640 kw |
| Pool of small power plants | 1,5000kw |
| Total | 168,040 kw |

*Although Ganges-Kobadak produces considerable amounts, it is consumed for the irrigation pumps of the projects.

Source: First and Second Five Year Plans, Planning Commission, Pakistan.

Location of Large Scale Industries

Large scale industries had been practically non-existant in East Pakistan prior to independence. Industrial development is a post-partition phenomenon. In a place like East Pakistan where roads and transport facilities, as a major infrastructure, are underdeveloped, and industries tended to locate only in those few location points where transport facility for goods (raw materials) and people as well as service facilities existed. Thus large jute industries were set up in Narayanganj (12 miles from Dacca, the provincial capital) which was a large jute collecting and baling center since the beginning of jute industry in Calcutta. Later on jute industries were opened up in Khulna and Chittagong also. Both these areas had import and export facilities - Chittagong itself an international port and Khulna enjoying proximity to the other port. Match industries and a newsprint mill located at Khulna to take advantage of the raw material from the nearby forest 'Sundarbans'. A similar thing happened in Chandraghona (near Chittagong) where a huge paper mill sprang up to take advantage of the forest resources in the Chittagong Hill tract. These initial industrial establishments spurred industrial

activity only in those three areas: Dacca-Narayanganj, Chittagong and Khulna. Of the recently established industries, the vast majority has gone to Dacca-Narayanganj, next to Chittagong and then Khulna. Of the previously existing mills, Dinajpur has the largest share of rice and sugar mills and Sylhet has tea factories (which are located right in the tea gardens). A new nucleus of chemical industry has been set up with a fertilizer factory at Fenchuganj in Sylhet district, mainly to exploit the natural gas reserve in that area. A cement factory at Chhatak in Sylhet district is utilizing the raw material brought from Assam (India). Bogra is also coming up with cigarette industry in response to the tobacco grown in the adjacent district.

Purely exclusively industrial towns are hard to find in East Pakistan. Setabganj (Dinajpur district), Darsana (Kushtia district), Nalchiti (Bakarganj district), Fenchuganj and Chhatak (Sylhet district) and Changraghona (Chittagong district) are very small towns and are perhaps the only example of towns where factory and mill production are found to be the main activity. Modern industry of some status in the form of jute presses, cotton mills, sugar

factories, rice mills, oil presses and engineering works has localized in many places like Kushtia, Barisal, Chandpur, Saidpur, Dinajpur, Mymensingh, but those are not significant concentration.

Ports

East Pakistan has two international ports: Chittagong and Chalna. Both of them got overnight importance. As a result of the partition of the sub-continent Chittagong, so long a subsidiary outlet of Bengal, was called upon to handle the entire seaborne trade of jute from East Pakistan. So long neglected and uncared for, Chittagong neither had the capacity nor the resources to handle the sudden increase in the maritime commerce. In order to avoid delay in consignments and disgust of the shippers, an anchorage at Chalna was opened up to share the strain.

The port of Chittagong is located nine miles inland on the right bank of Karnafuli river in the south-eastern part of the province (in Chittagong district). It is adjoined with the city of Chittagong where population has increased from 100,000 in 1947 to 300,000 in 1960.

The port has 13 permanent berths with a continuous jetty face of 7,000 feet. In addition there is a modern

passenger terminal and two-bounded warehouses having approximately 550,000 square feet of covered storage.

Downstream there are light jetties, moorings, pontoons, and privately owned jetties and oil tankers.

The port was built by the railroad and all facilities have convenient railroad service. Paved roads offer good access to all port installations.

Chalna port was initially an anchorage and later declared as a port. Chalna port is serving ocean shipping for export and import and is located 60 miles inland on Pusur river, an estuary leading from the Bay of Bengal. There is no city adjoined it - the nearest city is Khulna, 32 miles up the same estuary. The ports' main offices, the custom office, the main post and telegraph office, shipping offices and the banks and insurances serving the port are all located at Khulna.

Port facilities and operation are of very simple nature. There are only five moorings; otherwise ships anchors are used. While loading and unloading ship's gears are used. Ships up to 650 feet can be handled and as many as 21 ships have been in the anchorage at one time. Up to 1000 tons per ship per day have been handled. It is worth mentioning here,

however, that import is limited through this port. Most of them are bulk commodities owned by the government. The only public facility for reception of goods in Khulna area is the Roosevelt Jetty. Built by the U.S. Army during World War II, the jetty consists of heavy duty concrete hardstand on 1050 feet of waterfront, but is in a bad state of repair.

The land south of Khulna is quite low, only two to three feet above the sea level. Much of the land area below Khulna remains submerged during the monsoon. Any major construction of roads or railroads between Khulna and Chalna has not yet taken place.

Transportation

Geographic features and natural settings have combined in such a way in East Pakistan that the area has become one of the most difficult regions in the world to have an assured transportation round the year. The problem seems acute when seen in the context of modern modes of transportation. The numerous rivers and their channels provide a limited but circuitous means of travel and communication by water but are barriers to land transportation. In the estimation of the Transport Survey Team (u.S. Corps of Engineers),

"Less than 10% of the villages are accessible by land while a majority of them can be reached by water".[1] Due to the constant silting of the river channels many villages are accessible only during the 3-4 months of annual flood season.

Transportation facilities range from head basket, ox-carts, hand propelled boats to airplanes. The majority of the passenger travel and commodity movement is inadequately served by outmoded, worn out and uncoordinated facilities. In many parts of the province especially in the northeast, central and south, headloads, ox-carts and country boats are the means for millions to bring their rice to the local rice mills, their raw jute to local collecting points and their other merchandise to the local market.

In spite of the geographic limitations, existing transportation system has provision for all kinds of transportation mode i.e. water-transport, land-transport and air-transport, in varying extent though.

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[1]Department of the Army, Corps of Engineers: Transportation Survey of East Pakistan, Vol. 1, 1961, p. 3.

Water Transport (see Map 6)

From time immemorial the area of East Pakistan has enjoyed an excellent system of waterways. The many rivers and streams which meander throughout East Pakistan provide an intensive natural network of waterways and as such these waterways provide the primary means of transportation even today. It is estimated by the Transport Survey Team that "In an average year, the length of the inland navigation system plied by the large peddle-wheeled steamers and other mechanically propelled vessels varies from about 2500 miles in the dry season to 3300 miles in the monsoon period."[1] In addition, numerous small channels and drainage canals are used by man-powered country boats requiring depths of as little as two feet - in this category are included hundreds of miles of tidal creeks especially in the south of Khulna district.

The major waterways connect the five major inland ports like Dacca, Narayanganj, Chandpur, Barisal and Khulna, as well as hundreds of secondary and minor inland ports and ghats like Bhairab Bazar, Ashuganj, Narsingdi, Shirajganj, Goalundo, etc. Above all, the waterways serve the deep-sea

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[1] Ibid, Chapter 1, p. 5.

ports of Chittagong and Chalna.

Difficulties encountered by water transport are the meandering and braiding tendency of the large main streams and rivers and their distributary channels. At present there is very little accurate data on the 2300 miles of waterways that are usable in both the seasons. The tendency of the channels to shift from year to year has discouraged inquiry, but lack of organization and equipment probably has been the major deterrent.

Wooden country boats, ragging from about 5 passenger capacity up to about 100 tons cargo capacity comprise the principal category of craft plying the inland waterways of the province. Privately owned steamers and motor launches, Inland Water-Transport Authority owned mechanized vessels are the other crafts serving the province.

Rail Transport (see Map 7)

Railway has played a vital role in the life and economy of the country. About 75% of the organized inter-city transportation volume of the province is handled by railway; most of the remainder being carried by inland water transport operators.

East Pakistan Railway transportation system named

Pakistan Eastern Railway (PER) with its headquarters at Chittagong is nationally owned and controlled. The system consists of 1712 miles of route generally running north and south as do the major waterways. East-west routes run into large numbers of sizeable rivers which require costly bridges and ferries. There are 546 miles of broad-gauge track (all in western part of the province) and 1146 miles of meter gauge (in the eastern and northern part) and 20 miles of narrow gauge exists in the southwest. In the judgement of the Transport Survey most of the road beds and track lack adequate ballast and need replacements of sleepers. The rails are badly worn and light-weight. Two ferry crossings are operated by railway on Jamuna river and involve complicated operations and change of gauge at one of the crossings. Thus the river works as a great barrier in the easy flow of communication between the eastern and the western parts of the province.

In general the transport equipment is in old and poorly maintained condition - reduced carrying capacity and high operating costs are the results. Inadequate carrying and storage capacity of the transportation modes handicaps distribution. Producers are known to limit production because of the fear of damage and delay in reaching markets.

Physical shortcomings, inadequate speed, lack of transfer of connecting facilities add to the general inadequacy of the system. One of the troublesome spots according to the Transport Survey Team is at Chittagong where transportation facilities cannot expedite the movement to other distribution points.

Highway Transportation (see Map 8)

The major highway network with Dacca as the provincial capital and the hub of economic activity consists of segments which will cover about 2500 miles when completed. Approximately 1000 miles of motorable roads are now in existence with only one lane surfaced. According to the best estimates of the Transport Survey Team, there are approximately 2700 miles and 4200 miles of secondary and feeder roads respectively. But many of these are primitive trails and non-motorable.

The present highway system is of short segments radiating from the principal centers of population and economic activity. In most cases connections between the centers do not exist except in dry season. The only exception is Route No. 1 which starts from Cox's Bazar in the southeast and runs up to 50 miles east of Dacca through

Chittagong and Comilla. In fact this is the only highway of considerable economic importance.

From Dacca a major road runs northwesterly 60 miles to Tangail and thereafter to Mymensingh totalling a distance of 125 miles in single lanes. In western direction from Dacca another newly constructed road leads to Arieha on the bank of Jamuna river. A ferry connects this road to the other side of the river from where the road continues west to Pabna, Rajshahi and then through Bogra to Rangpur and Dinajpur districts in the northwestern part of the province. Through the western districts a nor-south route under construction for many years connects the major populated areas of Khulna in the south and Dinajpur district in the extreme northwest except for a major crossing at the Ganges river.

Thus, apparently, the trunk roads and the major roads provide a fairly good network of road transportation. But unlike any other country in the west, the highways are neigher used very much by private automobiles and trucks nor are there significant public transportation facilities on them. "With less than 15,000 registered motor vehicles in the province in 1961, only a very small percentage of

total population of more than 50 million is being accomodated by automobile highway equipment."[1] Moreover, these major roads are not well integrated with the secondary and feeder roads. In the secondary roads and feeder roads the traffic pattern is rendered cumbersome and hazardous by slow moving oxcarts and hundreds of thousands of pedestrians who have no altervative but to use these because of the adjacent terrain being subjected to high water levels.

Suffice it to say that the trunk roads do not contribute much to the economy of the province. An overlay of the bus-route map on the trunk/major road map will point out that the trunk routes in most cases are not the bus routes. The bus routes do not help interconnecting the major centers of economic activity. They connect the towns, if at all, with their surrounding regions (see Map 10). In East Pakistan buses are of growing importance to the economy of the country. There is a steady increase in the number of passengers carried by buses because of time convenience. But in most cases they are the only choice, not a competitive alternative. However, buses now create no

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[1]Ibid., Vol. II, p. 237.

long haul competition with the railroads. As of now, trunk roads narrow by themselves combined with ferries across several unbridged rivers cannot be expected to contribute to the long range bulk transport.

Air Transportation (see Map 9)

The even topography and climate pose no difficulty for air transportation. East Pakistan's main airports are at Dacca and Chittagong. The Transport Survey Team holds that "seven other airfields are suitable for aircraft of the DC-3 category although one is not being used because of lack of demand and the others need resurfacing."[1]

Pakistan International Airlines (PIA), a government sponsored organization, operates flights between Karachi, Lahore and Dacca and within the province between Dacca, Chittagong and Jessore and five other centers (Comilla, Sylhet, Shamsernagar, Cox's Bazar, Ishurdi) with air-bus services. There are scheduled flights from Dacca to Calcutta and from Chittagong to Rangoon. Recently PIA has taken a bold examplery project of connecting some distant areas with the capital reducing the time requirement by as much as

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[1]Ibid., p. 12.

1/40th of the previous travel time. This has been done by a subsidized helicopter service program. Thie program has been quite successful in 1963-64 serving the businessmen, government officials on tour and others requiring speed in transportation. It is quite understandable that limited capacity and cost will always be a menace for air transportation to become mass transport media. Because of low personal income, there is no mass demand for air transportation of passengers. However, air transportation service plays and will continue to play a significant role in the disseminating information both public and private.

Conclusion

East Pakistan has a land area of about 55 million acres of which only 21 million acres are regularly used for crop production. It is estimated by the industrial survey team that an additional 4.7 million acres of cropland, which is not available for cultivation now, could be redeemed.

Although temperature does permit year-round production of crops, at present only 15-25% of the total crop lands are being double cropped. According to agriculture experts, most of the crop yields, which are no among the lowest in the world, could be increased by as much as 100% through

the use of balanced commercial fertilizer, good seed, chemical insect-disease control and improved cultural practices.

Sizeable areas in the Chittagong Hill Tracts support a considerable but uneconomic vegetation growth. With proper care and management, the forest resources could be developed to provide raw material for industry and create other employment opportunities.

The period of growth of jute coincides with that of autumn rice and both the crops prefer the relatively higher lands. This conflict in land use is generally resolved in favor of jute. As a result the jute belt is rendered a rice deficient area.

The spectrum of economic activities is dominated by agriculture, fishery and forestry. Mining is negligible. Manufacturing, industry and services are of recent origin and as such they rank lower in terms of employment. Their location has not been the product of inter-regional competition in all cases. Tea factories, match factories, the paper mill and the newsprint mill are surely raw-material oriented, but the jute mills, the largest section of industry, are obviously infra-structure oriented. Most of

the jute mills are located outside the jute belt. Even those inside the belt, are concentrated in the southeastern corner of the belt (see Maps 3 and 5). The location of jute mills is primarily a result of government decisions which were instantaneously followed by private decisions. In a situation where availability of infra-structure was a perennial problem, industries were set up where best set of infra-structure was available. This was done for the quick utilization of raw material that was awaiting to be used. Locational advantages were probably minor considerations. Consequently industrial enterprises have concentrated in Dacca-Narayanganj, Chittagong and Khulna. Outside these areas there has been no significant concentration of manufacturing and industrial activities. As a whole the location of the industrial activities do not constitute dominant elements in the entire landscape.

Power areas have not influenced industrial location. Rather on the contrary, the present industrial location pattern has influenced the layout of the power distribution grid (see Maps 4 and 5).

Each of the several transportation sub-systems has developed largely without reference either to attain optimum

efficiency within itself or to optimize the overall economic effort in the province. The non-integrated and rigid character of transportation and the outdated mode of transport (country boats) leaves millions to relative isolation and thereby poses great obstacles to raising the standard of living, education and production.

A distinct pattern of relationship between the different kinds of economic activity is yet to emerge. In spatial terms, the economy of East Pakistan is loosely integrated. As a result the spatial structure of the economy is weak.

## III. URBANIZATION IN EAST PAKISTAN

Urbanization is said to be taking place when the proportion of total population residing in places defined as urban is rising at a faster rate than the average rate of population growth of the nation. Therefore to understand the process of urbanization in East Pakistan, it is necessary to look at the overall demographic picture of the province and compare the rate of growth of the entire province with that of the urban areas.

Population of East Pakistan grew from 33.3 million in 1921 to 35.6 million in 1931 and to 41.9 million in 1941. The 1951 census counted the population of the province at 41.9 million which shows that there was no change in the total population during that period (see Table A-3). It has to be noted here that 1941 figures are not reliable for two reasons: (1) due to World War II there was lots of chaos and confusion in the administration and record keeping of government around that period is questionable and (2) at the time of 1941 census political passion among the Hindus and Muslims was running high all over Bengal and both the communities tried to inflate their population figures in

order to get as much area as possible in their respective homelands. Moreover, there were net population losses for East Pakistan in 1944-45 due to a famine and again in 1947 at the time of partition of the sub-continent. The partition caused an exchange of population involving emigration of 3 million Hindus from East Pakistan only partly compensated by the immigration of less than a million Muslims.

Therefore, partly because of the unreliability of 1941 figures and partly because of the unusual phenomenon in the decade of 1941-51, the demographic picture of the period should be ignored. However, 1951 census figures are quite reliable and therefore the population increase between 1951-61 can be taken into account. In 1961 population figures for the province stood at 50.8 million. This means an increase of 21% over the 1951-61 decade at 2% per annum. This rate of increase, when compared with the annual rate of increase observed in the previous increases at twenty year intervals (see Table A-3), shows that population has increased at a much faster rate in the last decade than before. The long range trend is one of increasingly faster rate of population growth.

TABLE A-3

URBAN AND RURAL POPULATION OF EAST PAKISTAN 1901-1961

| | Numerical Distribution (000's) | | | Distribution % | | | % Increase | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | Rural | Urban | Total | Rural | Urban | Total | Rural | Urban |
| 1901 | 28,928 | 28,226 | 702 | 100 | 97.5 | 2.5 | -- | -- | -- |
| 1911 | 31,555 | 30.748 | 807 | 100 | 97.4 | 2.6 | 9.1 | 8.9 | 14.9 |
| 1921 | 33,254 | 32,376 | 878 | 100 | 97.3 | 2.7 | 5.4 | 5.3 | 8.8 |
| 1931 | 35,604 | 34,528 | 1,076 | 100 | 96.9 | 3.1 | 7.1 | 6.7 | 22.5 |
| 1941 | 41,997 | 40,460 | 1,537 | 100 | 96.3 | 3.7 | 17.9 | 17.2 | 42.8 |
| 1951* | 41,932 | 40,112 | 1,820 | 100 | 95.6 | 4.4 | .2 | .9 | 18.4 |
| 1961* | 50,840 | 48,200 | 2,641 | 100 | 94.8 | 5.2 | 21.2 | 20.1 | 45.1 |

*Figures for 1951 and 1961 exclude non-Pakistanis.

Source: Census of Pakistan, 1961, Vol. 2.

Note to Table A-3: As a general rule, all municipalities and town committees, civil lines, cantonments and any continuous collection of houses inhabitated by not less than 5000 persons were treated as urban areas. In addition, such places were treated as (1) centers of trade and commerce with a population mainly non-agricultural, (2) centers of population with a markedly high literacy rate and, (3) concentration of population in continuous collection of houses where the community

sense is well developed and community matinains public utilities such as roads, lights, water supply and sanitation.

TABLE A-3[1]

POPULATION INCREASE IN EAST PAKISTAN 1911-1951

| | % Increase | Annual rate of increase |
|---|---|---|
| 1911-31 | 13 | 0.7 |
| 1931-51 | 17 | 0.9 |
| 1951-61 | 21 | 2.1 |

As is apparent in Table A-3, the proportion of urban and rural population in 1951 was 4.4% and 95.6% respectively and in 1961 it stood at 5.2% and 94.8% respectively. According to the census definition there were 64 towns or urban units in 1951 and in 1961 the total figure came to 78. Due to the development of trade and commerce and industrial investment during the last decade a number of spots in the province which were formerly classified as rural, have developed urban characteristics. These areas have been declared urban after local investigation and discussion with the local administration. Thus the increase in both the

number of urban agglomeration and the increase of population living therein have built up a steady but slow process of urbanization in East Pakistan. A similar impression is formed when we look at the rate of growth in the urban population alone. In the last decade the rate of growth in the urban sector has been more than double the rate of total growth of the province. Although this is noteworthy by itself, the pattern is not significantly different from the previous decades (see Table A-3).

Urbanization as a Process Industrialization

Urbanization is closely linked with industrialization. It is both a cause and an effect of industrial growth. Although generally it is said that industrialization is an urban phenomenon, for East Pakistan the reverse can be said to be true that urbanization is an industrial phenomenon. In fact it is the industrial investments that are beinging about urbanization in the province such that a close correlation can be drawn between industrialization and the concomitant urbanization.

Until very recently, East Pakistan was a raw material supplier to the Calcutta market. There was very little industrial activity in the East Pakistan region. Modern

industry made hardly any progress and industrial investment depended on the desire and convenience of the foreign investors rather than on intrinsic geographical and related forces. Thus, lack of organized industry, unsteady commercial advantages, serious problems of transportation and communication generally retarded any rapid urbanization in the province.

With the launching of the First Five Year Plan the track for industrialization was laid. Subsequently, the Second Five Year Plan almost tripled the industrial investment over the levels of the First Plan. This commitment of the government to the industrial development of the province has simultaneously committed it to a process of urbanization.

Due to the uneven distribution of roads and other transportation facilities, new factories and mills are clustering around only a few of the existing towns and cities to take advantage of a better infra-structure. The direction of industrial location is of increasing concentration in 2 or 3 urban centers, namely Dacca-Narayanganj, Chittagong and Khulna. This is spelled out in the Second Plan and restated by Eddison...."Of the 119 private sector industrial projects

sanctioned for the Second Five Year Plan period, 35 are to be located in Greater Dacca, an equal number to be established in Chittagong, and the remaining 49 are to be distributed in the rest 15 districts of the province."[1] What is more important is that the bigger industries will be located in the two major cities. Consequently, remarkable growth has been taking place in those three cities primarily than in others (see Appendix A-I). Khulna topped the rate of growth with an increase of 203% in the period 1951-61. Doubtless, this colossal explosion of the city has been contingent upon government and private decisions to locate an anchorage (30 miles from the city), a ship yard, a newsprint mill, jute mills and match factories. A brief comment may be made here that although the other district towns do not offer as great locational advantage as Khulna, a substantial number of them enjoy considerable advantage to sustain major industrial complexes. Similar things happened at Narayanganj also where a huge jute manufacturing complex has been initiated and consequently

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[1]Eddison, John C.: Industrial Growth and Urban Land Requirements, The Pakistan Development Review, Vol. III, No. 4, Winter 1963, p. 552.

the city has experienced a tremendous boom. Although the city of Chittagong itself has not experienced a significant growth, the adjacent areas of the city are rapidly becoming urbanized.

Overall Pattern of Urbanization

In 1951, there were only two cities with population of 100,000 or more; they were Dacca and Chittagong. In 1961, the number of cities having population of 100,00 or more increased to 4. The two upcoming cities are Khulna (203% increase) and Narayanganj (123% increase). The size distribution of the cities and towns in East Pakistan are given below:

TABLE A-4

CITY SIZE DISTRIBUTION

| Category | Size | 1951 | 1961 |
|---|---|---|---|
| I | 100,000 and over | 2 | 4 |
| II | 50,000 - under 100,000 | 3 | 5 |
| III | 25,000 - under 50,000 | 15 | 15 |
| IV | 10,000 - under 25,000 | 21 | 23 |
| V | under 10,000 | 23 | 31 |
| TOTAL | | 64 | 78 |

Source: Census of Pakistan, 1961, Vol. 2, East Pakistan Population.

Of the three cities in category II in 1951, one moved up the ladder and the other two did not change their status, rather they experienced absolute decline in their size in the past decade. However by 1961, this group was joined by three others from category III.

In category III, although the total number has not changed in the decade, we have already noted that three have moved up to category II, one to category I. This upgoing of 4 towns was exactly offset by upcoming of 4 other towns in this category.

A similar thing happened in category IV which lost 4 towns in category III but was joined by 6 other towns from the lower category.

Of the total urban population more than 45% live in the four big cities. The number of people living in the moddle-sized cities (50,000-100,000) are relatively small. But the number of people and the percent of total urban people living in the towns (25,000-50,000 and 10,000-25,000) are quite significant (see Table A-5).

Growing and Declining Towns (see Map 12)

Although there has been no dramatic change in the total number of cities in each category in the last decade, there

has been considerable upward movement of few cities. At least 12 towns have moved up the ladder. Others maintained the status quo (see Appendix A-I). But this is an over-simplified statement so far as the identification of growing and declining centers are concerned. It is important to note that in the status quo group some are actually declining either absolutely or in relative terms. Because of the wide range this does not show up as a deterioration. Similarly there are at least 3 towns which have moved up the ladder with a very small margin but in fact have grown at a lower rate than that of East Pakistan and hence are virtually declining centers.

In respect of growth and decline, there is a wide variety observed in East Pakistan - cities of different sizes have experienced growth and in fact no correlation can be drawn between city-size and growth. However, only those centers are identified as growing centers which have shown an increase of over 45% since 1951. (45% is the average rate of growth of urban population in 1951-61). The number of fast growing areas are however limited. Rapidly growing as well as declining centers have been shown in Table A-6 and Table A-7 respectively. (See Map 12 also).

Future Trend and Discernable Direction of Urban Growth

Urbanization in East Pakistan has just started with an industrial economy at its base. Previously the urban centers were not a product of industrial activity. In most cases they were superimposed administrative centers. Even the big cities and towns were like islands in the vast rural atmosphere. Lack of organized industry, unsteady commercial advantages and lack of economic opportunities, had not offered enough attraction to the rural surplus labor. As a result cities were only consuming centers and static in their character.

The industrial program of East Pakistan has given birth to new centers of production. Due to this change in the economy, considerable change in the spatial structure is taking place. Importance of transportation routes is changing - volume of goods as well as the direction is changing. New collecting and distribution points are coming up and some of the old ones are d ing out.

Nevertheless, the growth is eccentric. Only few centers have experienced accelerated growth. In addition to their previous function, these few cities have become the prime generators of East Pakistan's young urban economy. The

magnitude of growth in the urban-industrial centers certainly reverses the overall impression of slow rate of urbanization in East Pakistan. Although the percentage of population moving to the urban places is still not phenomenally alarming, it is high enough to produce a very fast rate of urban growth when combined with the predominantly agricultural structure of the economy. It is believed in some sections that the rate of urbanization will slow down in future because of increased investment in agriculture (fertilizer application, irrigation, reclamation). But it is strongly arguable that with the improvement of agriculture larger number of people will be released from the land. In land hungry East Pakistan reclamation will never be so large as to absorb the huge rural surplus labor. On the other hand, with increased literacy and improved transportation rural exodus will only be natural.

At any rate the Third Five Year Plan will see the emergence of a new level of industrial and hence urban development in East Pakistan. The Third Plan as well as the Perspective Plan (1965-85) for the province includes provision of large scale expansion of industry. This, together with the growth in trade, commerce and administration will

give rise to rapid urbanization. The forecasts indicate that "By 1985 total population of the province might reach 110 million and urban population might shoot from 2.7 million to 25 million over this period."[1] The growth of cities could be even greater. Eddison estimates that about 400,000 industrial jobs will be created in 1965-70 period. In addition to these industrial jobs three times these numbers of workers will be generated in trade, transport, construction and services. "If a ratio of 25% or nne manufacturing job to three non-industrial jobs, is assumed for towns in East Pakistan during the Third Plan, the non-industrial urban jobs will be 1,200,000 and the total urban employment created will be 1,600,000 jobs."[2] If it is further assumed that 25% of the job holders will be unmarried or live without their families and the rest have an average size of 5 persons, the total number of new city dwellers will be 6.4 million in the period 1965-70.

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[1]Government of Paksitan: Proposed Urban Development Authority for East Pakistan, Physical Planning and Housing 17, Planning Commission, Government of Paksitan, No. SI, Karachi 1964.

[2]Eddison, John C.: Industrial Growth and Urban Land Requirement, The Pakistan Development Review, Vol. III, No. 4, Winter, 1963, p. 551.

If the present trend continues, urbanization will not extend beyond its present geographical limitation. As a result Dacca-Narayanganj, Khulna, Chittagong will be flooded with industrial job seekers and their dependents and all the urban problems will multiply to an unforeseen magnitude.

TABLE A-5

URBAN POPULATION BY SIZE, EAST PAKISTAN

| Size | 1951 Population | | | 1961 Population | | |
|---|---|---|---|---|---|---|
| | Number | % of total | % of urban | Number | % of total | % of urban |
| Total | 1,819,773 | 4.4 | 100 | 2,640,726 | 5.2 | 100 |
| 100,000 and over | 625,909 | 1.5 | 34.4 | 1,210,941 | 2.4 | 45.9 |
| 50,000-99,999 | 218,669 | 0.5 | 12.0 | 295,209 | 0.6 | 11.2 |
| 25,000-49,999 | 493,941 | 1.2 | 27.1 | 544,111 | 1.1 | 20.6 |
| 10,000-24,999 | 325,403 | 0.8 | 17.9 | 384,988 | 0.8 | 14.6 |
| 5,000-9,999 | 130,004 | 0.3 | 7.1 | 167,818 | 0.3 | 6.3 |
| under 5,000 | 25,847 | 0.1 | 1.4 | 37,659 | .1 | 1.4 |

Source: Census of Pakistan, Vol. 2, East Pakistan, Population 1961.

TABLE A-6

RAPIDLY GROWING TOWNS, EAST PAKISTAN 1951-61

| | Population 1951 | Population 1961 | % Increase |
|---|---|---|---|
| Dacca city | 335,928 | 556,712 | |
| Narayanganj city | 68,373 | 162,054 | |
| Chittagong city* | --- | 364,205 | |
| Khulna city | 41,409 | 127,970 | |
| Jessore municipality and cantonment | 23,876 | 46,366 | |
| Bhairal Bazar municipality | 11,822 | 31,749 | |
| Lalmouirhat town | 9,073 | 22,001 | |
| Naogaon town | 11,248 | 20,276 | |
| Bagerhat municipality | 7,368 | 16,398 | |
| Feni municipality | 4,929 | 9,817 | |
| Nilphamari town | 5,277 | 9.757 | |
| Jhenaidah town | 4,558 | 9,055 | |

Source: Census of Pakistan, Vol. 2, East Pakistan Population 1961.

*Population for 1951 not available.

TABLE A-7

DECLINING TOWNS, EAST PAKISTAN 1951-61

| | Population 1951 | 1961 | % Decrease |
|---|---|---|---|
| Barisal municipality | 89,278 | 69,936 | 21.7 |
| Saidpur municipality | 61,018 | 60,628 | 0.6 |
| Parbatipur town | 32,410 | 27,188 | 16.1 |
| Bajitpur municipality | 13,105 | 12,097 | 7.7 |
| Thakurgaon town | 9,849 | 7,039 | 28.5 |
| Debhatta municipality | 5,461 | 4,042 | 26.0 |

Source: Census of Pakistan, Vol. 2, East Pakistan Population 1961.

Cities and Towns of East Pakistan and Their Areas of Influence

Nature's role in the shaping of the physical environment is distinct in East Pakistan. Geography and climate conditioned the economy of the country and the economy has structured the physical environment in its own natural way. East Pakistan's agrarian economy combined with its conservative social outlook has given it a distinct pattern of rural settlements. Until partition, the towns of East Pakistan were not the consequence of economic activity. They were

mostly superimposed administrative centers mainly concerned with the collection of revenues and taxes, regulative land holdings as well as trying petty civil and criminal cases.

In the undivided Bengal, 6% of the total population lived in towns of 5000-20,000 and only 2% lived in towns of 20,000-50,000. There were only three cities of more than 100,000 population in undivided Bengal; of these only one has come to East Pakistan's share. The only other city of considerable size that came to East Pakistan's share was Chittagong, which then had a population of 53,000.

Even in 1951, Dacca and Chittagong were the only two cities having population over 100,000 (Dacca 338,762 and Chittagong 294,046). By 1961, because of industrial investments, two other cities came up with populations of over 100,000; they are Narayanganj (162,054) and Khulna (127,970). Khulna is a sub-divisional headquarter, a district headquarter, as well as a divisional headquarter; while Narayanganj is only a sub-divisional headquarter. Narayanganj is only 10 miles from Dacca and in fact both Dacca and Narayanganj can be said to constitute one metropolitan region. Next to these, there were five cities with population more than 50,000 but less than 100,000 in 1961. They are: Barisal (69,936), Saidpur

(60,628), Rajshahi (54,504), Mymensingh (53,256) and Comilla (54,504), (see Map 11). Of these Barisal and Saidpur belonged to the same status in 1951; only three urban places have come up to the medium size category since 1951. Thus it is clear that large cities are few and the number of medium sized cities is equally small. In fact two of the previously existing medium size cities have experienced absolute decline in size (see Appendix A-I). The declining medium sized cities are: Barisal and Saidpur. Both of these towns declined due to a change in direction and emphasis of transportation lines. Barisal and Saidpur were important stations on the way to Calcutta. But after partition movements of goods and people to and from Calcutta diminished and eventually these cities are declining. The role of Barisal has been taken over by Khulna.

Areas of Urban Influence

Studies of area under urban influence in western countries is facilitated by the availability of precise data covering many characteristics of population both demographic and economic. Moreover, availability of such data as the volume of retail and wholesale trade, receipts from services, value added by manufacturing activity, rental values, number of

professional workers, newspaper circulation, specialized service area, radio and television audiences and the volume of telephone calls, makes such studies more scientific. Unfortunately, as is expected, no such data is available for East Pakistan. The available information covers only few items on demographic characteristics plus one item on economic characteristics i.e. ratio of population depending on agricultural and non-agricultural activity.

It is quite natural to hypothisize that in East Pakistan where large rural populations depend on primary activities and where urban rural differences are sharp, the zone of urban influence may best be studied by regarding it as including those areas adjacent to contiguously built up area which demonstrates the physical, economic and demographic characteristics of an urban region. Information on physical condition of housing structure is available but this proves to be unusable. Because of the lack of any building code, even the biggest city, Dacca, is found to have large numbers of rural type houses. Then there is a remarkable difference in the physical character of the urban areas in the south than those in the north. Because of the relative absence of indigenous building material i.e. bamboo, wood poles and

thatch, the urban areas in the north, which are not growing very fast, have more brick-built structures than in the south. On the other hand Khulna has the highest rate of growth in the province andis certainly more urban than any other city in the north yet was found to have one of the poorest housing score in the province. Due to the abundant supply of indigenous building material, from Sundarbans, large numbers of rural type housing are found right in the city let alone the vicinity. Hence physical condition of houses and other structures is partly a function of availability of building material and not of urban influence.

On the other hand, it has been observed that there are large areas fairly close to the city and hence supposedly an active hinterland, yet isolated and tied to agriculture and barter type economy like many points lying at great distances from the city. Under such circumstance urban influence is a function of accessibility and transportation. In East akistan there are quite a number of areas considerably close to the city yet not at all oriented towards the urban economy simply because of non-accessibility. Seasonal character of transportation ease (in monsoon more areas are accessible by privately owned country boats than in winter),

rigidity of public transportation (bus and train launches) all add up to circumscribe the expansion of urban influence.

Concentration of specialized services like newspaper, television, radio, specialized professional services makes the boundary of urban influence fuzzier. On the other hand, the thread of interdependency is nebulous. Fruits, vegetables and fish come to the cities from far and wide places.

Presence of physical amenities e.g. electricity, telephone, water and sewerline and asphalt roads drops off at the municipal boundary line.

Consequently, the study of areas of urban influence was terribly limited. No other choice was left but to use the demographic data. It was decided that the following items on demographic factors would be the best indicators of urban influence:

(1) Density of population

(2) Predominance of males over females

(3) Proportion of literates

(4) Proportion of non-agricultural activity

To observe the changing degree of urbanization, data were plotted on maps on thana levels (the lowest administrative level) on the first three items. The fourth item was plotted

on sub-division level because no further breakdown was available. The average for East Pakistan for each item was taken as the mean point and deviations from this point were plotted in different shades representing average, below average, above average and well above average values. These maps were overlaid on a map showing transportation lines. Where high urban index-value areas coincided with intensively used and multiple transportation lines, those areas were judged to be the areas of urban influence (see Map 13).

However it has to be admitted here that because of the high dependence on demographic data the picture revealed here does not truly reflect interdependence with an urban center. It is merely suggestive of the character of urban influence that might be discovered if more adequate data were at hand.

Changes in the Economic Pattern

It has already been indicated that at the time of partition, East Pakistan had very few industries since the region was a hinterland for Calcutta. The first few years of independence were spent in managing the diverse problem of an independent existence. However with the adoption of the First Five Year Plan, Pakistan made its first systematic attempt

towards planned economic development. Although the first decade of independence has seen some progress, the pace of development got accelerated only at about the end of the first plan period. The number of industrial units more than doubled(from 776 in 1957 to 1650 in 1959-60). The types of industry also increased from 21 to 55 in the same period. It is encouraging to note that investments are increasingly being shared by the private sectors. The industrial estates as well as small and chemical industries are being financed almost wholly by the government while private sector possess some of the larger industries such as food manufacturing, basic metals, machinery, transport and non-metal, textile and electrical goods.

Growth of industry is being documented by a parallel growth in power supply. As a matter of fact power supply is doubling every five years.

While in 1947 there was not a single jute mill in the province, in 1960 fifteen jute mills with 8000 looms were producing 250,000 tons of jute goods. At present jute and jute goods (manufactures) constitute more than 80% of the province's exports and is the major foreign exchange earner of Pakistan. In 1960 about 60,000 persons were directly

engaged in the industrial production of jute. This figure is expected to rise to 90,000 by the end of the Second Plan period 1960.

Cotton textiles also have shown considerable rise in production since 1947. Specially after 1957 yarn production has doubled and has in fact eased the enormous demand of the handloom industry which is the largest cottage industry of theprovince.

The production of matches has boomed 25 times since Independence. In 1960, 19 match factories produced 9.3 million gross boxes. Some of these were exported after meeting the country's demand.

For fuller and better utilization of forest resources, the Forest Research Institute and the Forest Industries Development Corporation have been established. Consequently new industries using forest resources are coming up, viz. paper, newsprint, plywood, packing wood, pencil, and as such are meeting the major demands of the country.

Of the domestic product of the province agriculture counts for 65%. Cultivation of rice and jute are by far the most important items of agriculture followed by tobacco and sugar cane. Rice is the main item of food of the East

Pakistanis; hence the fulfillment of the provinces food requirements depends on the production of rice. The production has been more or less steady since 1947 (8 million tons a year) and the estimated deficit is about 800,000 tons a year which is met by import from West Pakistan and foreign countries. The rate of population increase (about a million a year) has alarmed the government and consequently food production has the top priority in government planning. By 1965 rice production is expected to rise by about 30%. If successful East Pakistan will have a surplus of 1.6 million tons of rice to export. Indication of success is already there - last year (1964) East Pakistan had surplus rice to sell to India and Ceylon.

Mustard and rape seed oil are the only cooking oil used in East Pakistan. But unfortunately the production of the seed is about half of the requirement. The deficit is made up by importing oil seeds and oil from outside; whereas the oil seed crushing capacity of the province is more than double of the oil seed produced within the province. The Second Five Year Plan however envisages a 50% increase in oil seed production. In the same period a 100% rise is expected in potato production and 10% in other winter crops.

For the diversification of the use of staple food, wheat production and thereby bread eating is being increased four-fold during the Second Plan period.

Changes in Export and Import

Export from East Pakistan has always exceeded her imports except the year 1958-59. The export boom in 1951-52 was mainly due to jute export as necessitated by the Korean War.

The present volume of sea-going trade is 3 million tons, a rise three times since 1950. It is very fortunate to note trade between East and West Pakistan has increased more than three times in the last ten years, strengthening the bond of economic integration between the two provinces. Exports from East to West Pakistan have risen from a mere 5% in 1950-51 to 33% in 1959-60, a rise more than 6 times; the chief items are jute manufactures, paper and newsprint, betel leaves, tobacco, tea, hides and skin, matches, plywood.

In 1950-51 imports from foreign countries were goods worth RS. 39 crores (71.6 million dollars) and those from West Pakistan were worth RS. 25 crores (52.6 million dollars). The situation reversed after 10 years. At present East Pakistan imports more from West Pakistan (55%) than from

foreign countries. Total imports have doubled in the past decade but imports from West Pakistan have more than doubled while imports from the foreign countries have risen only by 25%. The principal items of import are: cotton and woolen textile, shoes, fruits, cement, and edible oil from West Pakistan and machinery and capital goods, drugs, medicine, fuel, food grains from foreign countries.

By and large, the natural setting has rendered East Pakistan predominantly agrarian in her economy. As of 1961 94% of East Pakistan's population live in rural areas and 85% of the labor force depend on agricultural activities for their livelihood. The rest of the labor force (15%), however, depend on non-agricultural activities. As a result 65% of the provincial income of East Pakistan was still being derived from agriculture (see Tables A-8 and A-$8_1$). However, the industrial sector contributed 10% to the total income of the province in 1960 and the industrial sector consisted mainly of small scale enterprise. In her export sector East Pakistan depends mostly on agricultural raw material, primarily jute and tea which constitute about 70% of the total export. Turning to the industrial sector, one observes that large scale industry occupies less than half of total

TABLE A-8

STRUCTURAL CHANGES IN EAST AND WEST PAKISTAN

| | 1951-52 | | 1959-60 | |
|---|---|---|---|---|
| | E.Pak | W.Pak | E.Pak | W.Pak |
| Agriculture as % of regional income | 68 | 50 | 65 | 46 |
| Industry as % of regional income | 7 | 8 | 10 | 15 |
| Large scale industry as % industry sector | 15 | 41 | 43 | 72 |
| Export as % of regional income | 12 | 10 | 9 | 6 |
| Primary export as % of total export | 100 | 86 | 70 | 33 |
| Urbanization as % of total population | 4.4 | 17.8 | 5.2 | 22.5 |

Source: The Strategy of Economic Planning, Mahbubul Haq. Oxford Univ. Press, Karachi 1963, p. 105.

TABLE A-8$_1$

DISTRIBUTION OF CIVILIAN LABOR FORCE (10 yrs. and over) EAST PAKISTAN 1961

| | Millions people | Percentage |
|---|---|---|
| Total civilian labor force | 17.4 | 100.0 |
| Cultivators | 14.6 | 83.7 |
| Other agriculturists | .2 | 1.5 |
| Non-agriculturists | 2.6 | 14.8 |

Source: Census of Pakistan 1961, Vol. 2.

industrial income.

Something needs to be siid about the method of production of the biggest sector of regional income, i.e. agriculture. Agriculture is traditional and labor intensive. Except for tea which is grown on estates by hired labor, all other crops are grown on small family type farms. More than 50% of the holdings are less than 2 acres in size and 75% of them are less than 5 acres. Although it is generally felt that 4 to 8 acres are required to provide full employment for a farm laborer in East Pakistan, there is an average of only 2 acres of farm land per worker. In respect of tenure, 75% of the cultivators are farm owners of some sort, 10% are farm tenants and 14% are landless laborers. Due to the Muslim law of inheritance, fragmentation of land holding is continuing and is worsening the tenure pattern.

Such organizational practices discussed above have resulted in low agricultural productivity in East Pakistan. While agricultural production has increased greatly throughout the world in recent years, there has not been sufficient food to meet even local requirements in East Pakistan and imports have been regularly required. It will not be an exaggeration to say that the condition of the farmer is deplorable. They

have inadequate storage facility, limited capital, meager cash resources, frequently indebted, disorganized and ignorant. These handicaps cause them to depend on a quick turnover of few crops they have for sale. Due to primitive transport media (slow moving country boats) and limited transport facility prices vary widely in the rural and urban areas; middlemen make high profit and an estimated 60% of all agricultural produce is consumed on the farm without entering the commercial market.

Analysis of all the trends in agriculture and industry indicate that East Pakistan is still overly commited to agriculture for its sustenance, employment and export. East Pakistan's economy is less diversified and far more vulnerable to fluctuation in world market than that of West Pakistan. East Pakistan's industrialization is rudimentary, her monetization limited, and her financial super-structure inadequate.[1] In the last decade (1950-60), there has been a very modest structural change in the economy of the province. By the end of the Second Plan Period (1965), structural change is expected to be noticeable. Unfortunately no complete

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[1]Hag., Mahbubul, The Strategy of Economic Planning, Oxford Univ. Press, Karachi, 1963, p. 106.

evaluation of the Second Plan periods development has yet been done. However, agriculture is most likely to remain at the base of the economy of the province in the foreseeable future, even after considerable transformation to increased industrial activity.

## IV. MAJOR FLOWS IN EAST PAKISTAN'S ECONOMY

A study of the flows in economk must include primarily a study of the movement of goods and people. This involves (1) migration and movement of population both rural to urban and rural to rural and (2) external and internal flows of commodity.

### Migration and Population Movement

For the long time past it was widely held that East Pakistanis are usually 'stay at home' types of people. They do not take easily to town life nor even to migration to other rural areas. This was manifest in the fact that movements of colonization outside have been rare in their past history. But the discussion of urbanization in East Pakistan tends to disprove this belief because the discussion of urbanization is fundamentally a discussion of net rural to urban migration which shows an increasing trend. The inference of rural to urban migration from the increment in excess of the average growth can be taken to be valid because the rate of reproductive change is not very different in rural and urban areas. In the urban areas death rates may tend to be lower because of better medical

services but the birth rates also tend to be somewhat lower than the rural areas so that the growth from reproductive changes is roughly the same. Therefore, if there was no rural to urban migration, very little urbanization would take place as a result of vital process alone. The fact is well supported by Donald J. Bogue's study of urbanization and migration in India where it is held that...."in many epochs of history, and probably in many Asian cities, there would be a net decline in urbanization if vital processes alone were at work."[1]

It has already been shown that in the last decade East Pakistan's urban population increased by 45% while the total growth of the province was 21% and that of the rural sector was 20% only. This represents the phenomenon of urbanward migration but does not show the direction.

To determine the direction of movement demographic data of the 1961 census were consulted. The census provided the information on the place of birth, in the vertical axis, and place now living, in the horizontal axis. Thus the rows and columns meant migration from and to respectively. Place of birth was grossly lumped into districts while the

[1]Bogue, D.J. and Zachariah, K.C.: Urbanization and Migration in India; India's Urban Future, ed. R. Turner, Univ. of Calif. Press, 1962, Berkeley, Los Angeles, p. 28.

place of residence had two more breakdowns i.e. districts as well as the important urban centers. This kind of data break-down, though precise in volume, provides only very general direction of interdistrict movements which can be called rural to rural. However, rural to urban movement can be traced more precisely and definitively because the place of residence axis contained columns for the big cities. But again there was no way to find out the movement from urban to urban because there was no row for cities and towns in the 'place of birth' axis (see Appendix A-II). However, general direction of urban to urban migration might be discernable from an overlay of Map 12 (showing the growing and declining centers) or Map 14 (showing internal migration). As the data is provided in the census, usually out-migration from small towns are included in the district total. Under such circumstances, if a district having significant out-migration is found to have a declining urban center also; in that case the direction of the cityward migration from the district may be considered to be the direction of movement from its urban area also. At this stage of data availability there is no way to check it, nor can the volume be determined.

Net internal migration in the last decade was derived by subtracting 1951 figures from those of 1961 in each box which represented migration. Some amount of migration was found between all the districts. For the sake of convenience and clarity of representation and maping the minor ones were omitted as insignificant taking into account only those cases which represented migration of 10,000 people or were in the period 1951-61. Thus a map of internal migration is prepared showing volume and direction of population movement. Direction is shown as (1) cityward and (2) inter-district (see May 14).

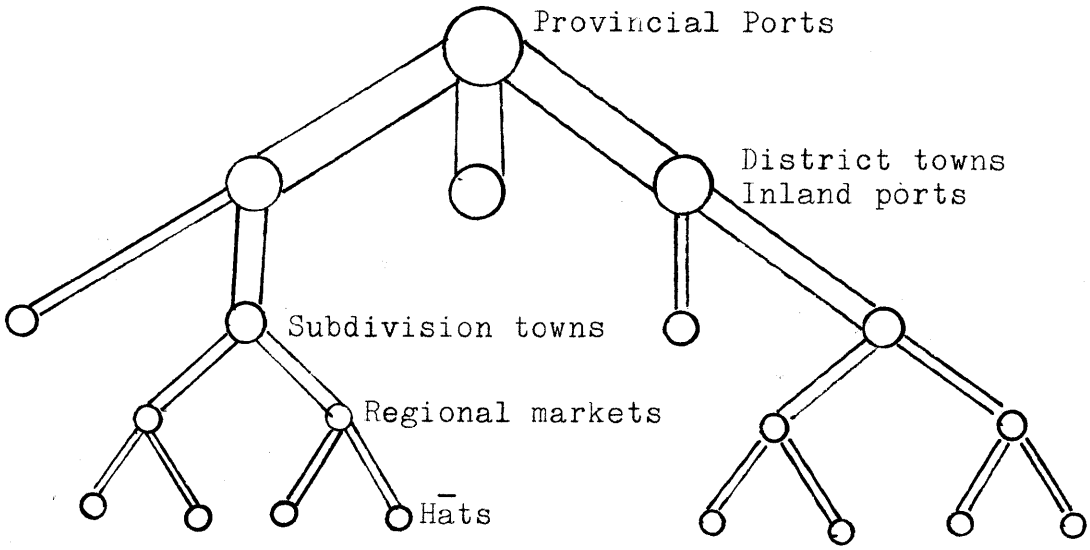
Commodity Flow (see Map 15)

The total sphere of commodity flows encompasses three distinct types of commercial activity: (1) trading activity involving the exchange of agricultural raw materials and commodities for internal consumption i.e. rice, pulses, oil seeds, sugar and gur, tobacco, etc.; and (2) internal distribution of imported materials such as cotton goods, sugar, grain and flour, coal, mineral oil, metals, machinery and other consumer goods that originate outside the province; and (3) collection and movement of raw materials of agricultural or quasi-agricultural origin mainly for export. This

activity involves the movement of few but bulky items as jute, tea, hides and skin. Since the third aspect of internal commodity flow is concerned with export, it is reasonable to treat it under a sub-chapter as external commodity flows. We shall call the other two as internal commodity flow.

1. There is a year round movement of such articles of rural origin as rice, pulses, handloom fabrics, pottery, spices, fish, jaggery and cattle from one place to another. The transaction is carried on bi-weekly or weekly at rural markets called hats which are held at approachable points like river bank, road head, railway stations all over the countryside. The sizes of the hats vary from as small as fifty persons to several hundred or more. In a way these markets shift from one place to another round the week or fortnight. One and the same grocer or artisan may be found to sell his commodity in two different places on two different days of the week. In the same way the cultivator villager also may have access to two or three hats in a week to sell his commodity and buy his own requirements. (These hats though neither collecting points nor distribution centers as such, they may be called the end point of distribution and

the initial channel of collection. The following schematic diagram may help to explain the structure.)




2. In rural East Pakistan there is very little distribution trade. Shops and warehouses are practically non-existent in East Pakistani villages. Import commodities after entering the province are primarily distributed to the inland ports or other transport junctions - from there goods are carried to other district or sub-division towns. The next point of distribution are the regional markets from where commodities infiltrate to the hats for the final consumption.

External Flow of Commodity

Jute plays a predominant role in the total external

flow of commodities. Therefore the flow of jute deserves an elaborate discussion. Partly because of the non-integrated character of the transport network and partly because of the predominance of the primitive mode of transport, the movement of jute from the grower to the maunfacturer or shipper takes place in three stages: The first is from the village to the primary assembling market. At this stage, Professor Ahmed observes "Three-quarters of the marketable jute is sold by the growers at their own doors, while one-fifth is sold by them in the primary markets or hats."[1] The second stage involves transfer of the fiber either from the door of the grower or from the primary markets to the secondary markets many of which are baline centers. These secondary markets are actually collective centers where material flow converges from many primary markets.

In the next stage jute is pooled to the terminal market from all different collecting centers. From the terminal market jute goes either to the local manufacturer or for baling and export. At present Chittagong, Narayanganj and Khulna

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[1]Ahmed, Nafis: Economic Geography of East Pakistan, Oxford University Press, London, 1958, p. 251.

have assumed this role.

The movement of hides and skin, the other export items, also follows the same pattern - from the rural areas to the collective centers. A large proportion is transported (partly treated) to Chittagong for export. The rest find their way to the local industries.

In the case of tea, packing in chests is done right in the factory and then sent to Chittagong through the nearest railway station.

By now, it is quite apparent that in the external and internal commodity flow channels there are hierarchies in the hub of the transaction activity both in collection and in distribution. At the lowest order are the local hats which are neigher collecting centers nor distribution points as such but may be called the end point in the distribution channel and the initial point of collection channel. The hats are so numerous in the country because of their size and character that the determination of the volume of commodity is an impossible task. Nor is it so needed for our purpose. Therefore attempt is made to determine the volume of flow to and from the secondary collection and distribution centers. It follows from the discussion of the

process of collection and distribution of commodities that the channels of collection and those of distribution are the same. But unfortunately two-way flow is not possible to show. The transportation survey, the only available material in the topic, has records of only the total traffic volume. Thus the commodity flow map which has been prepared reflects a combined flow of commodities to and from the ports and the collecting and distributing points. It has to be admitted here that the available information on movements of commodities is obviously incomplete. The passenger-launch companies have recently grown up and hence the cargo and passenger handled by these launches are scanty and fragmentary. The greatest unknown quantity is the country boat cargo. "This was so huge and voluminous", reads the transport survey report, "that it had defied analysis in a general or fragmentary way."[1] However, to estimate the magnitude of cargo moved by boats, a one-week survey[2] was

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[1] Dept. of the Army: Transport Survey of East Pakistan, Corps of Engineers, 1961, Library of Congress Cat. No. 62-60054, p. 58.

[2] This was a survey by IWT of launches and country boats at five inland ports: Dacca, Narayanganj, Chandpur, Barisal and Khulna on a 24-hour basis for 7 days. Number of

done at the major inland parts: Dacca, Narayanganj, Chandpur, Barisal and Khulna (see Appendix A-III). The results of the one-week survey indicate that the cargo carried by country boats is about four times the tonnage hauled by the East Pakistan mechanized IWT and more than that hauled by the PER including the Indian transit traffic. However, some valuable conclusions were derived from the country boat surveys: (1) the major inland ports receive goods from larger areas but distribute to fewer (an average of 310 stations involved on the incoming traffic and 170 on the outgoing), and (2) incoming traffic is about twice as great as outgoing traffic (tonnage received is always greater than tonnage forwarded). This indicates higher rate of consumption in the larger centers than their levels of production and distribution for the large rural areas. If the above conclusions are assumed to be a cross section of the entire commodity flow structure of the province, then we can say that the sort of thing is happening in the recorded IWT cargo and PER cargo.

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passengers and the weight and type of commodity were recorded along with their origin and destination. Passenger in country boats turned out to be relatively low in number. "The gross

To discuss the volume and direction of the flow, it is convenient to start at the entrance and exit points of commodities; they are the two ports of East Pakistan - Chittagong and Chalna. At Chittagong total tonnage handled increased rapidly from 322,228 tons in 1947-48 to 2,643,127 tons in 1959-60. Chalna was put into operation in 1950 and handled a cargo of 886,627 tons in 1959-60. Of the combined tonnage Chittagong handled 75% and Chalna 25%. But there is an imbalance in the structure of the total tonnages handled by each port. In 1959-60 Chittagong handled over 89% of the imports to East Pakistan and about 44% of the exports, whereas the corresponding percentages for Chalna are 11% and 56% respectively (see Table A-9). Thus Chittagong has an imbalance of exports over imports and Chalna has an imbalance of imports over exports. Chalna is quite deficient in imports. Whereas Chalna has better prospects of handling more imports to the area west of Jamuna, which is about 4% of the total provincial area. The area is difficult to be served by Chittagong port because the river is not bridged

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tonnage received and forwarded from the five ports was indicated 64,871 tons during a weeks operation. Traffic between the five ports was 7,500 tons or about 12% of the total traffic. If one half of this, 3,750 tons, is deducted to

and the gauge west of the river is different from that of the east, necessitating ferrying and lots of cross handling.

The dispatching of the import tonnage and gathering of the export tonnage in 1959-60 was performed through the following distribution:

| | Chittagong | | Chalna |
|---|---|---|---|
| | Export tonnage % | Import tonnage % | |
| Rail | 43.0 | 60.0 | |
| IWT | 22.0 | 2.5 | All tonnage handled by IWT. |
| Truck | 35.0 | 16.0 | |
| Total tonnage | 496,936 | 2,146,191 | |

Direction of IWT Cargo

The largest tonnage handled by IWT is in the direction of Narayanganj to Chalna via Chandpur, Barisal and Khulna. Jute and jute goods are taken to Chalna for export and enormous amounts of coal, coke and oil are brought from Chalna to Khulna and then up to Narayanganj. Huge tonnage of rice

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avoid duplication, a weeks country boat traffic was 61.121 tons. Multiplying this by 52 weeks, a year's traffic at the ports would be 3,178,000 tons. The size of traffic not measured would include traffic between sources and consumers at other ports, inland and otherwise....and many small

also follow the same route towards north for the rice deficit areas. The other tonnage volume was made of wheat from Chalna to Khulna and Gewa wood from Sundarban to Khalispur (Khulna).

Direction of PER Cargo

Jute constitutes the largest export tonnage. About 90% of the jute exported through Chittagong port is carried by railway from baling centers located at Narayanganj, Dacca, Ashuganj, Chandpur, Chittagong, Bausi, Sarisabari, Gauripur, Santahar, Jaipurhat, Saidpur, Dinajpur, Geibanda, Rangpur. Next railway cargo movement consists of movement of rice from the surplus districts Dinajpur, Bogra, Rajshahi, Khulna and Sylhet to the rice deficit areas e.g. Faridpur, Pabna, Dacca, Noakhali, Comilla.

East Pakistan's import is bigger than export. 89% of imported goods are dispatched through Chittagong and 60% of them are transported through the railway; hence the cargo density through the railway should represent the biggest share of the commodity flows in East Pakistan. In this

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collection and distribution points and traffic between such distribution and collection points. Additionally only about 11,000 cargo country boats made their appearance, whereas there are known to be over 100,000 of such boats. On the other hand over one half of the commodity traffic shown on

respect the map is in a better position to explain more than words. Obviously the section between Chittagong and Bhaisal bazar represents the heaviest section. Next in the intensity is the section between Narayanganj to Tongi. The other important section is from Darsana to Santahar. This flow line when seen in conjunction with the busiest Rhy Station will provide with an adequate picture of commodity flows.

(A brief remark needs to be made about the flow line and large handling centers. Chittagong and Khulna both include local and export-import figures. The same is true of Darsana, Chilhati, Mogalhat with an additional factor of Indian cross traffic i.e. those traffic originating in India and moving across East Pakistan to Indian territory again.)

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the tabulation was food stuffs and building material which would be destined mainly for the large centers. It is concluded that the total of this traffic must be at least two times that measured.", Transport Survey of East Pakistan, Vol. 2.

TABLE A-9

STATIONS HANDLING FIVE MILLION MAUNDS AND OVER
1958-59

| | Mnds | Tons |
|---|---|---|
| Chittagong (including port strand road and ctg. station) | 46,478,509 | 1,707,374 |
| Darsana | 28,694,217 | 1,054,073 |
| Dacca-Tajgaon | 12,228,917 | 449,226 |
| Khulna | 11,064,886 | 406,465 |
| Narayanganj | 10,043,860 | 368,958 |
| Chilahati | 8,792,623 | 322,994 |
| Mogulhat | 7,240,032 | 265,960 |
| Ishurdi | 7,156,112 | 262,878 |
| Chandpur | 5,429,172 | 199,439 |

Source: Transport Survey of East Pakistan, Vol. II, U.S. Corps of Engineers, Dept. of the Army

## V. BROAD INCOME REGIONS OF EAST PAKISTAN

Delineation of income regions in East Pakistan is by far the most difficult job. There is a serious lack of data on economic aspects of East Pakistan. Data on annual income of families or individuals is totally absent. Under the circumstances delineating the income regions would be largely subjective. The following assumptions seem logical for the purpose:

(1) The larger the city the higher is the income

(2) The more urbanized a region, the higher is the income

(3) The more industrialized a region, the higher is the income

(4) The more commercialized is the agriculture, the higher is the income

(5) The more rapid is the population increase, the higher is the income.

Assumption No. 1 has some limitations due to its ambiguity. It is quite reasonable to argue that larger cities would have higher income. Does it necessarily

imply that the income level would fall off at the boundary line of the city or can it be assumed that higher level of income moves along the area of urban influence. If city limits are taken as the high income limits then the income region in East Pakistan would be exceedingly small because there are only four large cities covering only a few square miles. A large city may have a small area while on the other hand a small town might have large administrative boundary. Thus the data plotted on a map might become misleading. A second order city may show a larger area of income than a first order city. Of course there will be a difference in shade - one showing high income the other middle income and a third one lower income.

Data plotting on assumptions 2, 3 and 5 is relatively easier. Census data provides the rate of growth of the total as well as the urban population on thana levels. To find out three status values of each thanas, the figures on each item were classified into average, above average, high above average representing low, medium and high income regions respectively.

The degree of industrialization is estimated by the observing the ratio of non-agricultural employment. The

areas having high non-agricultural activities are more industrialized. Here also data for thanas were classified as average, above average, high above average representing low, medium and high income regions respectively.

Determination of the degree of commercialization of agriculture posed another problem. The agricultural census of 1960 does provide some information on the acreage under commercial crops, vegetables and fruit cultivation. But this information is broken down only on district level. District wide plotting of data is very misleading. District is too big a place to uphold the precise location of commercial agriculture.

Since just is the leading commercial crop, the jute belt may be called the income belt. Elsewhere, beyond the jute belt, the acreage for jute may be considered as an index of commercialization of agriculture. The problem of plotting data on the district level is encountered here again.

A final map of income region was prepared out of the previous four. Each subdivision was given a grade point for scoring on income according to the four assumptions. Score of individual subdivisions added up and the final grade

given (5 points for high, 4 for medium and 3 for low). The result is contained in the Appendix and the map is prepared on the basis of final score.

As is obvious, the map shows that high income is limited to the big cities only and since the city data is represented in the subdivision the entire subdivisions containing the big cities (Dacca-Narayanganj, Chittagong and Khulna) show up as the high income regions. The jute belt represents medium income and the rest of agricultural areas represent low income (see Map 16).

PART-B

## VI. INTRODUCTION

Pakistan is on the threshold of the Third Five Year Plan, another milestone in the path of economic progress and the march towards greater welfare. The successive five year plans surely indicate the nation's effort to reach the goals of progress and happiness. How far the plans have been successful in achieving the goals remains an open question. "Today", remarks President Ayub, "we look back on the progress made in the years of the Second Plan and given heart-felt thanks for what has been achieved and say ardent prayers for the years ahead when the Third Plan will be in operation and the country will be advancing into the future with fresh hopes and aspirations."[1]

Pakistan's commitment to planned economic development is manifest in her successive launching of the Five Year Plans. What is more significant to note is the strategy that has been followed in the course of development. The period to period change in sectoral allocation documents the nations effort to get increasingly industrialized.

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[1] Govt. of Pakistan; Outline of the Third Five Year Plan.

Inspiration to such effort is gathered from the bold and straightforward statement of the President when he says.... "the need of the hour is to move speedily towards a progressive, technological, industrialized society."[1] The point of view is claimed to be a product of experience, of trial and error and not a fanciful slogan. In the beginning, Pakistan, like many other newly emancipated Afro-Asian nations,could not find a readymade technique for development planning, nor could it apply any of the growth theories right away. After considerable groping in the darkness, Pakistan seems to have discovered a pursuable path well suited to its development landscape.

The frame of reference of Pakistan's Third Five Year Plan is her long term economic, political and social objectives. The Plan is claimed to have been tailored according to the availability of expected resources and the need for internal consistency. The strategy of the Third Plan is decided upon by the lessons learned from the development under the First and the Second Plans. The strategy is aimed at the targets set for the next 20 years under the perspective plan (1965-85).

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[1]Govt. of Pakistan, Planning Commission, Outline of Third Five Year Plan, p. IV.

Long Term Perspective and the Strategy of the Third Plan

The Third Plan is the first step towards achieving the goals of the perspective plan. The explicit goals of the perspective plan are:

(a) A near-tripling of the GNP from about RS. 44,000 million in 1965 to about 145,000 million in 1985.

(b) Provision of full employment to labor force.

(c) Parity in per capita income between East and West Pakistan.

(d) Universal literacy.

(e) Elimination of dependence on foreign assistance.

Considerable changes in the sectoral composition will be necessary for meeting the growth targets. Sectors which offer greater possibilities of quickly increasing their output are planned as the leading sector. Hence, manufacturing, mining, construction and transport sector are emphasized. On the other hand, agriculture is expected to grow more slowly and its share is likely to decline. The service sector is intended to grow in line with the national income and thus remain constant as proportion of GNP over the period. Obviously the major exchange of share will be from agriculture to industry and mining. The changing

structure of GNP and their sectoral composition are shown in Tables B-1 and B-2 respectively.

The strategy followed in the balance of payments is one of heavy stress on export earning and massive import substitution, especially of capital goods. The export sector is expected to grow faster than the growth rate of national income. Domestic manufacture of machinery and equipment is intended to rise quickly while imports of this type is desired to increase much more slowly.

In the employment strategy, it is expected that there will be about 4.5 million additional jobs by the end of the Third Plan. Of these about one million will be in manufacturing section, 1.8 million in services, 1.3 million in the newly irrigated and improved agricultural land and about 0.4 million in rural works programs.

One of the pronounced objectives of the perspective plan is to eliminate regional disparity in per capita income and overall development of East and West Pakistan. This implies that the rate of growth would have to be accelerated in East Pakistan while the rate in West Pakistan would be maintained at the current level.

In the allocation strategy, the plan has followed a

distinct development philosophy. The central bias of the plan is contained in the prefacing statement of the vice-chairman of the Planning Commission:

> "In our approach to the composition of the program, we have tried to emphasize selectivity. Our resources, human and material, are too meagre to allow us to spread development too thin. We are, therefore, subjecting our projects to the closest scrutiny in order to have only those which have the highest economic justification in terms of our objectives. We are concentrating on a number of growing points with a view to spreading development without sacrificing economic efficiency. And we are putting special emphasis on industry, the most dynamic sector in our economy and the one most likely to spread new techniques and attitudes which are at the heart of the development process. It is in this sector that we hope for the decisive breakthrough. Within the industrial sector itself, the major emphasis must be placed on capital goods industries."[1]

The implication of the Third Plan strategy for economic change and urbanization in Pakistan as a whole and, more precisely, in East Pakistan is discussed in the following chapter.

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[1]Ibid., p. viii.

TABLE B-1

SECTORAL ALLOCATION IN THE THIRD PLAN (IN MILLIONS OF RUPEES)

| | Proposed Allocation | | | 2nd Five Year Plan Estimated | % Increase of 3rd Plan Over 2nd |
|---|---|---|---|---|---|
| | Govt. Sector | Private Sector | Total | | |
| Agriculture | 4340 | 2000 | 6340 | 2940 | 116 |
| Water and Power | 8630 | 300 | 8930 | 4640 | 93 |
| Industry | 4750 | 8300 | 13050 | 5800 | 125 |
| Fuels and Minerals | 900 | 750 | 1650 | 860 | 92 |
| Transport and Comm. | 5870 | 3100 | 8970 | 4440 | 102 |
| Physical Planning and Housing | 2740 | 3150 | 5890 | 3850 | 53 |
| Education | 2740 | 300 | 3040 | 1080 | 181 |
| Health | 1180 | 40 | 1220 | 510 | 133 |
| Manpower Social Welfare | 350 | 60 | 410 | 80 | 412 |
| Works Program | 2500 | | 2500 | 800 | 213 |
| TOTAL | 34000 | 18000 | 52000 | 25000 | 108 |

Source for Tables B - 1 through B-7 :
Outline of Third Five Year Plan
Planning Commission
Govt. of Pakistan

TABLE B-2

SECTORAL PRIORITIES IN DEVELOPMENT EXPENDITURE, 1950-70
(Percentages)

| Field of Development | Pre-Plan 1950-55 | 1st Plan 1955-60 | 2nd Plan 1960-65 | 3rd Plan 1965-70 |
|---|---|---|---|---|
| 1. Agriculture | 6 | 7 | 12 | 12 |
| 2. Industry, Fuel and Materials | 36 | 31 | 27 | 29 |
| 3. Water and Power | 13 | 17 | 19 | 17 |
| 4. Transport and Communications | 14 | 17 | 18 | 17 |
| 5. Physical Planning and Housing | 22 | 20 | 15 | 11 |
| 6. Education | 5 | 6 | 4 | 6 |
| 7. Health | 3 | 2 | 2 | 2 |
| 8. Manpower and Social Welfare | 1 | -- | Neg. | 1 |
| 9. Works Program | -- | -- | 3 | 5 |
| | 100.00 | 100.00 | 100.00 | 100.00 |

TABLE B-3

REGIONAL DISTRIBUTION OF PUBLIC SECTOR ALLOCATIONS
(MILLION RS.)

| Sector | E. Pakistan Allocation | % | W. Pakistan Allocation | % | All Pakistan total | % |
|---|---|---|---|---|---|---|
| 1.Agriculture | 2,230 | 12.5 | 2,110 | 13.2 | 4,340 | 12.8 |
| 2.Water and Power | 3,870 | 21.5 | 4,760 | 29.9 | 8,630 | 25.4 |
| 3.Industry | 3,120 | 17.4 | 1,630 | 10.1 | 4,750 | 14.0 |
| 4.Fuels and Minerals | 480 | 2.7 | 420 | 2.6 | 900 | 2.6 |
| 5.Transport and Communications | 3,050 | 16.9 | 2,820 | 17.6 | 5,870 | 17.3 |
| 6.Physical Planning and Housing | 1,440 | 8.0 | 1,300 | 8.1 | 2,740 | 8.0 |
| 7.Education | 1,475 | 8.2 | 1,265 | 7.9 | 2,740 | 8.1 |
| 8.Health | 640 | 3.5 | 540 | 3.4 | 1,180 | 3.5 |
| 9.Social Welfare | 110 | 0.6 | 90 | 0.6 | 200 | 0.6 |
| 10.Manpower | 85 | 0.4 | 65 | 0.4 | 150 | 0.4 |
| 11.Works Program | 1,500 | 8.3 | 1,000 | 6.2 | 2,500 | 7.3 |
| TOTAL | 18,000 | 100.00 | 16,000 | 100.00 | 34,000 | 100.00 |

TABLE B-4

CHANGING STRUCTURE OF GNP, 1965-85
(Million RS.: 1964-65 Prices)

| Sector | 1965 | 1970 | 1985 | Annual Growth rate, 1965-85 % |
|---|---|---|---|---|
| 1.Agriculture | 20,900 | 24,150 | 44,950 | 3.9 |
| 2.Mining | 130 | 190 | 730 | 9.0 |
| 3.Manufacturing | 5,620 | 8,950 | 31,860 | 9.1 |
| (a)Consumer Goods | (3,920) | (5,870) | (16,320) | 7.4 |
| (b)Intermediate Products | (1,400) | (2,430) | (10,540) | 10.6 |
| (c)Investment Goods | (300) | (650) | (5,000) | 15.1 |
| 4.Public Utilities | 190 | 260 | 1,000 | 8.7 |
| 5.Construction | 1,950 | 2,690 | 8,400 | 7.6 |
| 6.Transport and Communications | 2,710 | 3,930 | 12,760 | 8.0 |
| 7.Other Services | 12,500 | 16,830 | 45,300 | 6.6 |
| | 44,000 | 57,000 | 145,000 | 6.2 |

TABLE B-5

SECTORAL COMPOSITION OF GNP, 1965-85
(Percentages)

| Sector | 1965 | 1970 | 1985 |
|---|---|---|---|
| 1. Agriculture | 47.5 | 42.4 | 31.0 |
| 2. Mining, Manufacture and Utilities | 13.4 | 16.5 | 23.2 |
| 3. Construction | 4.4 | 4.7 | 5.8 |
| 4. Transport and Communications | 6.2 | 6.9 | 8.8 |
| 5. Other Services | 28.5 | 29.5 | 31.2 |
| TOTAL | 100.00 | 100.00 | 100.00 |

TABLE B-6

STRUCTURE OF EMPLOYMENT, 1965-85
(Million Man-years)

| Sector | 1965 | 1970 | 1985 | Annual Growth rate, 1965-85 % |
|---|---|---|---|---|
| 1. Agriculture | 18.00 | 19.30 | 26.30 | 1.9 |
| 2. Mining | 0.02 | 0.02 | 0.05 | 4.7 |
| 3. Manufacturing | 3.20 | 4.15 | 8.05 | 4.7 |
| (a) Consumer Goods | 2.50 | 3.20 | 6.00 | 4.5 |
| (b) Intermediate Products | 0.50 | 0.67 | 1.32 | 5.0 |
| (c) Investment Goods | 0.20 | 0.28 | 0.73 | 6.7 |
| 4. Public Utilities | 0.02 | 0.03 | 0.05 | 4.7 |
| 5. Construction | 1.80 | 2.30 | 4.85 | 5.1 |
| 6. Transport and Communications | 1.10 | 1.45 | 3.50 | 6.0 |
| 7. Other Services | 5.06 | 6.45 | 13.70 | 5.1 |
| TOTAL EMPLOYMENT | 29.20 | 33.70 | 56.50 | 3.4 |

TABLE 3-7

TARGETS OF AGRICULTURAL PRODUCTION FOR THE THIRD PLAN

| Crop | Bench Mark Production | | | Third Plan Target of Production | | | % Increase Over B.M. Production | | |
|---|---|---|---|---|---|---|---|---|---|
| | E.Pak | W.Pak | Total | E.Pak | W.Pak | Total | E.Pak | W.Pak | Total |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | In Thousand Tons | | | In Thousand Tons | | | | | |
| Rice | 9,300 | 1,300 | 10,600 | 11,600 | 1,800 | 13,400 | 25 | 38 | 26 |
| Wheat | 30 | 4,300 | 4,330 | 55 | 5,250 | 5,305 | 83 | 22 | 23 |
| Minor Food Grains | 20 | 1,275 | 1,295 | 29 | 1,530 | 1,559 | 45 | 20 | 20 |
| Total Food Grains | 9,350 | 6,875 | 16,225 | 11,684 | 8,580 | 20,264 | 25 | 25 | 25 |
| Sugarcane | 4,300 | 16,500 | 20,800 | 7,362 | 20,440 | 27,802 | 71 | 24 | 34 |
| Gram and Pulses | 275 | 750 | 1,025 | 430 | 935 | 1,365 | 56 | 25 | 35 |
| Oilseed | 136 | 1,112 | 1,248 | 221 | 1,412 | 1,633 | 63 | 27 | 31 |
| Fruits and Vegetables | 2,500 | 1,600 | 4,100 | 3,160 | 2,100 | 5,260 | 27 | 31 | 28 |
| | IN THOUSAND BALES | | | | | | | | |
| Jute | 6,600 | -- | 6,600 | 8,000 | -- | 8,000 | 21 | -- | 21 |
| Cotton | 18 | 2,200 | 2,218 | 24 | 2,976 | 3,000 | 33 | 35 | 35 |
| | IN MILLION POUNDS | | | | | | | | |
| Tea | 62 | -- | 62 | 79 | -- | 79 | 27 | -- | 27 |
| Tobacco | 65 | 150 | 215 | 92 | 194 | 286 | 42 | 29 | 33 |

## VII. IMPENDING CHANGES IN ECONOMY OF EAST PAKISTAN

In Chapter III we discussed the major structural changes in East Pakistan's economy, mainly since the time of partition to the present. The changes can very well be said to be brought about by the impact of the First and Second Five Year Plans. In fact, the results of the Second Five Year Plan is yet to be evaluated to be complete. The Third Five Year Plan is coming into operation next year (1965-66). In this Chapter I shall discuss the impending changes in the economy of East Pakistan that will directly flow from the sectoral allocation of the Third Five Year Plan.

The sectoral allocation of the Third Plan is primarily based on the development philosophy and strategy discussed in the previous chapter. While the total development expenditure will be increased by 108%, the industrial sector is projected to increase by 125% (see Table B-1). This emphasis has special implication for East Pakistan. Of the total public expenditure for industry, about 65% is allocated for East Pakistan (see Table B-3). Looking at East Pakistan alone, industry accounts for 17% of the total public sector allocation, while agriculture occupies 12%. The higher

public investment in industry in East Pakistan is necessitated by the relative paucity of enterprenurial leadership and private capital in the province and the objective of achieving a parity in the industrial development of the two provinces. The changes in the sectoral allocation will have direct bearing on the employment structure also.

On the basis of agricultural development programs, i.e. irrigation, desalinization, reclamation, fertilizing, etc., an additional 1.3 million jobs have been projected. Although the agricultural extension program is not fully relevant for East Pakistan, the province is sure to get at least half of the projected employment. Most of the additional employment will probably occur in the areas to be brought under double cropping that are now being single cropped. According to Dr. Haq's[1] estimate, agricultural employment will rise from 7.7 million in 1965 to 8.5 million in 1970. In absence of detailed programs of agricultural development it is not possible to estimate which division of agriculture will generate most of the employment opportunities.

If the targets of the Third Plan are attained, East

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[1]Dr. Haq is the author of "The Strategy of Economic Planning," a case study of Pakistan, 1963.

Pakistan will become more than self-sufficient in the production of food crops. The agricultural production target also indicates that the cash crops which received little attention in the past will experience accelerated growth in the Third Plan. Thus agricultural production will see more diversification (see Table B-7).

Increased use of improved seed, fertilizer and plant protection, productivity will increase and this will hopefully increase the income of the farmers.

Significant changes are likely to take place in the non-agricultural side of the economy specially in industry and services. A sharp acceleration in East Pakistan's industrial activity is promised by the allocation in the industrial sector which is 295% larger than the estimated actual investment during the Second Plan. There will be a shift of emphasis from consumer goods industry to producer goods industries. The industries will include steel, heavy machinery including agricultural and electrical machinery transport equipment and heavy chemicals. Besides the traditional manufactures of jute and cotton textiles, considerable export potentials are indicated by fertilizer, cement, sugar, paper, newsprint, leather goods and fruit processing and fisheries.

It is expected that as a result of the Third Plan

programs, the share of industry in national product will increase from 13.4% in 1965 to 16.5% in 1970. (See Table B-5). The major share of the increment will be borne by East Pakistan. Industrial sector will grow in an inverse relationship with the agricultural sector.

Allocation for fuels and minerals has been quite substantial in the Third Plan. Supposedly, the plan period will make the beginning of transmission and distribution of gas for industry and general development in East Pakistan. Special attention will be paid to the exploitation of recent finds of coal in the province which are now in the proving stage.

Contingent upon industrial development, East Pakistan will experience an accelerated pace of urbanization. It is estimated by the planning commission that the population of East Pakistan will have a 25% urban component (against an estimated 7% of 1965). This means a tremendous increase in the urban population in the province within the next 20 years. <u>All indications are that East Pakistan is entering a period of major transition in her economy as well as in her physical environment</u>.

## VIII. DEVELOPMENT REGIONS OF EAST PAKISTAN

East Pakistan, a vast agricultural plain with predominant agricultural activities, is only on the threshold of an urban industrial economy. Its industrial heritage was almost nil fifteen years ago, and only recently has launched an industrial program. At present only a few cities are emerging as centers of urban/industrial economy and are fast changing their character; others are somewhat static, a couple of them declining. A distinct spatial structural pattern is yet to evolve. The process has just started and it will not be soon when an areal view of the well defined space structure can be had. With an exception of the jute belt probably the vast area of East Pakistan is on somewhat isolated economy with low level of direct inter-regional contact. Under the circumstances the conceptual arrangement of the development region[1] cannot be found out readily. The

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[1] In the issue of regionalization, Professor Friedmann holds that although criteria of regional homogeneity and interdependency are relevant for planning purposes, the best result can be achieved when a pattern of interdependent regions is superimposed for analysis upon regions that are identified by common problems they pose for economic development. Five so-called development regions may be distinguished: (1) core regions, (2) upward transitional area, (3) resource frontiers,

types of development regions i.e. the core, the upward and downward transitional areas, the resource frontier and special problem regions *per se* may not as yet exist in East Pakistan in clearly defined form. In land hungry East Pakistan, no area is unpopulated except for the deep forests and the marshes. Agricultural frontiers are marginal (only the year to year upbringing of lands for double cropping and the new *char* lands), no areas can be called recent settlement as such, resource frontiers are nebulous. Thus characteristic description of the regional types may not be exactly compatible with the typical ones as described by Professor Friedmann. In spite of all the shortcomings, a systematic regionalization has to be done. Unless the different regional problem sets are known, development strategies cannot be determined and the policies cannot be formulated. In the following sections I shall try to identify the regional types in East Pakistan and provide description for each type of region.

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(4) downward transitional areas and (5) special problem areas. Development regions simply have closure with respect to a given problem set. Their purpose is to help in the analysis in depth of socio-economic and environmental problems and in formulation of development strategies at the national level. For further discussion see: J. Friedmann, Regional Development Policy for Developing Countries, M.I.T. Harvard Joint Center for Urban Studies, 1965, Ch. III.

The Core Regions

"Core regions are characterized by their high potential for further economic development. Structurally, they will consist of one or more clustered cities, together with an encompassing area that may be conveniently deliniated by the extent of daily commuting or alternatively by the distribution of agricultural activities that furnish sustenance to central urban population."[1]

Precise boundary delineation of core regions following the above criteria strictly, is not possible. There is no information available on commuting; the belt of vegetable farmers and other food suppliers is unknown - food is supplied from far and wide places. However, the concentration of industrial firms, flow of goods and people and the transport network suggest three potential core regions. They are: Dacca-Narayanganj, Chittagong-Sholashahar and Khulna-Daulatpur.

Dacca is the provincial capital and the subsidiary Federal capital at the same time. In the urban hierarchy (which is prepared according to the size and functions performed - see Appendix A-II). Dacca ranks in category I, there

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[1]Ibid., Ch. III, p. 4.

being none else in the same category. When adjoined with the nearby city Narayanganj (a city 10 miles southeast of Dacca), the Dacca-Narayanganj area demonstrate predominant characteristics of a burgeoning core region. Both of them are important inland ports and enjoy multiple transport facilities. (The urban hierarchy scoreboard, the volume of city-ward migration, commodity flow diagram, non-agricultural labor ratio, density map and the income region map all indicate that Dacca-Narayanganj and their environs constitute the First order core region - if not already, it is emerging). While Dacca is multiplying in its diversified manufacturing and metal works industries, Narayanganj is specializing in jute industries. The Lakhya river, on which Narayanganj is situated, is becoming the Hoogly[1] of East Pakistan. Another adjunct to this core region is coming up at Tongi, a new industrial nucleus (of jute, cotton and pharmaceuticals) 15 miles north of Dacca and very well connected by frequent train and bus services. This upcoming auxiliary center only bolsters the growth potential and builds up assurance for the

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[1] Calcutta is situated on the Hoogly river. There are more than 100 jute mills on this river which brought economic boost to the city of Calcutta.

sustenance of the core region.

The other readily identifiable core regions are Chittagong-Shalasahar region and Khulna-Daulatpur region. Both of them are sea ports and the only international sea ports of East Pakistan. Although Khulna itself is not the sea port, it is only 30 miles from the actual port (Chalna) and contains all the services of the port e.g. customs offices, post and telegraph office, banks and insurance, shipping companies, etc. Until now Khulna has the highest growth rate of any city in East Pakistan. Chittagong is shown to have a lower rate of growth as compared to Dacca and Khulna (Appendix A-I); but this is based on an undocumented[1] population figure for Chittagong in 1951. A visit to the city gives the impression of a burgeoning one. Both Khulna and Chittagong have nearby supplementary cities equally burgeoning in newly set up industrial activities. Administratively, Khulna and Chittagong are divisional headquarters. Maps like internal migration, commodity flow, intensity of traffic and income, all suggest that next to Dacca only Khulna and Chittagong are the other

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[1]The census of population 1961 says that population figure for Chittagong in 1951 is not available. The Housing and Settlement Dept., Govt. of E. Pakistan does, however, provide a figure for 1951 which is obviously not reliable.

regions with core region characteristics. But the absence of some specialized urban functions e.g. radio and television station, newspaper headquarter, university and technical education center, etc., place Chittagong and Khulna into second order core regions. These two regions will probably never achieve the potentiality of a First order because of their political and financial inferiority to Dacca. Dacca being the financial and political headquarter of the province will occupy the position of First order core for the future years to come.

In the past overwhelming majority of industrial investmentswere concentrated in Dacca, Chittagong and Khulna. About 3/4 of the industrial investments in the Second Plan were spent in those areas. Similar things will happen in the Third Plan. Private sector investment will also follow the line of public sector investments i.e. of "concentration in few growing points" (Cf. p. 105). Further investment will take place in those places because of the gradually building up infra-structure, readymade pool of labor and a ready capital market.

As a result of increased concentration of industrial investment, major industrialization and urbanization is taking

place in those areas and this trend will continue. As a matter of fact the industrial development of the province is largely contingent upon the development of the core regions.

Development activities are being focused on Dacca, Chittagong and Khulna. High voltage power transmission line is extended from Kaptai to Chittagong and then on to Dacca-Narayanganj area. Another line from Kushtia (Ganges-Kobadak project) is extended up to Khulna. Gas transmission line will be extended to Dacca only (see Map 4).

Dacca and Chittagong enjoy multiple transportation facilities e.g. railway, waterways, air transport and road transport. In this respect Khulna is in a disadvantageous position. There is no airport at Khulna - road link to Khulna with the rest of the province is inadequate. However Khulna lies on the most important waterway of the province.

One of the major problems faced by the core regions is that of transportation of goods and people to and from these centers. The transportation network looks quite adequate; but it is the facility that makes it worse. It has already been shown in the transport section that railway facility from Chittagong is overburdened. The same is true of Dacca and Khulna also. Services are extremely inadequate.

Because of infrequent schedules trains from Dacca to Chittagong and back carry more than double the passenger capacity. Worse is the water transport because of the time involved. Huge amounts of cargo (4 times the total of PER and IWT cargo) is moved by slow moving country boats (sailing as slow as 2-3 miles per hour in this super-jet age). This creates intolerable delay in the transport of goods. Passenger traffic in waterways also suffer the same sort of problems. It sometimes takes about 6-8 hours to travel a distance of 40 miles. While air-bus and helicopter services are costly and unpopular solutions, hydrofoils have not yet been tried.

The internal circulation is equally bad. The roads and transport facilities were designed to serve small groups of people living close together in an environment dominated by pedestrians and pushcarts. The physical environment burgeoned as industrial centers almost overnight. The pedestrians and the pushcarts are being taken over by buses and trucks in the narrow roads. The result is congestion, travel, delay and hazard.

The next in line is the monumental problem of housing, sanitation and public health services. Probably the situation is worst in Khulna. Khulna, Narayanganj and Dacca suffer

from recurring attack of cholera, a deadly waterborne disease. Shanty localities and squatments without drainage and sewerage facilities are the typical living environments of thousands of laborers. The situation is unmanageably worsened due to some politico-administrative shortcomings. The municipal services do not extend beyond its boundary whereas the real city extends much beyond that.

Regular and ensured supply of food is a prime necessity for the growth of a city. Food supply in the cities is neither regular nor ensured. Truck farming and dairying are lacking or if present extremely inadequate. Food comes from far and wide places. Lack of fast transport hinders steady supply. As a result prices go up and quality of food goes down (adulteration).

There is a host of other socio-economic problems that stand on the way of smooth development of the core regions. And in this respect, East Pakistan's core regions are no different than those any transitional societies. In addition to these, two menacing factors stand in the way of development of the core regions: one if physical and the other is administrative. (1) There is too much low lying land in and around the city of Khulna because of its low elevation. The

problem is encountered in Dacca also to some extent, more so in Narayanganj. This demands huge expenditure and effort. Chittagong is however free from this handicap. (2) Development authorities have been set up for the physical development of the cities: Dacca Improvement Trust (DIT), Chittagong Development Authority (CDA), and Khulna Development Authority (KDA). There is no coordination between the development authorities, who usually build roads residential sections, and the municipalities whose function is to provide water and sewerage lines and electricity. Their administrative jurisdiction mutually exclude each other.

It is more than obvious that unless these problems are overcome to a considerable extent the capacity for growth will be reduced and the region will fall below its potential level of production - growth cannot be sustained over periods and virtual stagnation and decay becomes unavoidable.

The Potential Upward Transitional Areas

By definition and description upward transitional areas are "all settled regions whose natural endowments are location relative to core regions suggest the possibility of greatly more intensive resource use."[1] They too are areas of heavy

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[1] Ibid., Ch. III, p. 4.

immigration. Such regions have not yet appeared distinctly on the scene. If heavy immigration is a positive criterion in identifying the region, then the districts of Dacca, Chittagong, and Jessore might roughly be called the upward transitional areas because these areas are the places to which heavy migration has taken place other than cityward migration. Until now these regions do not demonstrate the characteristics of upward transitional areas. As a matter of fact migration to the regions have not taken place in response to the opportunities of more rewarding commercial agriculture, including vegetable farming, but in demand to equate man-land ratio.

An overlay of Map 14 on Map 3 shows that the whole jute belt has received only a part of the total internal migration. The areas of heaviest immigration are not quite the areas of commercial agriculture. It follows that in most cases migration has taken place in search of land from high density areas to relatively low density areas. Incidentally the areas of heavy immigration surround the core regions.

However, if upward transitional areas are a necessary component of the urban spatial economy then there is every likelihood that parts of the districts of Dacca, Chittagong and Jessore will emerge as the upward transitional areas in

the near future. The districts of Dacca and Chittagong already contain two core areas. Although Jessore does not have any core area within its boundary, it lies just adjacent to the third core region Khulna. Because of the predominance of low lying areas south of Khulna, it is only natural to foresee urban influence to expand northward in the direction of Jessore. The upward transitional zone oriented towards Dacca-Narayanganj might extend as far south as Chandpur which is linked with frequent transport facilities with Dacca-Narayanganj. The zone for Chittagong might extend up to Feni in Noakhali district and Comilla town in Comilla district, again because of regular trucking facilities. The trend is already on the go: Dacca-Narayanganj area receives fish and milk from Chandpur and other southern regions while it is supplied by fresh vegetables from the northern and western parts of the district. Chittagong receives vegetables and fruits from Comilla in addition to the supply from the hilly area in its vicinity. The daily supply line of Khulna is however obscure. Nevertheless, the foreseen upward transitional area which is projected to extend more or less along the transportation lines is not unreasonable.

The potential upward transitional areas have been delineated by an educated guess based on the discussion held in the foregoing paragraph. Apparently these areas surround the core regions and extend into the interior mainly along the important transport corridors. Frequent intercommunication with the core regions will bring these areas under the orbit of the metropolitan economy. In direct response to the urban market demand, agriculture in these areas will become diversified. Vegetable gardening, dairying will become important items of production in these areas. Since considerable amounts of labor will be pulled from this area to the core region, production will tend to be capital intensive and this will result in higher productivity of the region. Economic development of the regions will be directly responsive to the economic development of the core regions.

The problems of development of the region is that of spatial integration with the core regions. The integration as of now is artificial. The agricultural producers are not knowingly producing for the urban market. They are not fully aware of the demand in the urban market. But the commodities find their way to the urban market through a bunch of moddlemen. There is no functional link with the producer and the

consumer. As a result, the producer gets lower prices, the consumer pays higher.

Hence the problem of development is primarily that of dissemination of information on market demand and efficient production methods into those regions. On the part of the producer, insight and leadership will be required to introduce new items of production through new techniques, suiting the consumer demand in the core regions. Fast, frequent and flexible systems of transportation with the core regions are a key note to the development of the upward transitional area.

Conflicts in land use would probably be inevitable; the question would be whether to give more land to jute or to vegetable farming and dairying. Moreover correct knowledge about the resource combination will be of vital importance. Miscalculation in this respect will lead to economic loss.

Being close to the core regions, upward transitional areas will have a tendency to lose population, especially the young generation, to the core. Improvement in employment opportunities and livability including housing and community facilities will be other pre-requisites.

Agricultural Development Regions

Vast agricultural areas lying beyond the potential upward transitional areas may be called agricultural development regions. The areas are old established settlement regions whose traditionally rural economies are more or less stagnant and which have very marginal prospect of future structural changes. From time to time they furnish the bulk of surplus labor to the points of concentrated development i.e. the core regions, but are deprived of share of economic development generated in the core regions. In demographic, socio-economic and physical characteristics they stand in sharp contrast with the upcoming urban world.

With a partial exception of Sylhet, parts of Mymensingh and parts of Dinajpur, the rest of rural East Pakistan is characterized by semi-subsistence farming, share cropping, low productivity per unit of labor and land, low rate of capitalization, fragmentation of land holding, etc. The areas suffer from primitive agricultural practices and there is a complete lack of response to the shifts in market demand even in the areas which are close to the urban market. High agricultural density and high dependency ratios are other characteristics of a large part of rural East Pakistan.

Tradition bound localism, totalism and apathy are inherent in the outlook of the rural folks.

The area left after delineating the core regions and the upward transitional area is considered for identifying the agricultural development regions. Two principal criteria were used to delineate the agricultural development regions: (1) Areas of heavy outmigration and (2) Areas of potential outmigration, this involved the study of high density areas and high dependency areas. When high density coincided with high dependency, the areas were adjudged to be those of potential migration. Areas of potential migration along with the areas of outmigration are then combined to represent the agricultural development regions. Thus some areas (Comilla district, Noakhali district and parts of Mymensingh), though represent low dependency rate in 1961 census, are included in the agricultural development zone because of the fact that they have already experienced heavy outmigration in the previous decade. In fact the low dependency may be explained in the light of outmigration in the previous decade. Parts of Faridpur and Barisal district are still areas of potential outmigration in spite of their migration in the previous decade, hence these areas are included in the

agricultural development areas. Others are new areas of potential migration, which had not experienced considerable migration in the previous decade but are now posing the threat. These include parts of Pabna, Bogra, Rangpur and Dinajpur districts in the northern division of the province which general area is void of any core region or upward transitional area. Still another region is peculiar in nature showing stagnant characteristics. This area, mostly in the Sylhet district, is far from core areas yet received migrants in the last decade and now is demonstrating symptoms of future outmigration. The zone is relatively small and the problem does not seem to be of unmanageable magnitude.

The most basic problem of the region is that of obsolescence in the technique of production and overpopulation. Here overpopulation means high agricultural density - high man-land ratio and consequent high surplus labor. Farmers here are conservative and ignorant - farming is traditional and there is a tremendous lack of knowledge in fertilizer use and modern cultural practices. Landholding is extremely fragmentary. As a result output per unit oflabor and land is much below optimum. Law of diminishing return is in action. While income from the land is low, subsidiary sources of

income have disappeared. In the pre-partition days, cottage industries (weaving, pottery, blacksmithing, handicrafts, etc.) used to be a major source of income of the farmers as well as of their wives and children. But with the introduction of machine production, cottage industries of rural East Pakistan died. Farmers are deprived of a major source of subsidiary income. The loss of the farmers has not yet been replaced.

School facilities in the rural areas are surely inadequate and community facilities are conspicuously absent. There is no banking or loan facilities, no cooperatives. The existing agricultural development agencies are manifestly inadequate and inefficient. The program of transportation and communication is monumental. Because of poor transportation and communication fecilities, the farmers are left in isolation. The rural mass is not yet touched by modern science, technology and philosophy. Their economy is only indirectly integrated, if at all, with the national economy and thus they are in the back waters of socio-economic development.

Agricultural adjustments, social-structural changes and economic integration are the key points of attack for the

development of the agricultural development regions. All the three points of attack are equally essential for the overall development of the region. Success in the development effort is obviously contingent upon a comprehensive approach.

Resource Frontier Regions

"Resource frontiers come into existence with the discovery of a major natural resource or resource complex and a commitment on the part of a private firm or the government to exploit the commercial opportunities which it presents."[1] The resource referred to here is such minerals as iron ore, uranium, gold, diamond, copper, beauxite, manganese or petroleum. Discovery of such resources have played dominant roles in the history of economic development of many nations such as the U.S., Canada, the U.S.S.R., Australia, Brazil, China, etc. But up till now East Pakistan has not had the fortune of such resource frontiers.

However, the discovery of gas field in the Sylhet district has initiated some investment: a fertilizer factory at Fenchuganj has been started to make use of the resource. This is an isolated attempt and as such does not have any significant impact on the region. However, if this nucleus fertilizer factory develops into a complex of other petro-

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[1] Ibid., p. 23.

chemical industry, then the spot may show up some characteristics of a resource frontier region. The development of this area will be contingent upon government decisions. Private enterprenners will not be attracted to the spot because of its remoteness from the urban market as well as the uncertainity of the resource base. For the same reason government authority also cannot be expected to be very enthusiastic about the spot. It is true that the development of the frontier region has to be focussed on a city. But can a sity building project be undertaken without making sure the presence of large scale and economically attractive natural resources? Such basic questions is likely to withhold the development of the resource frontier of such scale and character as is present in the Sylhet region.

The other area with a little better prospect is the Chittagong Hill tracts where there is a vast forest resource. Basing on this resource a large paper mill has been established. This has seen the emergence of a little township. But that is about all - no further development has taken place in the spot. A multi-purpose dam has been completed in the same general area (30 miles from the paper mill). Huge numbers of male laborers were required at the

time of building - at that time it had shown the characteristics of a resource frontier region: booming with activity, high wages, high cost of living, high male ratio in the population, contrast in social life. The growth was not self-sustaining. After the project was over nothing could hold the laborers back there. However, the paper mill site is in a better position in that it has some degree of self-sustenance providing employment to a considerable number of laborers. But unless some other economic activity related to the forest base is thrust there, momentum for growth and further growth will not be obtained. The resource base in this region (forest) is not so lucrative as to attract private enterprenners to a considerable extent. Public investment is the last hope.

Special Problem Region

East Pakistan's special problem areas are those which pose peculiar development problems. It consists of the coastal areas and the bay islands. Although the region is not contiguous, the common problems of the islands and the coast bind them together in a particular type of development region. Because of their low elevation the region is subject to frequent tidal bores, and severe lashes of cyclone. In

the severe instances, which occurred twice in the last five years, 30-50 thousand people died each time. The basic issue involved in the development of these regions is that of security of life and property. Protecting the life of the people of this region is a serious challenge to the government. Transportation difficulty to and from the region is the monumental problem which has kept this area isolated from the mainland. Because of shallow depths and continuous river deposits, communication is difficult with the islands off the mainlands east and southeast of Barisal. Routing of the islands south of Noakhali, including Hatiye, Ramgati, Sandwip, involves considerable distance in addition to the danger of tidal bore and cyclones. Rocky bottoms off the southeast coast, northwest of Cox's bazar, menaces mechanized water transport. As a result communication to these islands is limited to country boats only. For about six months, specially during the norwesters and the cyclone, very little communication is possible. From the administrative and political standpoint also, these areas are special problem areas. Due to the transport difficulty administrative and political contact with the region is at a low level. Specially after catastrophic floods and severe cyclones,

bringing relief and aid to these areas has been extremely difficult.

Although the region is an excellent fishing region and the future prospects are immense, nothing has yet been done to develop the region as an intensive fishing area. Fishing equipment (boats and nets) are primitive. As a result, deep sea fishing is untried. Absence of powered fishing boats and lack of refrigerating facilities has kept the catches much below the optimum level. Unjust terms of trade of the fishermen with the export merchants has kept them at a very low income level.

Due to regional isolation there is poor sense of citizenship and national belongingness. Fatalism and sense of rejectedness prevails. Young generation both educated and uneducated are coming out leaving the fate of the region in the hands of conservative, old generation. In spite of the potential assets, the region has become a liability for the nation.

Implications of Regionalization

Throughout the preceding chapters I have tried to provide a more or less systematic description of the regional characteristics of East Pakistan, the spatial arrangement of

her economy and, in a general way, theeproblems and prospects of the different regions in the total spatial system. The study cannot be claimed as a regional planning analysis; rather this is a work for the orientation of the regional planners towards the general problem areas and thereby inducing them for planning the economic growth of the different regions. Until this chapter I have attempted to solve the problem of regional boundaries which is a necessity for the regional planners to acquire an understanding of the structural form of spatial relationships in the economy of the province. But unless the implication of the regionalization is fully understood, the development strategy cannot be expected to be determined successfully and the goals of regional planning cannot be fully visualized.

As is indicated in the previous chapter, the core regions have the maximum prospect of development. Next in line of development are the upward transitional areas which are likely to come under the orbit of the metropolitan economies in the near future. But the vast areas which have been termed as the agricultural development areas, have very gloomy future. Almost as a rule of spatial economic system "the economic performance of downward-transitional areas is

the exact opposite of core regions.[1] Core regions thrive through more and more capital intensive production and consequent higher productivity; whereas downward-transicional areas rotate in a vicious circle of poverty and decline mainly due to their structural characteristics i.e. primitive method of production and skill, fragmentation of holdings, ill adopted land use practices, low productivity, lack of response to shifts in market and demand. Such conditions perpetuate because of the tradition-bound localism of the people of the area and their fatalistic attitude towards life and work. Under such circumstances core regions grow at the cost of the downward-transitional areas - they draw cheap labor and raw material from the downward-transitional areas and export back high cost finished commodities. From a different angle of vision, the extractive force of the core region seems to be a blessing for the downward transitional areas but only up to the extent that the former drains away the surplus labor and brings relief to the latter. However, if the process continues to be one way then there are every chances that it will be detrimental to both the regions. Continuous migration to core regions hastens the strangulation point and stagnates the growth of the core

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[1]Ibid., Ch. V, p. 36.

region and thus of the national economy. On the other side of the problem, continued deprivation of the downward-trmnsitional area might result in social unrest or else there may be a deadlock in the supply channel to the core because of the paralytic condition in the downward-transitional area created by continued neglect and desertment. In the face of such regional imbalances, socio-economic growth is seriously at stake.

The implication of an imbalanced spatial economic system is no less serious in Pakistan than it is for any other society in transition. Balanced economic growth may have some special emphasis for Pakistan since economic growth and social-welfare are the two declared promises in the type of experimental democracy now being tried in the country. It is accepted that economic development and social welfare both cannot be achieved without a well-balanced spatial-integration of economic activities. Regarding the achievement of a dual-goal, the optimality of the present pattern or any other future system is almost impossible to calculate, yet the inequitable social welfare effects i.e. the growing disparity between the urban and the rural sectors and the foreseeable disparity between the regions, alone is enough to

warrant regional planning efforts in East Pakistan. This is an emotional statement however. From strictly economic point of view also regional planning is a need of the day. Pakistan is striving towards achieving a high rate of national economic growth and maintain it for the hundreds of millions of future citizens. As is observed elsewhere in the transitional societies, economic development, especially from an agrarian stage to urban or semi-urban stage, inevitably alters the structure of the economy as well as the spatial arrangement of the economic activities. Optimal space arrangement of population, industrial and agricultural production, basic services and transport-communication systems cannot be left to take its shape out of inter-regional competition alone. Adjustments and rearrangements in the system become inevitable.

Thus, the implied goals for the regional planner under the framework of socio-economic objectives of Pakistan, is to achieve such a system of spatial structure that will generate fast and efficient economic growth, at the same time bring about social upliftment.

# IX. AN APPROACH TO REGIONAL DEVELOPMENT

To bring national goals of socio-economic growth down to the ground, it is essential to plan for the socio-economic growth of the different regions. In this Chapter I shall provide some guide lines for planning regional economic growth in East Pakistan. Since regions do not grow in isolation, a comprehensive approach should be the essential element of the regional development plan. Problems and prospects of each region is so intricately linked with those of the other that only a comprehensive strategy will be able to tackle them. This implies that some policies would have to be of inter-regional concern, others would be focused on the specific problems of individual regions. In fact the trans-regional policy lines will guide the formulation of programs and projects of each region.

## Inter-regional Approach

An approach towards regional development should be based on a complete realization of the process of regional development - how economic growth is generated in one area and is transmitted over to other parts of the nation. Although very

little is known about the influence that spatial pattern of activities has upon national growth, this much can be said that regional growth is externally induced and is continuously subject to external influences. The economic performance of the smaller regional units are influenced by the arrangement of the larger units, the larger units are influenced by even larger external world. Regional interdependence is a characteristic of the matured industrial societies and such interdependence is achieved through regional openness. Therefore, the first policy variable to consider is to create openness in the regions.

It is implied in the above discussion that regional openness occurs at different scales. First of all comes the issue of openness of East Pakistan itself as a region. In this connection, the most fundamental policy to persue is to strengthen the export sector of East Pakistan. The selection of export items shall have to be based on the world market demand and only those items should be picked up for export production for which East Pakistan could be given a competitive advantage. Next, interwing trade (trade between East and West Pakistan) should be increased beyond the present level. Both of these goals are contained in the

objectives of the perspective plan but unless positive steps are taken the objectives will remain in the shelves of the Planning Board. To create a regional openness for East Pakistan as a region, transportation and communication to and from the province should be increased both in an international and an interwing scale. The airport at Dacca and the sea ports at Chittagong and Khulna should be expanded and the link of the province with its counterpart and with the rest of the world should be increased. In the international air route East Pakistan is connected with only Calcutta and Kathmandu (Nepal) at present. This is manifestly a poor link in the international context. The province should have direct air link with the countries with which it has major trade link. Road transportation with India should be facilitated and some arrangement should be made for transit traffic through India between East and West Pakistan; or else much faster, cheaper and frequent sea-borne traffic between the provinces should be ensured.

Next in line is the consideration of openness of the sub-regions within the East Pakistan region. This can occur through specialization of production - each individual region's leading economic sector shall have to be export

oriented in the inter-regional context and the regional communities will thus survive by "taking each others washings". Regional specialization of production will be discussed in the sections devoted to each region.

Regional development is contingent upon an investment process either private or public. In a country like Pakistan where private investment is shy, government has to take the initiative. In fact, private investment has closely followed public investment in the past and this will happen in the impending future also. Therefore, government has to take the pioneering role in regional investments. Once the direction is provided, private investments will follow. When the investment tempo is created, people will assume greater risks and the investment spectrum will get wider and wider. Such regional strategy of development is completely different from sectoral strategy and the government should take careful note of this. The sectoral allocations of the Third Plan have to be broken down to spatial allocation and pinned down to the regions of relevance.

A third factor of regional development is increased geographic mobility. High population growth rate in land hungry East Pakistan will increase man-land ratio. Ultimately

a time will come when, to equate man-land ratio or to adjust unequal economic impart, mass migration will take place in an inter-regional scale. Such a migration is healthy and desirable. As Professor Friedmann puts it "Expressed as the search for economic opportunities in geographic space, mobility is a condition of continued economic expansion and technical progress....needed is not only greater movement from farm to cities, but also increased intra-urban and rural-rural migration."[1] But the migration should be of right proportion and in right direction. In this respect government should play positive role providing information about the migration targets and making arrangements to accomodate the migrants in their new environment. Timely regrouping of population will save extra cost and misery.

Modern techniques of production is dynamic and is based on continuous research which provides new knowledge on factors of production (minimization of cost, maximization of output). From this standpoint scientific and technical research is a pre-requisite for regional growth. Without vigorous research, innumerable local indegenous resources will remain unused, various items of production will remain unexplored. Imported technology and knowledge cannot always

[1]Ibid, Ch. 5, p. 5.

be applicable to local problems. In this respect the local universities and technical institutions should assume the major responsibility and commit themselves to the problems of resource use. The government's role will be to expand technical education and research facilities, patronize technical education and skill and reward the local talents. Without continuous research of pragmatic nature, the productive sector will not achieve its inner dynamism. Outdated resource combination and factors of production will result in below optimal level of production and ultimately the economy will come to a paralytic stage.

Increased circulation of knowledge and ideas is still another precondition of regional development. In rural East Pakistan people are illiterate, conservative, tradition bound and fatalistic - they know little about the world and are ignorant about the modern values. Unless drive, iniative and sense of participation for self-development comes from the people, regional development will take place at a very slow pace. Every attempt should be made to arouse the mass of people, break their localism, educate them with modern values, show them the blessings of civilization and make them conscious about their self-development. A spirit of self-help

has to be inculcated in every mind. A massive program should be taken up for mass education through schools, community centers, radio and television, public speeches and symposia, etc. Public servants and intellectuals and teachers have equal responsibility in this matter of public education and dissemination of knowledge. Once the people are taught the virtue of improved life and the way to achieve it, they will run after it.

Regional Approaches

In this section I shall discuss the development task in each region. We have seen that the individual regions have their own sets of development problems; to solve the problems complexes on regional scales, an integration of the individual sector programs has to be achieved. This is where regional approach towards development differs from sectoral planning.

Core Regions

As long as we are concerned with economic development, we have to commit ourselves with the future of the core regions because core regions play the most vital role in the industrial growth of a country. National economic development is to a large extent the development of core

regions.[1] In the context of East Pakistan the primary need is to get a tempo of growth underway in the core regions and subsequently bring the regions to a point of ensured sustenance.

In the sequence of development, the core regions should get the priority because the evolving space economy will be organized through the core regions. Location decision of industrial firms in most cases are made with reference to urban/core regions. Moreover, measurements regarding the supply schedules of labor, raw materials, power and transportation is taken with respect to the core regions which are easily identifiable sub-systems in the space economy. There is an advantage in starting with the core regions in the development sequence that the future growth of the core regions is predictable through the statement of the national growth parameters.

The strategy for the development of core regions should primarily be directed towards elimination of the major "strangulation points" in their performance.

The first task is to outline a program in utilities,

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[1] Ibid., Ch. 5, p. 10.

transport, communication, housing, industrial estates, education, health and other facilities required to sustain the projected levels of demographic and economic growth. An accordingly a regional capital budget should be adopted and this should be part of the national budget.

Plans and programs for national support of core regions must be formulated for the entire projected problem area. At present there are development authorities for Dacca, Khulna and Chittagong, but their jurisdiction is undefined and they often come in clash with the other agencies for development e.g. the municipality, the communication and building department, water and power department, health and sanitation department, etc. The core region development authorities should be made supreme over the region or else maximum coordination among the various development agencies has to be ensured.

The projects under the core region capital budget has to be evaluated to see their functional consistency and mutual support. This may be done through testing two sets of maps against one another. The first set should include a series of maps showing the direction of the core region's expected population growth, its economic activity areas and

residential sectors, its present and projected traffic flow and its strangulated spots. The other set should show the proposed investment projects, their location and relationships. These two sets of maps should then be matched against one another to see if the existing and proposed activity locations are mutually supporting in their functional aspects. The adjusted final map may then be tested with urban-design criteria. Performance characteristics of alternative regional forms should be tried for their overall efficiency regarding internal circulation, flexibility in respect of future growth, as well as their aesthetic and visual quality. The final may will then be a broad zonal map and all land uses must conform to it.

Although the question of optimal regional size is a vexing one, some attention should be paid to the issue. To have an enormous city of the western standard seem to be an allurement for the developing nations including Pakistan. But is a big city worth its cost? We can obtain fairly well estimates of urbanization cost (urban investment and services) including the social cost e.g. traffic congestion, noise, personal or impersonal relationships, etc. which can be had from the western experience. But can the social benefits be estimated? The western urban civilization

probably has no answer to it yet.

However, this should always be kept in mind that efficiency criteria should be the yardstick of size. Size should always depend on serviceability. If we want to have a big city we must ensure its service requirements ahead of time.

If economic planning and physical planning is to be brought into a regional synthesis, development economists, city planners and urban designers must work in a harmonious complementarity. And this is needed for an efficient development of the core regions.

Throughout the strategy for core region development I mean to emphasize the development of one core region more than others. The assumption here is that "inter-regional balance and an hierarchical system of cities are essential conditions for national development."[1] To suit the Perspective Plan (1965-85), a single national center and strong peripheral subcenters, is what I am aiming at for the eventual spatial organization of East Pakistan. (Assumption here is that the first stage toward a solution during the period of industrial maturation, strategic subcenters are

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[1] Ibid., Ch. II, p. 24.

developed, thereby reducing the periphery on a national scale to smaller more manageable inter-metropolitan peripheries, hypertrophy of national center is avoided while important resources from the periphery are brought to the productive cycle of the national economy, growth potential for the nation is enhanced)[1]. The choice of the strong national center obviously goes to Dacca-Narayanganj area, the provincial capital and the potential core region of first order in the province. Chittagong and Khulna is intended to grow at a later period as strategic subcenters around which upward transitional areas and agricultural development regions of considerable dimension would be organized and thus the space economy of the province will proceed towards progressive integration.

In the immediate future, covering the Third and Fourth Plan periods, development efforts should be focused on Dacca-Narayanganj area. For a quick payoff and fast economic growth, industrial investments should be concentrated at Dacca-Narayanganj area. With this end in view, Dacca-Narayanganj area should be made prepared to accomodate the projected level of economic activities. This means that

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[1]Ibid., Ch. II, p. 22.

infra-structure investment at Dacca-Narayanganj has to be stepped up, all physical development projects speeded up and new projects be undertaken in accordance with the projected needs and targets. Strong public measures should be taken to attract private investment in the region. A temporary reversal of the present investment trend will be necessary. Industrial investment spree at Chittagong and Khulna should be stopped for the time being and investment channel should be redirected towards Dacca-Naryanaganj region. Existing industrial activities at Chittagong and Khulna should, however, be maintained while development activities in the way of port expansion and transportation development should be accelerated in those centers for fast and efficient handling of export goods and import commodities. During the later half of the Perspective Plan period, Chittagong and Khulna will have to be helped to grow as strong strategic subcenters. At that time the centers will need additional industrial investments and the concomitant investments in infra-structure. Such a development strategy will bring fast and efficient industrial growth in the province and the path for further sustenance of growth will be paved.

Agricultural Development Region

In attacking the problems of agricultural development region, Friedmann's approach which he suggested for the downward transitional areas, seems applicable. The approach is two dimensional: (1) those measures which must be primarily taken outside the region, (2) those measures which would focus on the internal structure of the region. This strategy basically involves a regrouping of population and adjusting the resource combination. Population regrouping will be specially difficult in the northern division of the province because of physical remoteness from the potential core regions and absence of any potential core region in the division itself. Transport barrier posed by the mighty rivers Jamuna and Ganges render remote possibility of integrating the region with the core regions of the south and southeast. Whereas outmigration from the northern region will be inevitable in the acutest stage of the problem, the enormous supply of surplus labor will find its way to the potential core regions making them unmanageably overburdened with the flood of new job seekers. Under the foreseeable circumstances a growth pole in the northern division seems a reasonably suggestion. Timely initiation of a growth pole in the region

will surely save cost, effort and miseries of millions. The core region will stand as a major pole of internal migration and create an upward transitional area of its own. Re-grouping of population will thus be facilitated. In this connection studies of location of the new core regions and migratory direction will be of prime necessity.

However there is a long term risk involved. As is obvious, the core regions will have a tendency to exhaust the agricultural development area of its resources: capital and man-power. Unless there are some provisions of checks, the agricultural development regions will face decay on the one hand and on the other hand the cores will reach the strangulation point in its capacity to absorb the migrants or provide them with services. In this issue Professor Friedmann's suggestions seem to be less expensive and a feasible solution: that is of identifying intermediate sized urban centers which appear to have relatively high capacity for growth which may be activated as subsidiary 'growth points' having smaller areas of influence. Fortunately such centers do exist already in the agricultural development region areas. They have past growth experiences and also future prospects of growth but no prospects of becoming core regions of the

first or second order. To mention some of them: Rangpur, Dinajpur, Sirajganj, Pabna and Bogra in the northern division and Faridpur, Chandpur, Barisal and Jessore in the southern region, and Mymensingh, Sylhet, Comilla and Bhairal bazar in the central and northeastern region. The function of these third or fourth order 'core regions' will be "to provide essential central services to the areas surrounding them as well as additional employment in light processing and labor intensive manufacturing plants, to focus upon themselves a network of local, regional and inter-regional roads to serve as major market and distributing centers with adequate storage and warehousing facilities and to draw a population from surrounding rural areas as a secondary target of migration".[1] Such towns in East Pakistan as mentioned above have at present school and banking facilities to a considerable extent but health facilities to a limited extent. Above all they are in serious lack of cooperatives and warehouse facilities. What is more wanted is a complete network of integrated transportation system starting from the lowest in the hierarchy i.e. roads from farms to market, to the inter-regional scale. The whole transportation network should provide linkage of the rural areas to the lower order cores,

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[1] Ibid., p. 44.

in the regional economy and finally to the first and second order core regions.

In respect of resource use in the agricultural development region, a great deal has to be done. Agricultural practices have to be improved and the prosperity of the agricultural sector has to be ensured. Agricultural development is essential for two reasons besides that for withholding surplus rural labor. The reasons are: (1) accelerated industrial growth will depend largely on increased supply of agricultural raw materials and (2) unless agriculture is developed and the real income of the farmers is raised, the demand for industrial products will not increase.

To raise the real income of the farmers, output of individual farmers has to be raised. There is a great opportunity to develop the agricultural resources of East Pakistan. At present only 15-25% of the total crop lands are being double cropped and the crop yield can be increased by as much as 100% (Cf. P ). The need hereis to subsidize development activities e.g. use of commercial fertilizer, good seed, chemical past control, and improved cultural practices. Private sector can hardly be expected to come forward in this respect and hence major responsibility will

be of the government at least for the near future.

For maintaining a regular flow of production and also for influencing the attitude of the farmer towards modern agricultural practices, organizational and institutional framework for agricultural development has to be strengthened.

Land, labor, finance and other 'inputs' should be so utilized that the end result of production is in line with the urban market demand and at the same time touches the Plan objective of the country. Unless policies and investments are directed towards bringing about most needed cropping pattern and resource use, the region will not be able to maximize its total contribution to the urban economy as well as to the general economy.

Resource Frontier Region

East Pakistan's resource frontier is weak in character and endowments. As a rule development of resource frontier is based on a city newly activated in the region. If the government decides to exploit whatever resources are there in an optimal way, it probably has to activate a city base in the regions. But the problem of sustenance comes up challengingly. The government has to take serious note of the fact that the resource base is not diversified in these

regions which negates growth sustainability in the resource frontier regions. Vigorous survey, investigation and research should be conducted to enrich and diversify the resource base. Related with this, there are other issues to consider: integration of the resource base with the national or provincial economy, response to world market conditions, etc. Size of the settlements and the scale of external economies are other variables to consider. Basing on all these factors, if decision is taken to exploit the forest resources of Chittagong area in an optimal way, new location advantages have to be injected into the region such that the region offers a competitive advantage over the other forest region sundarban which has the similar basic resource but surely less inhabitable. Competitive advantages are not always given in nature, they are created by human effort in the way of new transport and routing of materials, new transport rate structure, etc., new items of production, etc. These again are contingent upon investigation and research. In this respect the government should take initiative and provide road and transport facilities, tax holidays to enterprenners and subsidy to the migrants. Finally, a minimum city size has to be determined and a proportionate

infra-structure has to be provided. Without a habitable environment human settlement is impossible. It is the artificial physical environment and urban institutions that must be created before the major enterprise of resource exploitation can seriously get under way.[1]

A comprehensive development program may be undertaken to take advantage of the hydro-electric project (multi-purpose) which exists in the same region. Maintaining the ecological balance of the region is a critical point to be warned about.

Still another issue of serious political nature has to be kept in mind - the fate and future of the Chakmas, the Moghs and the Mooroongs, the tribal natives of the Chittagong Hill tracts. Since they are isolated minorities, their welfare and upliftment lies completely in the hands of the government. Therefore any comprehensive plan for the development of the forest resources should also incorporate the development program of the tribal people.

Special Problem Region

An approach towards the development of the special problem regions of East Pakistan encompasses (1) physical development and (2) organizational development. Physical development

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[1]Ibid., Ch. 5, p. 26.

implies primarily the protection of the region and its peoples lives and property against the tidal bores and cyclonic storms. Massive program should be taken to carry out research in hydraulic engineering for finding the most efficient ways of embankment against tidal bores. Architectural and structural engineering research should be directed towards finding out such types of houses that are most suitable for the climate and the natural features of the region.

Serious attention should be paid towards the improvement of transportation and communication to and from the region. Fast and frequent mass transportation service should be ensured round the year for the movement of goods, people and of emergency aid in case of natural calamities. Mass shelter facilities should be provided on the islands for emergencies during tidal bore or cyclone.

Organizational development should include training and education of the fishermen, provision of modern fishing equipment and dissemination of information on the prospects of fishing areas. The fishermen should be kept informed uptodately on the market demand and prospects and finally storage, marketing and shipping facilities have to be provided.

Accurate and uptodate meteorologic information is of

immense importance to both the fishermen and other inhabitants of the region. Weather bureau should have local offices in each island and the latest weather information and warnings should be reached to every house in the villages so that they can prepare themselves against the ensuing danger. The villagers should be taught self-help and first-aid techniques.

As for the economic growth of the region should be helped to specialize in production. Marine fishery should most logically be the field of specialization. Far from areas of central services, these areas would need some central service facilities e.g. banking, insurance, loan, mortgage, shipping and transportation of goods, etc. For these to be on the scene, activation of a growth point of third or fourth order will be necessary. The economic base of the growth point will be oriented towards fish industry (canning, smoking and drying). This will form one of the most profitable export sector of the national economy. This is already indicated in the industrial survey of East Pakistan by M/S Arthur D. Little.

A technical institute for the study of fisheries and marine resources would be a positive support for the growth and expension of fish industry. In fact such an institute is

already a necessity for the entire province and the location choice for the institute should obviously go to this region.

## X. Summary and Conclusion

The role of East Pakistan in the economy of Pakistan is pivotal. East Pakistan is the major foreign exchange corner of the country. Therefore, unless regional development of East Pakistan is given serious consideration, the economic development of the country will be at stake.

In the sequence of regional development priorities have to be allocated. Industrial development takes place almost as a rule in urban regions. To achieve the production goals within the perspective plan period, some ten-fold increase will be necessary in the industrial employment and these employments will occur in the urban regions. In the context of Pakistan's economic development and technological changes, industrialization of the rural areas is a luxurious proposition. Sustained industrial growth, and hence economic development of the nation, is apparently dependent upon the healthy growth of those urban locations which are referred to as core regions. Priorities for development should, therefore, go to the urban core areas of the province.

At this stage of Pakistan's economic development with all it's resource limitations, maximum economic efficiency and quick pay-off are prime considerations. For rapid industrial development some congestion has to

be tolerated at the beginning and the idea of industrial decentralization has to be left aside. It is desirable therefore to concentrate development efforts in one center for the time being rather than disperse over several centers. An unconditional support for the development of Dacca-Narayanganz area, the first order potential core region of the province, is advocated here.

Regional development of East Pakistan is crucially important not only for socio-political reasons but also for purely economic necessities. As of now, East Pakistan is poorly structured in the spatial arrangement of her economy. Functional relationship between the economic regions is weak. Specially in the economy of Pakistan, where the industrial sector is, to a large extent, dependent upon the agricultural raw material sector, a functional interdependence between the industrial production regions and the raw material production regions is of vital importance.

Economic planning in Pakistan is emphasizing more and more on increased industrial activity. This emphasis on increased industrial activity has a special implication for East Pakistan. By all possibilities, agriculture will remain at the base of industrial activity in East Pakistan. Although greater stress is laid on the production of capital goods, those capital goods will eventually be used for processing the raw

materials that are being produced in the province. Thus industrial activity in East Pakistan will remain tied up with the agricultural production of the province. Therefore it is essential to establish a direct functional relationship between the agricultural and industrial regions of East Pakistan. Unless production and economic health in the agricultural region is improved and stabilized, supply of raw material to the industrial region cannot be ensured. Ultimately, industrial production might stagnate and the economy of the country might get paralyzed.

Moreover, as population increases, there will be more and more surplus labor from the rural areas. Positive measures have to be taken to absorb the surplus labor in the urban regions or else their employment opportunities have to be ensured in the rural areas.

Apparently the fate of the national economic development is sewn with the development of the core regions which again hinges on the development of the agricultural production regions. Under the circumstances only a comprehensive plan and program can bring about a sound economic development. The core regions and the agricultural development regions should be seen as parts of a single whole. Development plans in one area should have reference to the other and the plans should be such that the regions augment one another's development and derive economic benefit mutually.

Problems of Regional Planning Implementation

In Pakistan where the concept of regional planning is barely embryonic, a well structured organization and a powerful machinery will be required to launch the regional development strategy on to the ground. Now that we have formulated the strategy in whatever detail, it is necessary to provide some guidelines on the implementation of the strategy, otherwise the thesis would seem to be hanging in the air. Without implementation plans and policies are no more valuable than the papers in the waste basket. However before proceeding to the problems of implementation, we should consider how strong is this thesis so as to serve as a correct basis for tailoring the implementation policy and program.

Weaknesses of the thesis:

A simple confession regarding the strength or weakness of the thesis is that it cannot be taken as the final word on the problem of regionalization. Due to tremendous data limitations the thesis has become very sketchy and generalized at some very critical points. Again, because of lack of precise information on critical areas, the thesis could not be any more emphatic and definitive than it is now. The leading regions for development have been roughly delineated and defined on which closer evaluation could be and should be done later on. This thesis could beget controversy and even challenge but in my opinion this is more than enough to

bring an awareness of the problem in the decision maker's mind and give him a basis to start with. Therefore, the regional boundaries that have been delineated for East Pakistan should be taken as a working hypothesis and the validity of the regional types should be checked by more empirical studies and research. Additional information will be necessary to provide a complete analytical description of the regional types and this will again necessitate certain adjustments in the strategy formulation. However this work can be taken as the base for further investigation and research in the field of regional development and planning in East Pakistan.

Present planning organization in Pakistan and East Pakistan:

The Planning Board, seemingly, has been aware of the need to place city and town planning and development on a stronger footing. But that is about all; no serious thinking or effort has yet been given to create regional planning and development authorities. At present the responsibility of planning and developing towns rests with the Municipal committees. Some "project planning" is undertaken by the Housing Directorate in the Department of Works, Power and Irrigation. Special statutory bodies like Dacca Improvement Trust, Chittagong Development Authority and Khulna Development Authority and the Dacca and Chittagong Water & Sewerage Authorities, have been established only to bring relief to the

strangulated situation. None of these organizations are working on a comprehensive basis. Moreover, because of their technical and administrative limitations, those organizations cannot be expected to be able to prepare the urban core regions for generating fast and sustained industrial growth on a planned basis. The program for rural development is carried on through the Rural Works Program, again on a fragmented, non-comprehensive basis. There is hardly any inter-departmental communication between the Development Authorities, the Works Department and the Rural Works Program. Although it is natural to think that the Works Department, being the parent department, should carry out planning on behalf of the local authorities, it is not practicable. Nor is it feasible to create separate local agencies for regional development because of technical and financial constraints.

The circumstancial need and the resource limitations suggest that best result, in context of regional development and planning, may be obtained by creating a new Regional Development Authority which will primarily engage itself in adding a space dimension to the sectoral economic planning. The Authority will advise the Government on overall urbanization policy - where development should occur in which scale and type. The Authority may also advise the Planning Board in making adjustments and modifications in the sectoral allocations. Proposed

function of the Authority may be summarized as follows:

1. The Authority should be charged with the responsibility of preparing first an outline and then a detailed Master Plan for the entire province and detailed Master Plan for special regions as chosen by the Authority on a priority basis.

2. The outline plan should include descriptive and illustrative material explaining the assumptions concerning growth of population and employment, types of industry, the development of technology and then show the transportation facilities required, locations proposed for new or extended urban areas and also the economic and social functions to be performed in these areas.

3. With an approval from the Government, the Authority will then forward the Master Plans to the agencies concerned for the plan execution. Plans for the urban areas should naturally go to the Development Authorities and the Municipal Committees, while plan for agricultural development regions should be given to the Rural Works Program and other related agencies.

4. The Authority should also advise the Works Department to carry out development works that fall beyond the jurisdiction of the Development Authorities, the Municipal Committees and the Rural Works Area.

5. It should be a duty of the Authority to keep all other Departments of the Provincial Government

informed about the development needs in their respective fields. A Regional Development Council may be created with the Departmental Heads of Local Government, Works, Industries, Transportation and Communication, Water and Power, etc. to ensure that the developmental needs are fulfilled in a comprehensive manner and that the risks of duplication of effort and conflict in programs are avoided.

6. To meet the needs of the expanding economy, the authority should evaluate from time to time the adequacy of the development programs and modify the plans to meet the needs arising out of the growth in industry, commerce, housing, education, health, public administration and other factors. It will be essential for the authority to work out estimate of growth of employment, growth in urban population, future land requirement, public utilities and building arising from the expansion.

7. Since the Authority will not be operating for its own, research and advisory services should be extended to all the agencies that are directly related to this central organization.

8. The Authority should define the procedures to be adopted by the Development Authorities and the Municipal Committees on planning legislation, zoning and development control.

9. It will be an obligation of the Authority to provide technical advice on land use aspects of

proposals and plans to be undertaken under the Works Program and further advice on site works or building projects included in the Works Program.

Apparently, the Regional Development Authority has been suggested to be the supreme Planning authority. This is desirable because of the shortage of technical personnel. Research, investigation and planning aspect should be taken over by the Authority where the planning nucleus would have to be drawn from the Planning section of the Works Department.

However, to effectuate the planning work of the Authority, the related agencies must be held responsible for implementation of the assigned work in the respective fields. The Development Authorities have the most crucial role to play. Since a land-base is to be provided for the expanding urban economy, there must be means available to assemble large areas of land. The Development Authorities should have a strong land acquisition power and a sound source of finance.

Collection, generation and systematization of scientific data will be the first and foremost function of the Regional Development Authority. Without this, decision making on the part of the Authority could grossly be mistaken. Since all the technical functions will have to be carried by the Authority, a strong research bureau for regional development should be established within

the authority to collect, compile and generate systematized data relevant for research on regional development.

Major topics and areas of research:

Integration of regional economies to national economies involves the study of regional resources with a view to make adjustments in the structural as well as spatial arrangements. There are strengths and weaknesses in different locations and we have to understand the assets and liabilities of different regions to make most of whatever plans and programs may be conceivable to enrich the future.

Major investigation and research has to be carried in two phases: (1) to understand the regional characteristics and to confirm the regional boundary hypothesis, global studies covering the entire province especially on resources and needs will be necessary; (2) to work out detailed Master Plans elaborate information will be required in each regional sub-system.

Investigation on the first phase should include the following items:

1. Detailed information on economic activity location and land use.
2. Demographic and social characteristics of population
3. Regional income estimate

4. Migration estimates

a. Past inter-regional migration

b. Rural-urban migration

c. Projection of future migration

5. Analysis of major flows in the economy

a. Commodity flow

b. Capital and resource flow

6. Function of cities and their areas of influence

Regarding the information to be obtained in the second phase, items may be classified with reference to the regional types. Existing and projected data on the most important items on a priority basis are as follows:

For core regions:

a. Transportation and communication (capacity-condition and areas served)

b. Industrial land (site and amount of land requirements)

c. Utilities (water, power, waste disposal)

d. Public services (health, education, recreation and other community facilities)

e. Housing and sanitation (quality and quantity of existing and required facilities)

For agricultural development region:

a. Detailed information on demand of regional products

b. Research on structural and organizational deficiency of the region.

c. Information agricultural practices and resource combination.

d. Information on livability factors (housing, public amenities and welfare services)

e. Socio-economic and demographic characteristics (including income, dependence, density, excess of manpower, standard of morale and sense of citizen participation)

For special problem area:

a. Investigation on marine resources

b. Information on hydrography and soil characteristics

For resource frontier:

a. Thorough survey of forest resource

b. Vigorous research on minerals

c. Finding world market for indigenous resources.

Without investigation and research on the above mentioned items, assets and liabilities of regions cannot be revealed, national interest and support cannot be mobilized and plans and programs cannot be chalked out.

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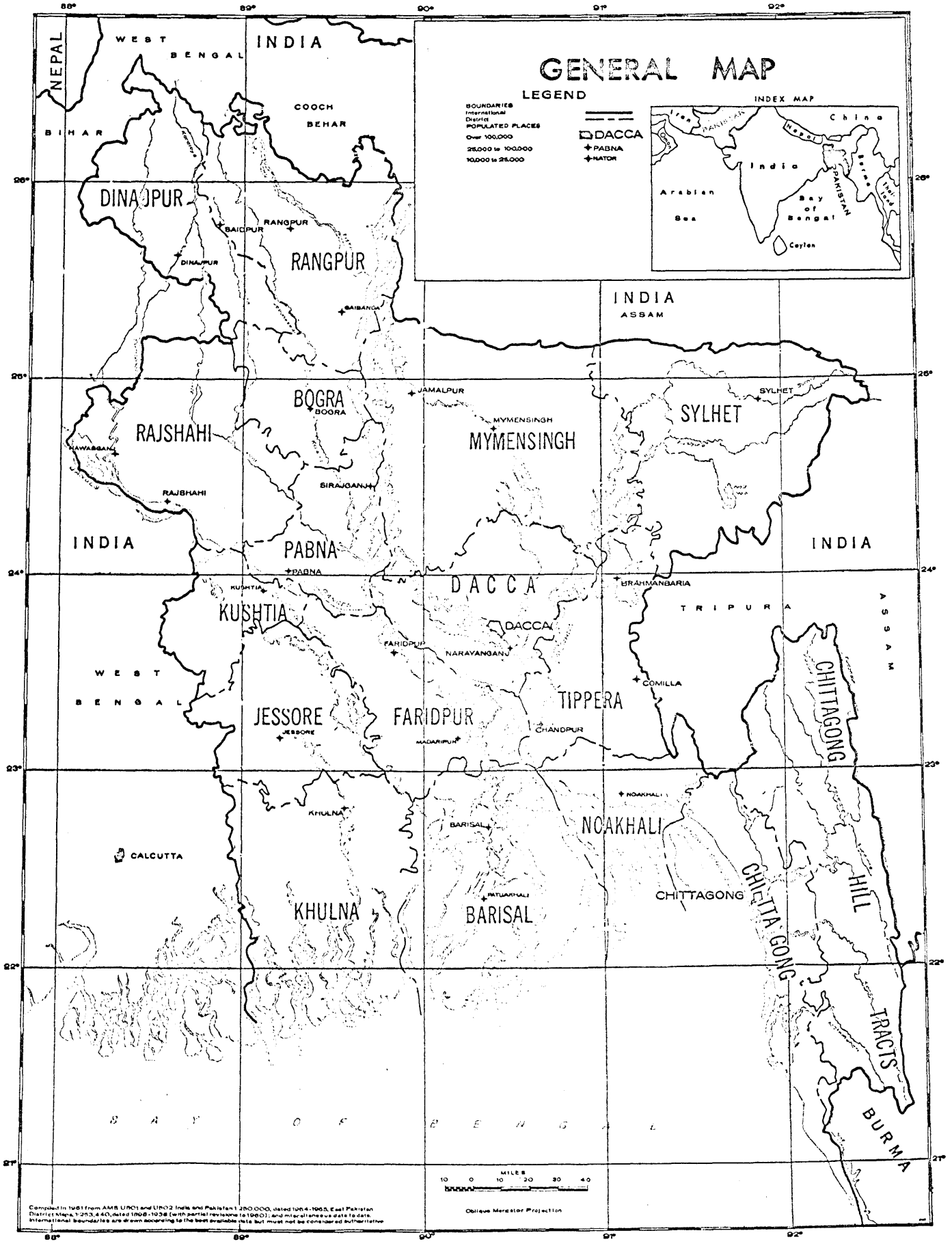
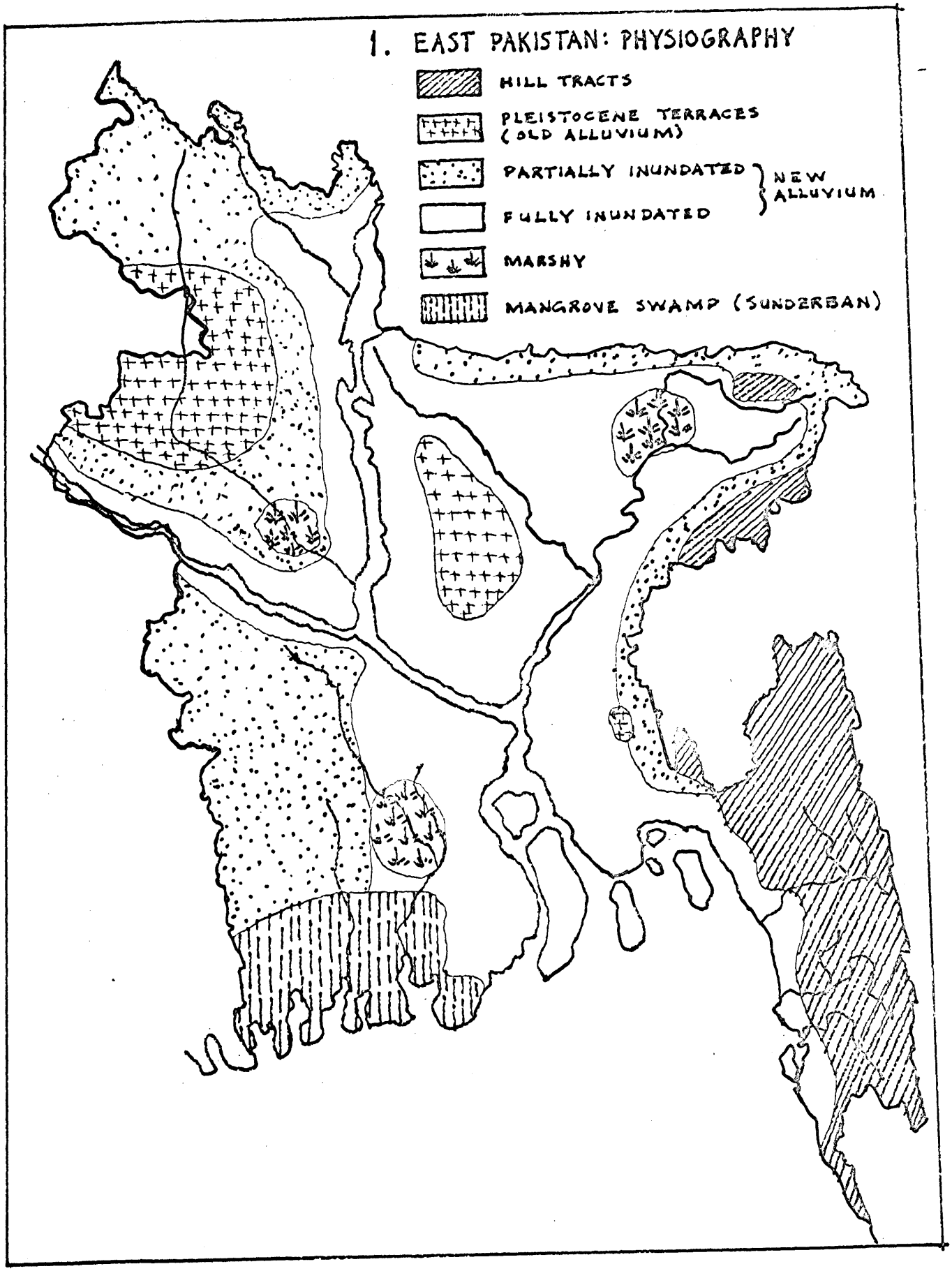
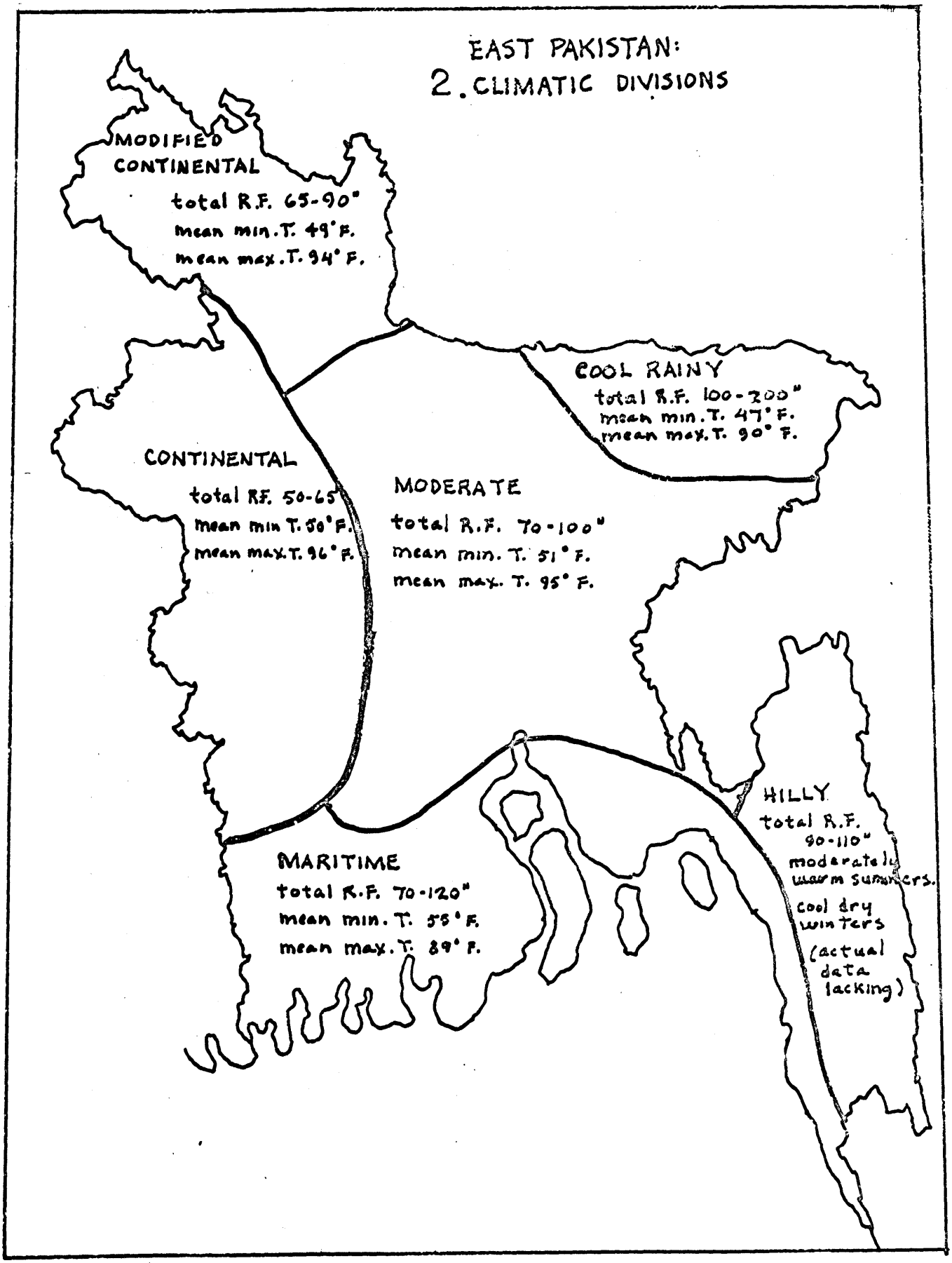
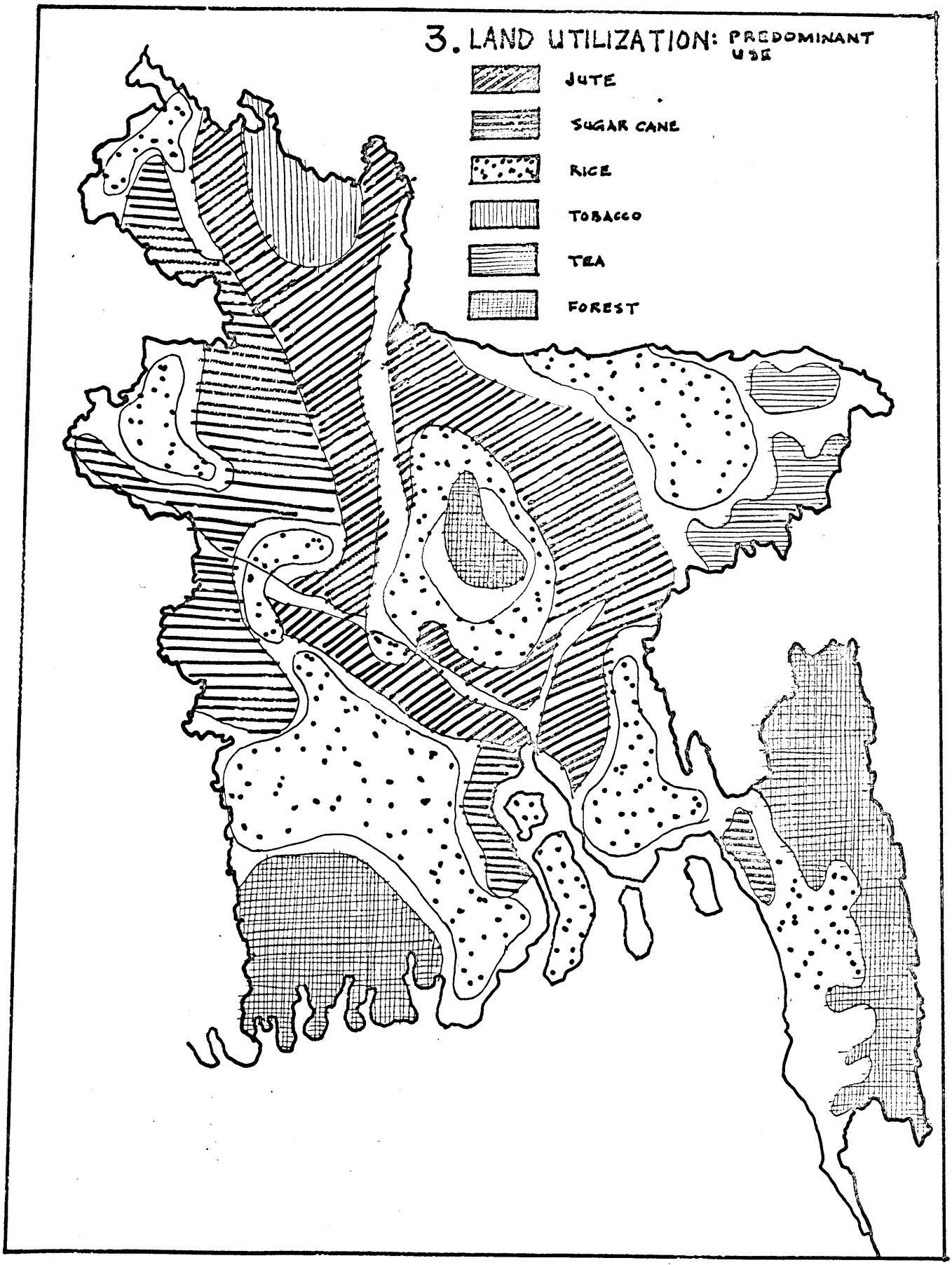
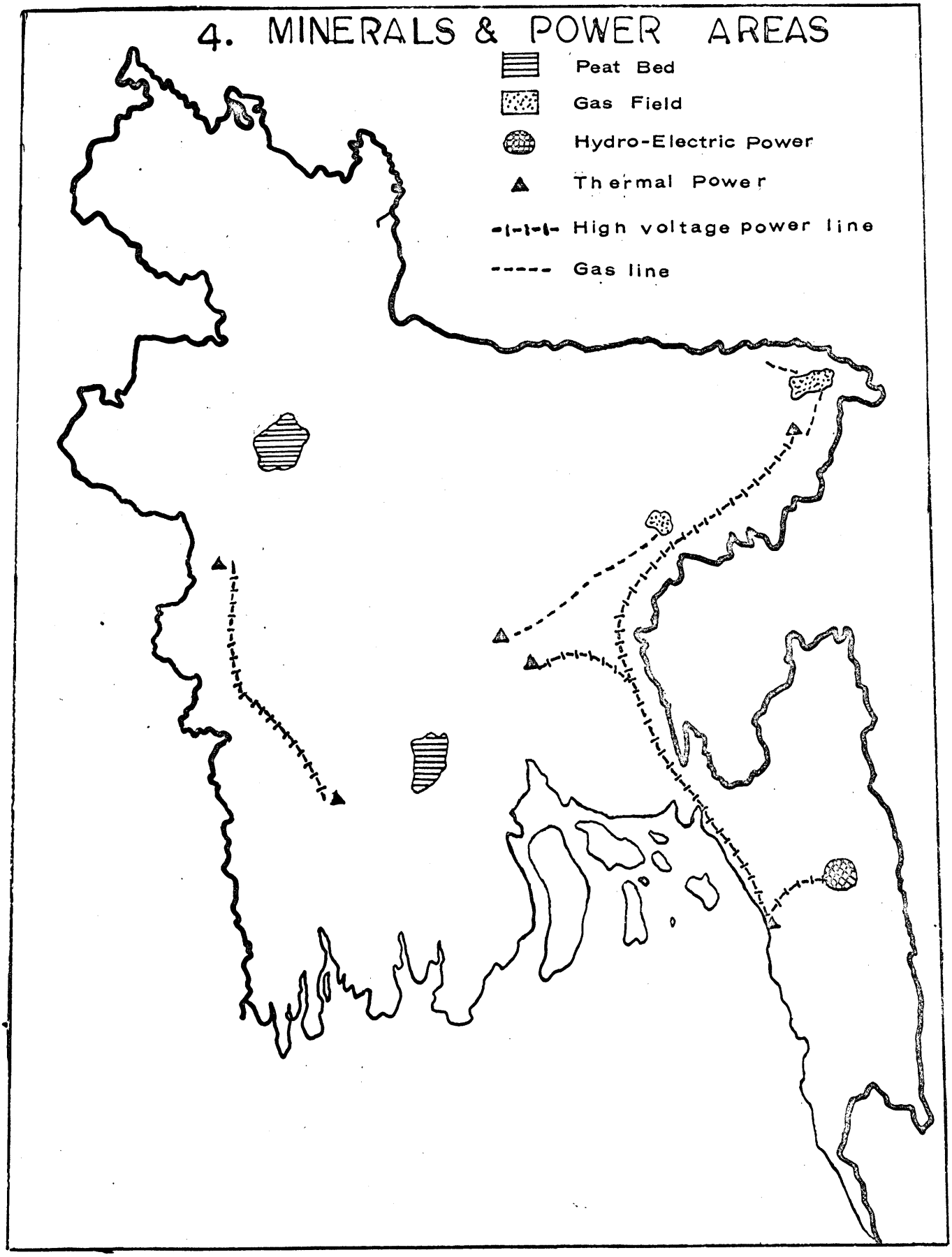
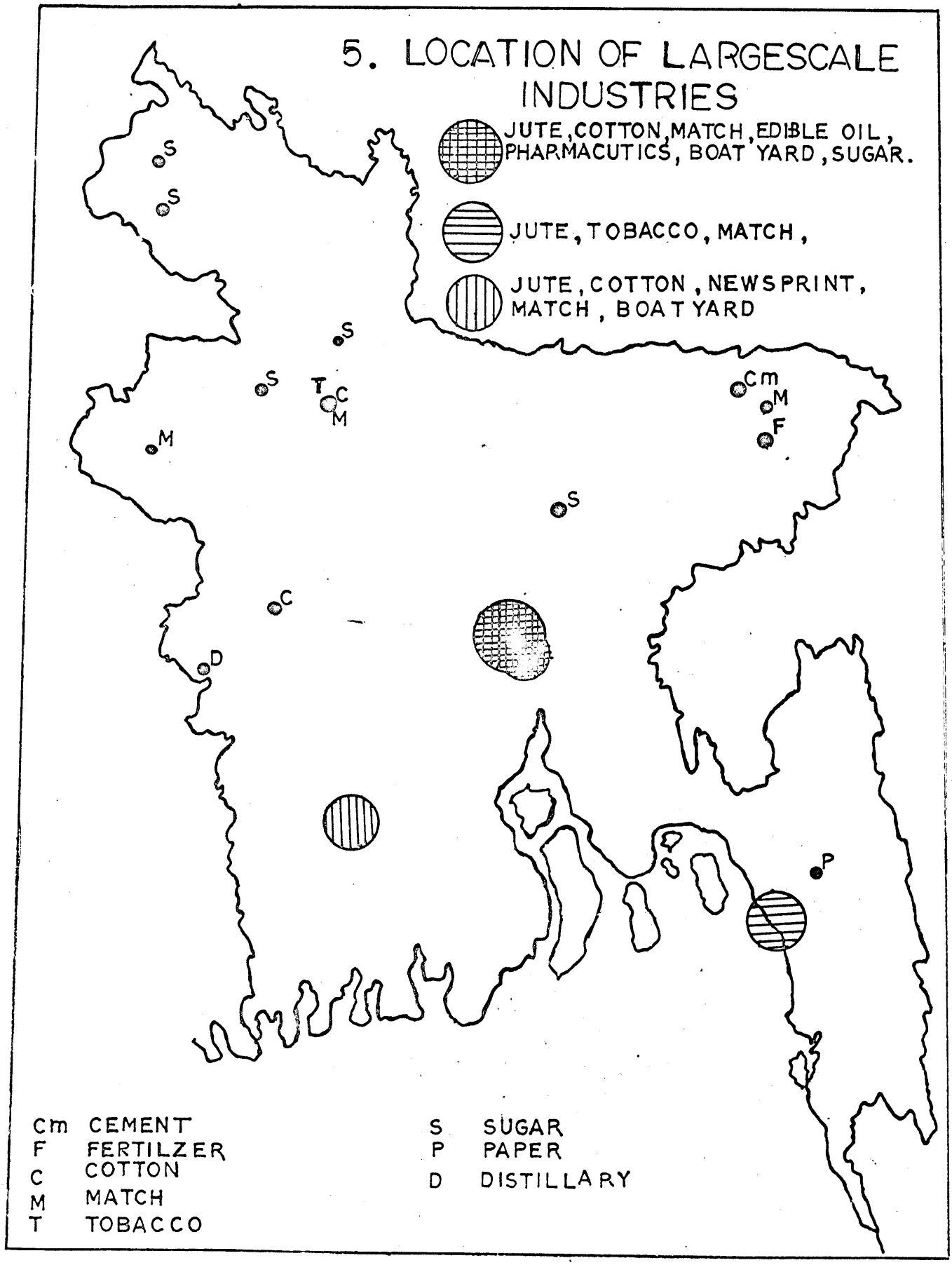

GENERAL MAP
LEGEND
BOUNDARIES
International
District
POPULATED PLACES
Over 100,000
25,000 to 100,000
10,000 to 25,000
DACCA
PABNA
NATOR
INDEX MAP
China
Nepal
India
PAKISTAN
Burma
Ceylon
Arabian Sea
Bay of Bengal
NEPAL
WEST BENGAL
INDIA
BIHAR
COOCH BEHAR
DINAJPUR
BAIDPUR
RANGPUR
DINAJPUR
RANGPUR
GAIBANDA
INDIA
ASSAM
BOGRA
BOGRA
JAMALPUR
MYMENSINGH
MYMENSINGH
SYLHET
SYLHET
RAJSHAHI
NAWABGANJ
SIRAJGANJ
RAJSHAHI
INDIA
PABNA
PABNA
INDIA
DACCA
KUSHTIA
KUSHTIA
BRAHMANBARIA
TRIPURA
ASSAM
DACCA
FARIDPUR
NARAYANGANJ
COMILLA
WEST BENGAL
JESSORE
FARIDPUR
TIPPERA
CHANDPUR
CHITTAGONG
JESSORE
MADARIPUR
NOAKHALI
KHULNA
BARISAL
NOAKHALI
CALCUTTA
PATUAKHALI
CHITTAGONG
CHITTAGONG HILL TRACTS
KHULNA
BARISAL
BURMA
BAY OF BENGAL
MILES
10 0 10 20 30 40
Oblique Mercator Projection
Compiled in 1961 from AMS U901 and U902 India and Pakistan 1:250,000, dated 1954-1965, East Pakistan District Maps, 1:253,440, dated 1960-1958 (with partial revisions to 1960); and miscellaneous data to date. International boundaries are drawn according to the best available data but must not be considered authoritative

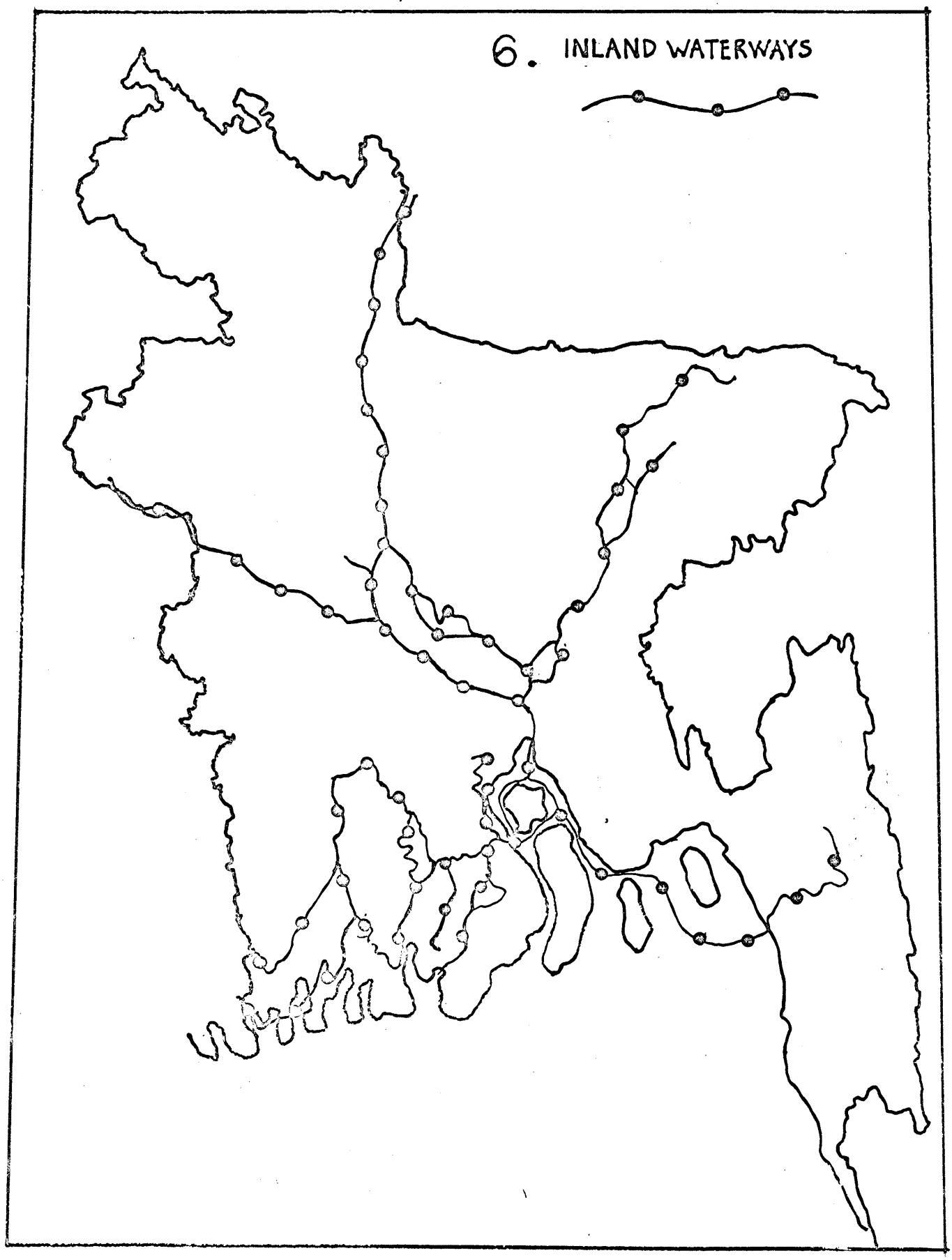

1. EAST PAKISTAN: PHYSIOGRAPHY
HILL TRACTS
PLEISTOCENE TERRACES (OLD ALLUVIUM)
PARTIALLY INUNDATED
FULLY INUNDATED
NEW ALLUVIUM
MARSHY
MANGROVE SWAMP (SUNDERBAN)

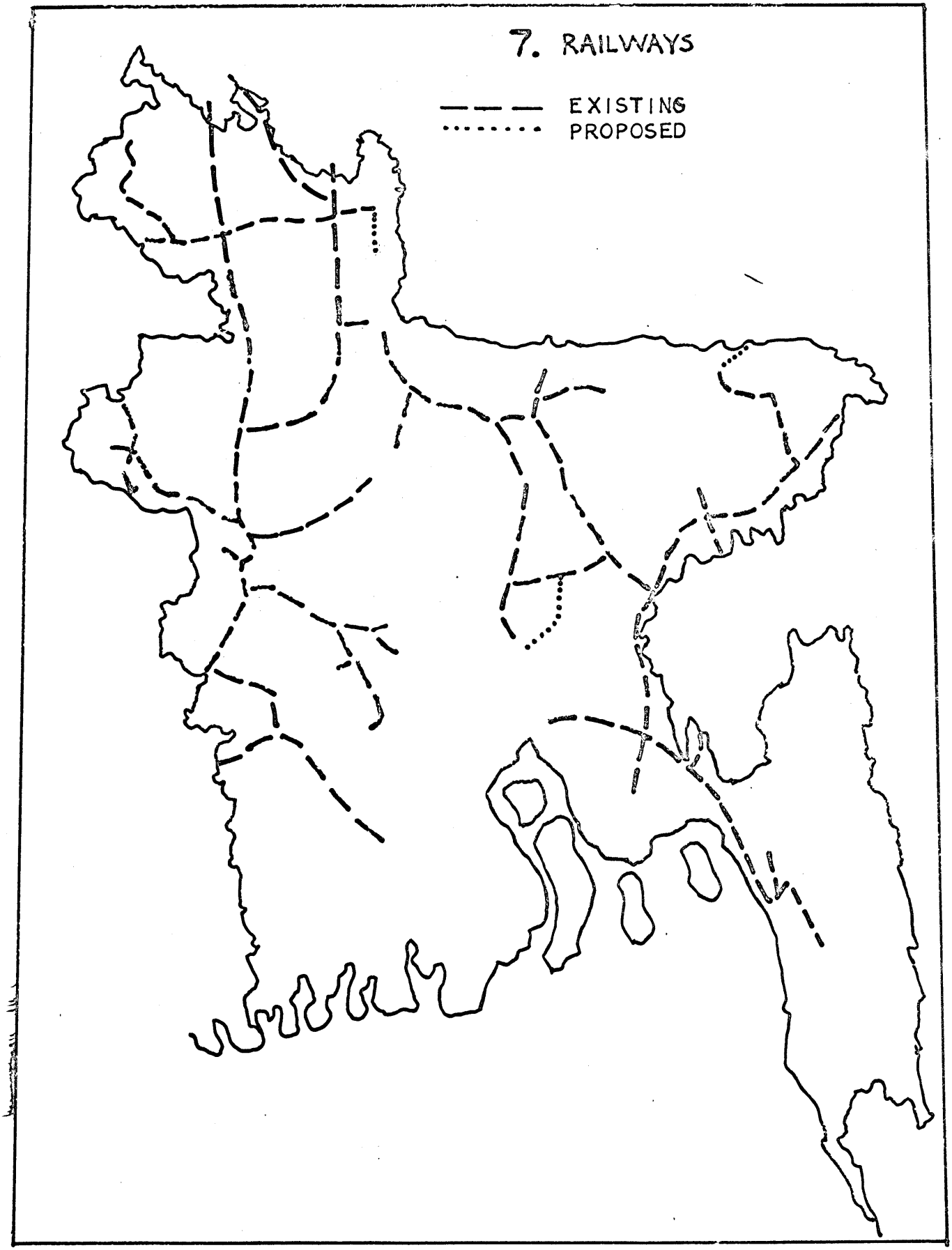

EAST PAKISTAN:
2. CLIMATIC DIVISIONS
MODIFIED CONTINENTAL
total R.F. 65-90"
mean min. T. 49° F.
mean max. T. 94° F.
COOL RAINY
total R.F. 100-200"
mean min. T. 47° F.
mean max. T. 90° F.
CONTINENTAL
total R.F. 50-65"
mean min T. 50° F.
mean max. T. 96° F.
MODERATE
total R.F. 70-100"
mean min. T. 51° F.
mean max. T. 95° F.
HILLY
total R.F. 90-110"
moderately warm summers.
cool dry winters
(actual data lacking)
MARITIME
total R.F. 70-120"
mean min. T. 55° F.
mean max. T. 89° F.

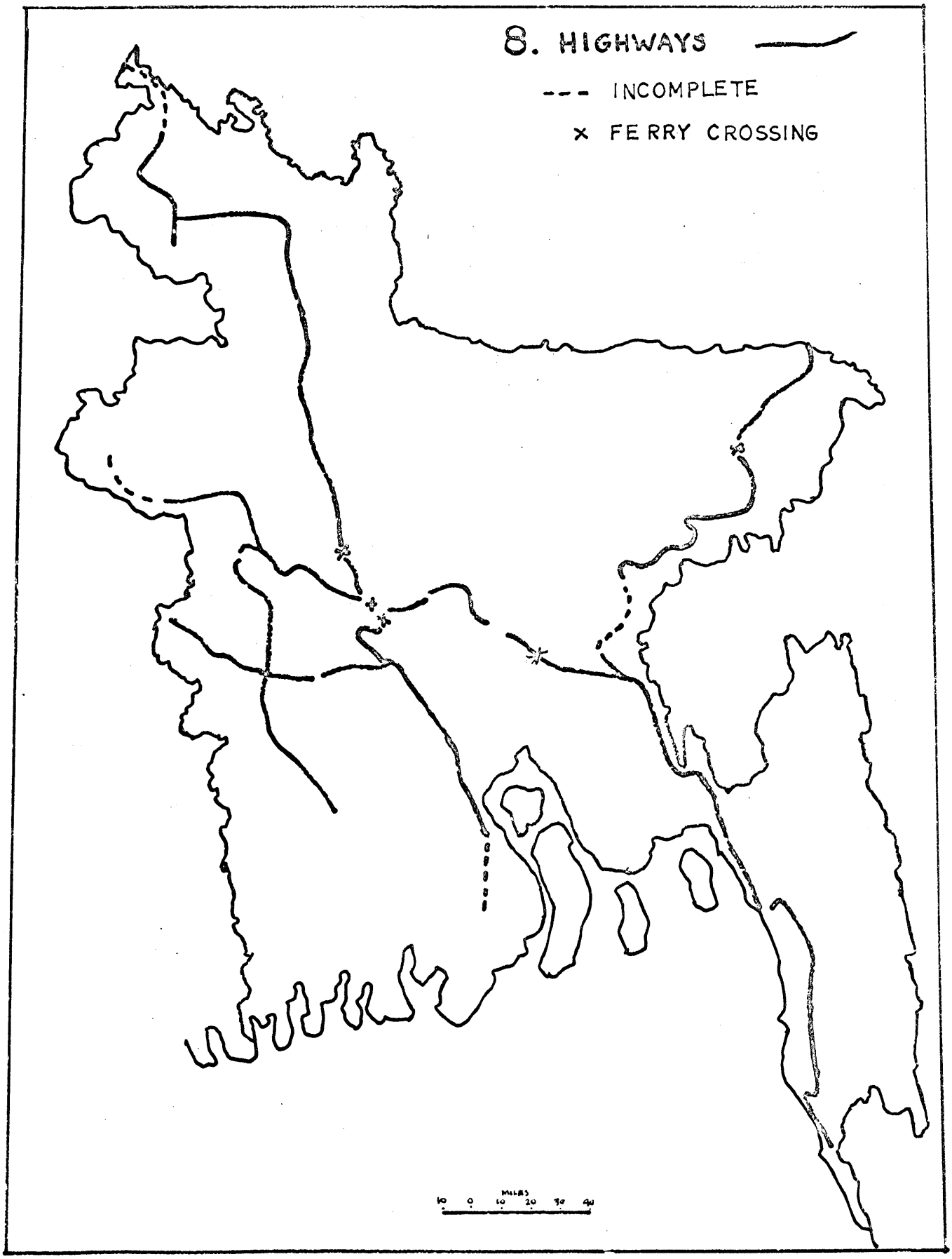

3. LAND UTILIZATION: PREDOMINANT USE
JUTE
SUGAR CANE
RICE
TOBACCO
TEA
FOREST

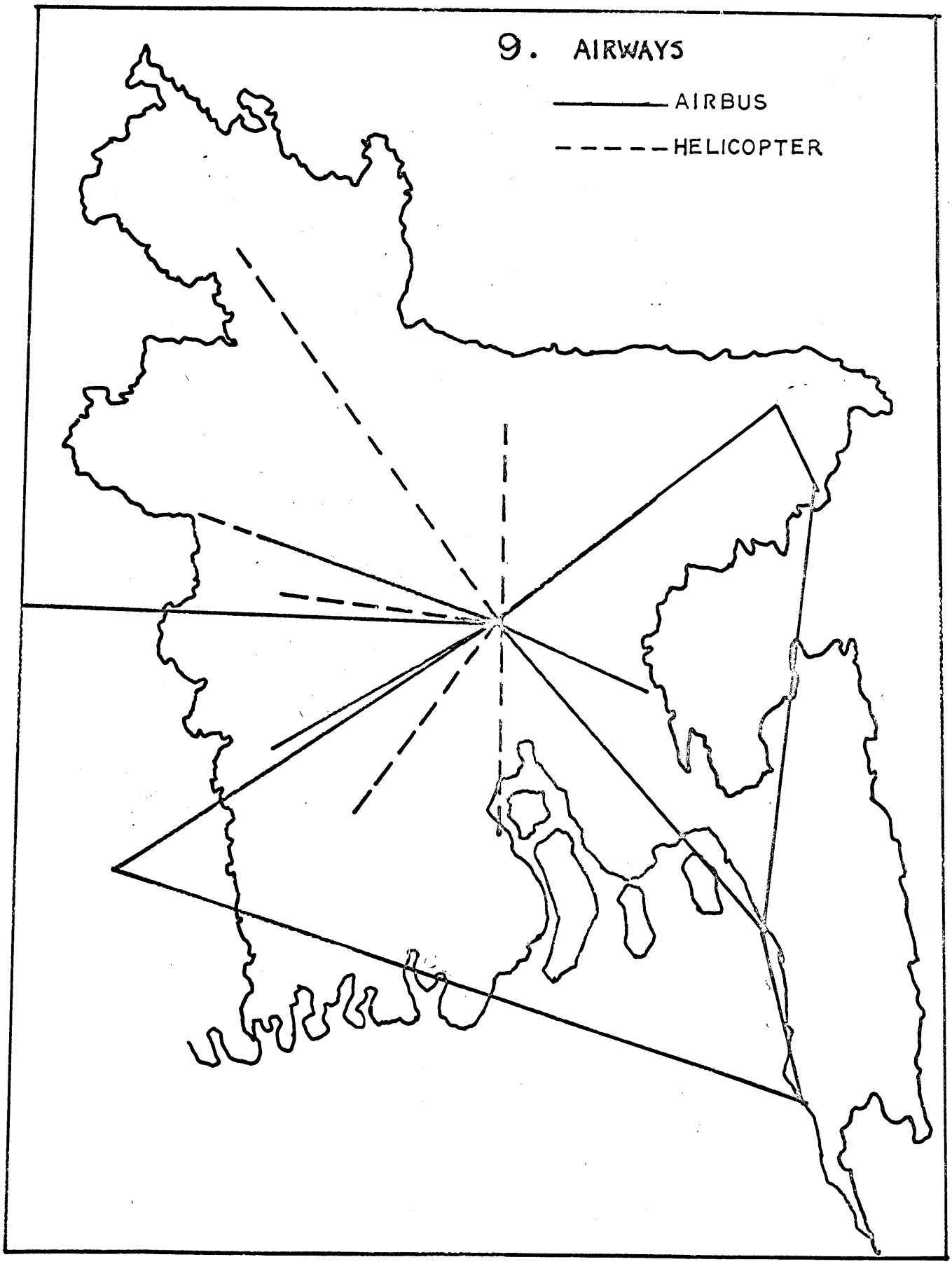

4. MINERALS & POWER AREAS
Peat Bed
Gas Field
Hydro-Electric Power
Thermal Power
High voltage power line
Gas line


5. LOCATION OF LARGESCALE INDUSTRIES
JUTE, COTTON, MATCH, EDIBLE OIL, PHARMACUTICS, BOAT YARD, SUGAR.
JUTE, TOBACCO, MATCH,
JUTE, COTTON, NEWSPRINT, MATCH, BOAT YARD
S
S
S
S
T
C
M
M
Cm
M
F
S
C
D
P
Cm CEMENT
F FERTILZER
C COTTON
M MATCH
T TOBACCO
S SUGAR
P PAPER
D DISTILLARY

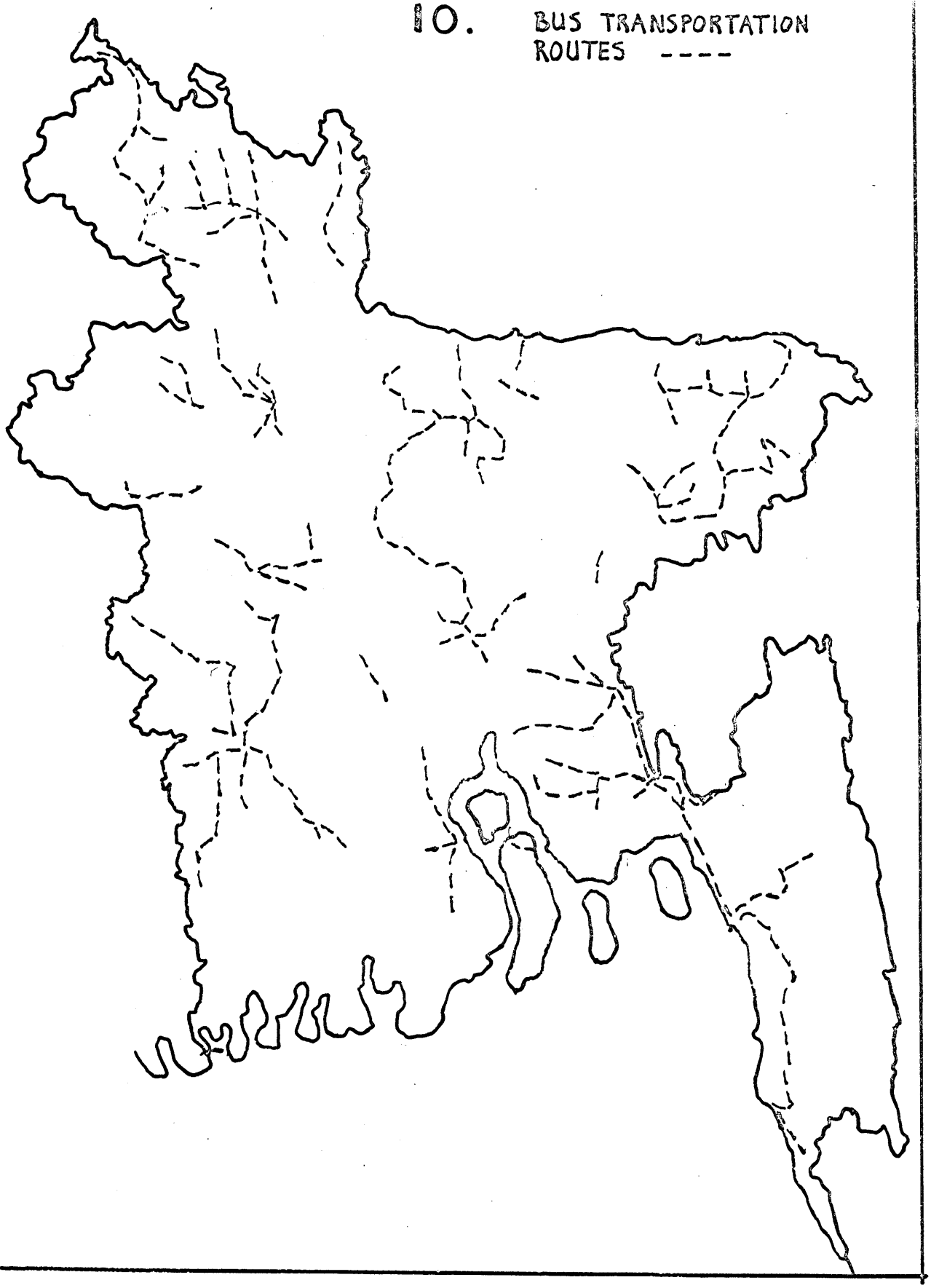

6. INLAND WATERWAYS

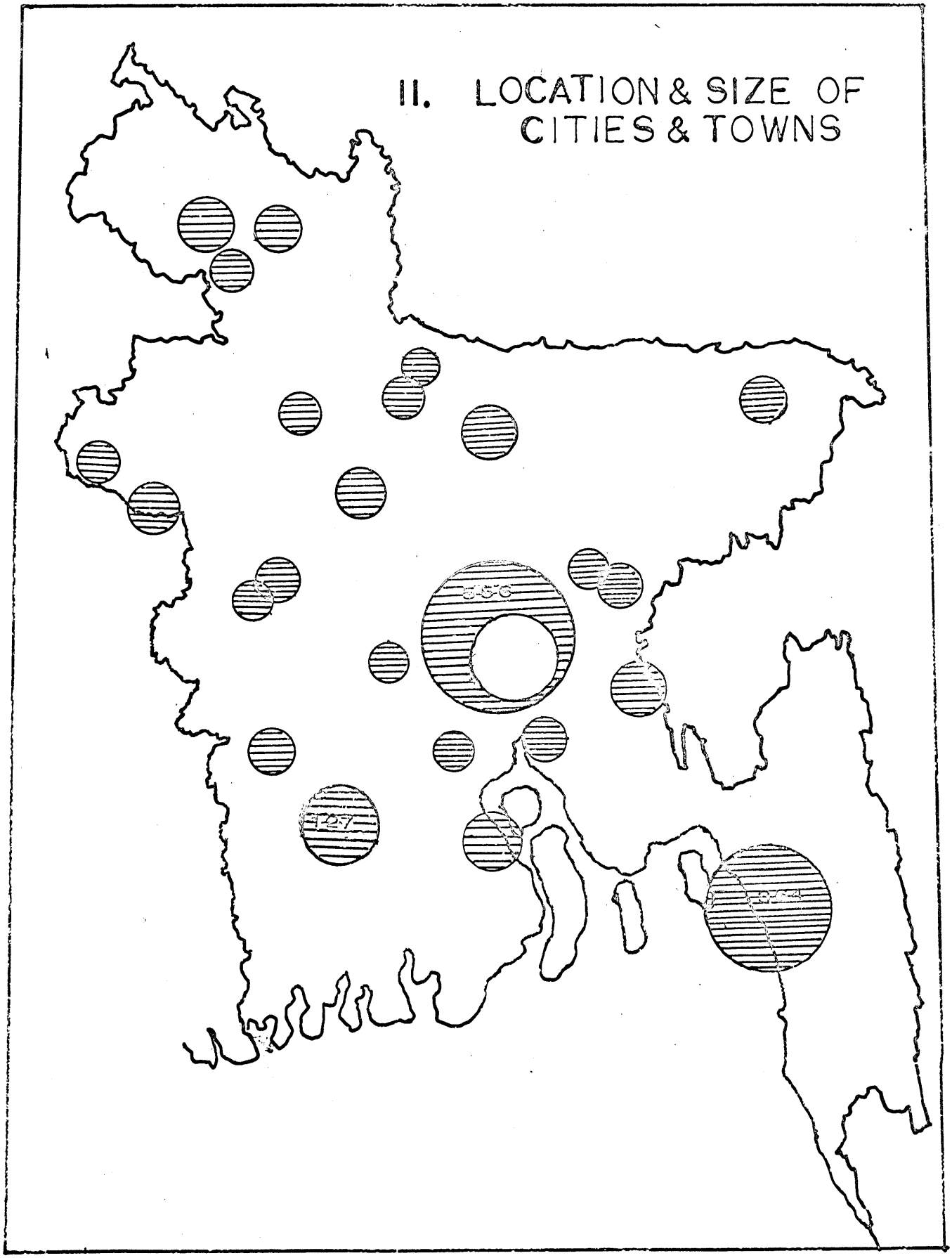

7. RAILWAYS
EXISTING
PROPOSED


8. HIGHWAYS
--- INCOMPLETE
× FERRY CROSSING
MILES
10 0 10 20 30 40

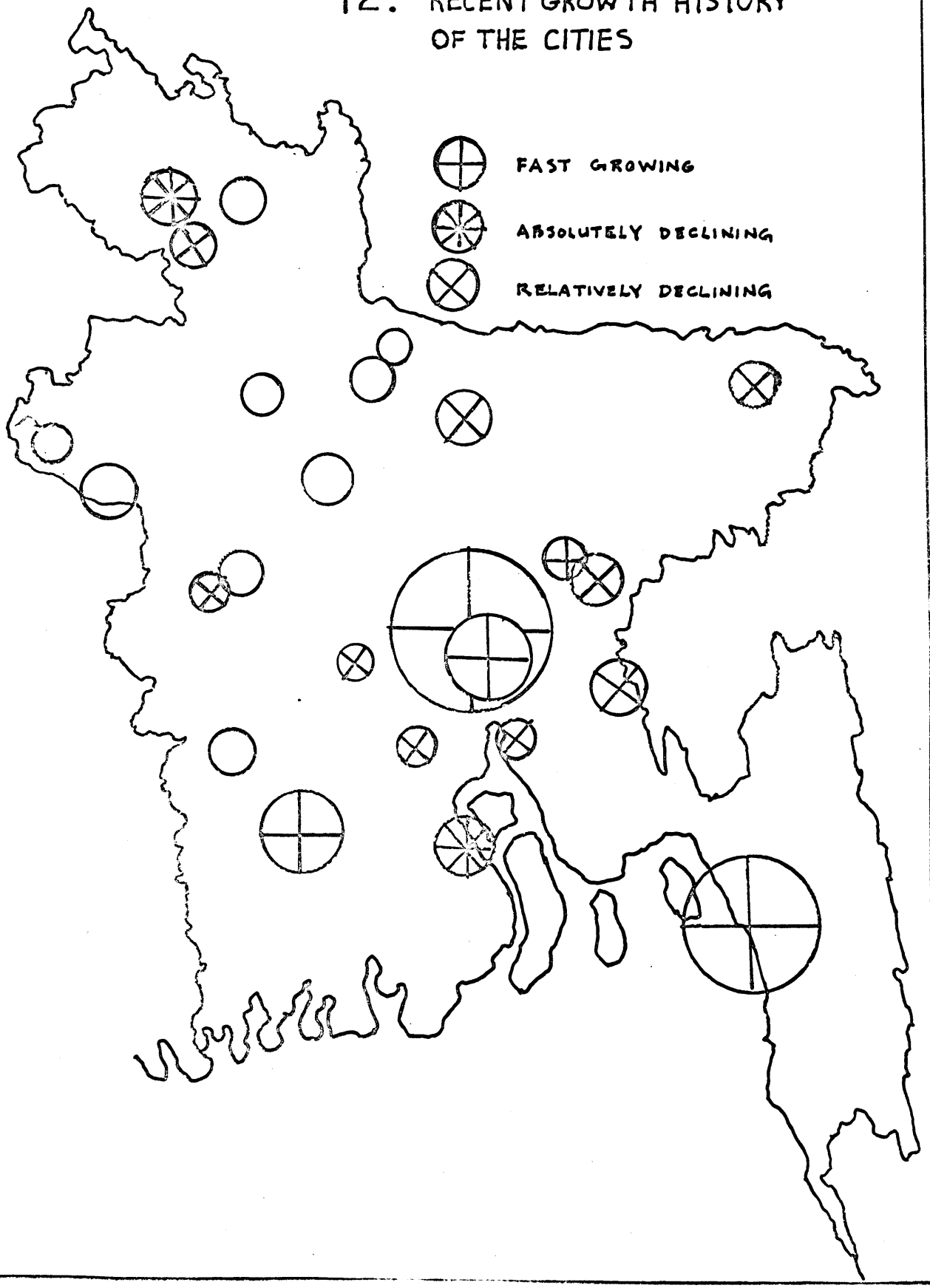

9. AIRWAYS
AIRBUS
HELICOPTER

10. BUS TRANSPORTATION ROUTES ----

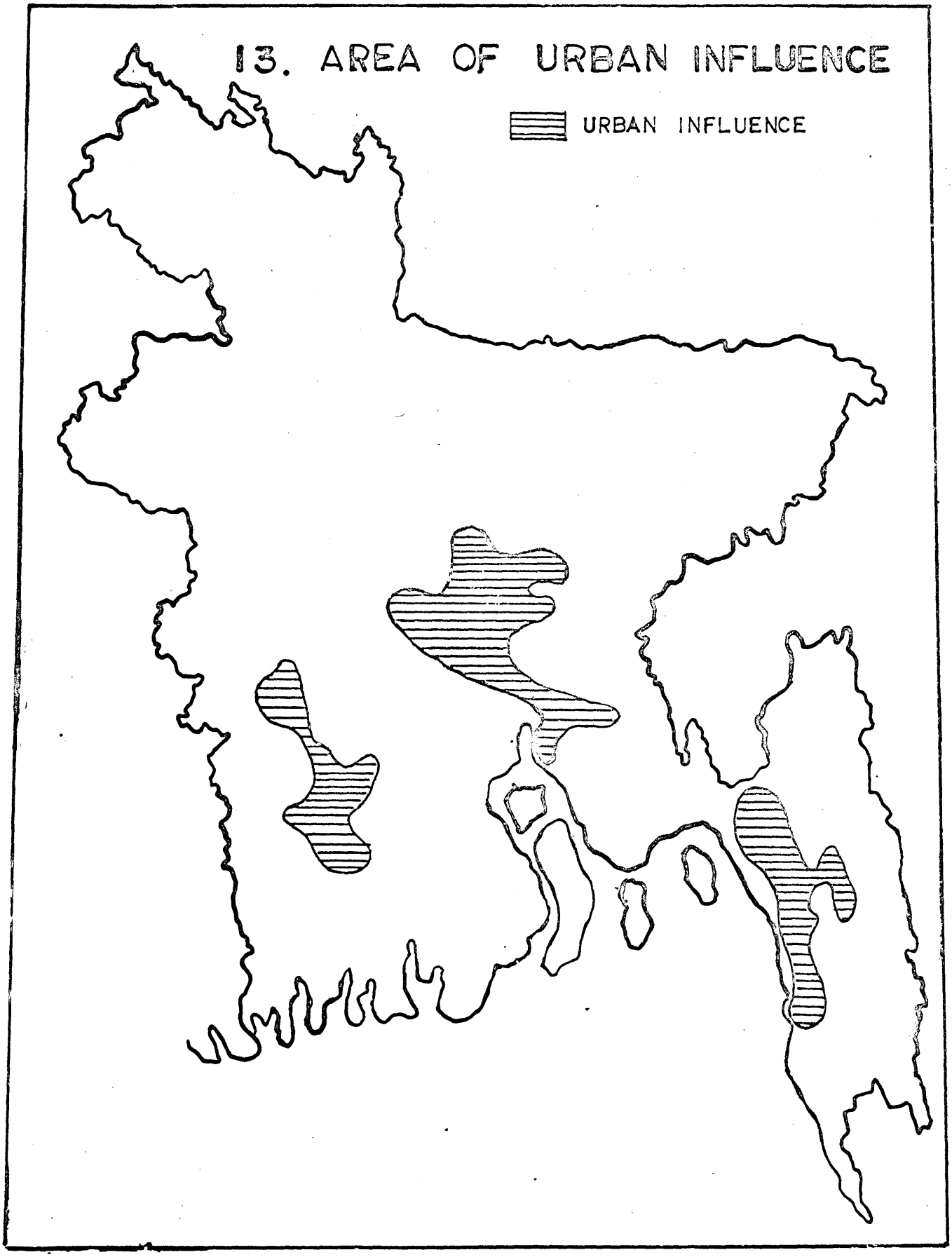


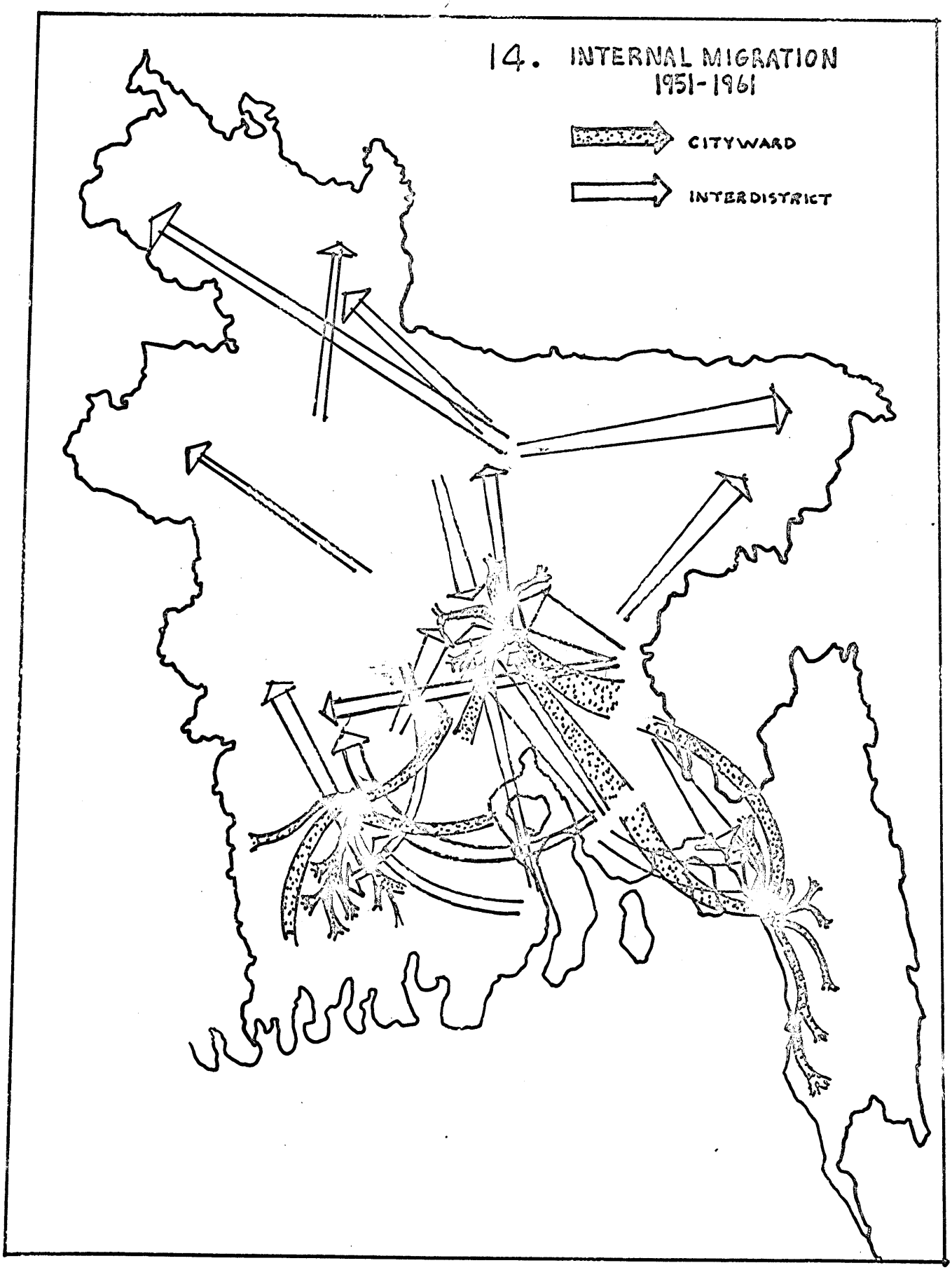

II. LOCATION & SIZE OF CITIES & TOWNS

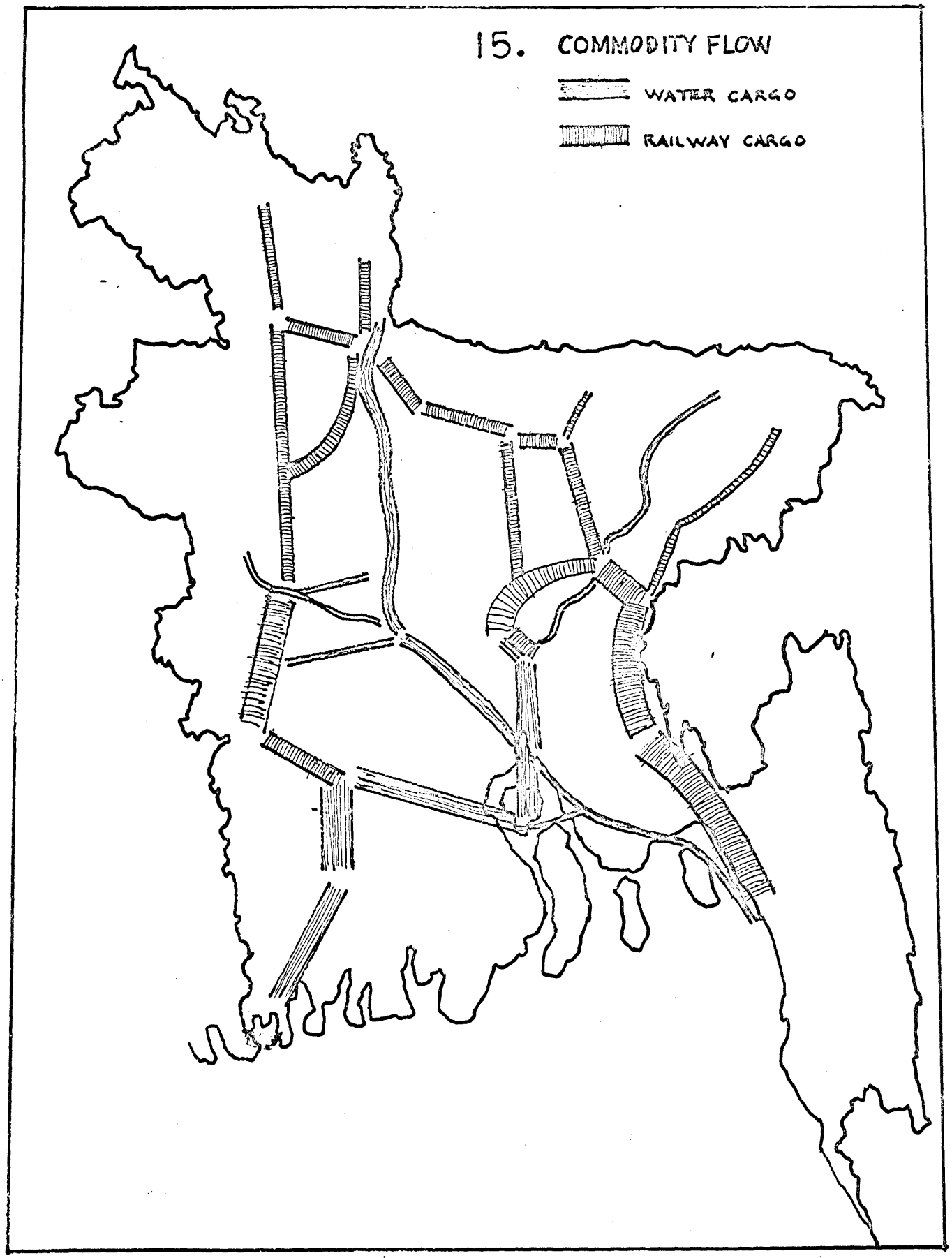
# 12. RECENT GROWTH HISTORY OF THE CITIES

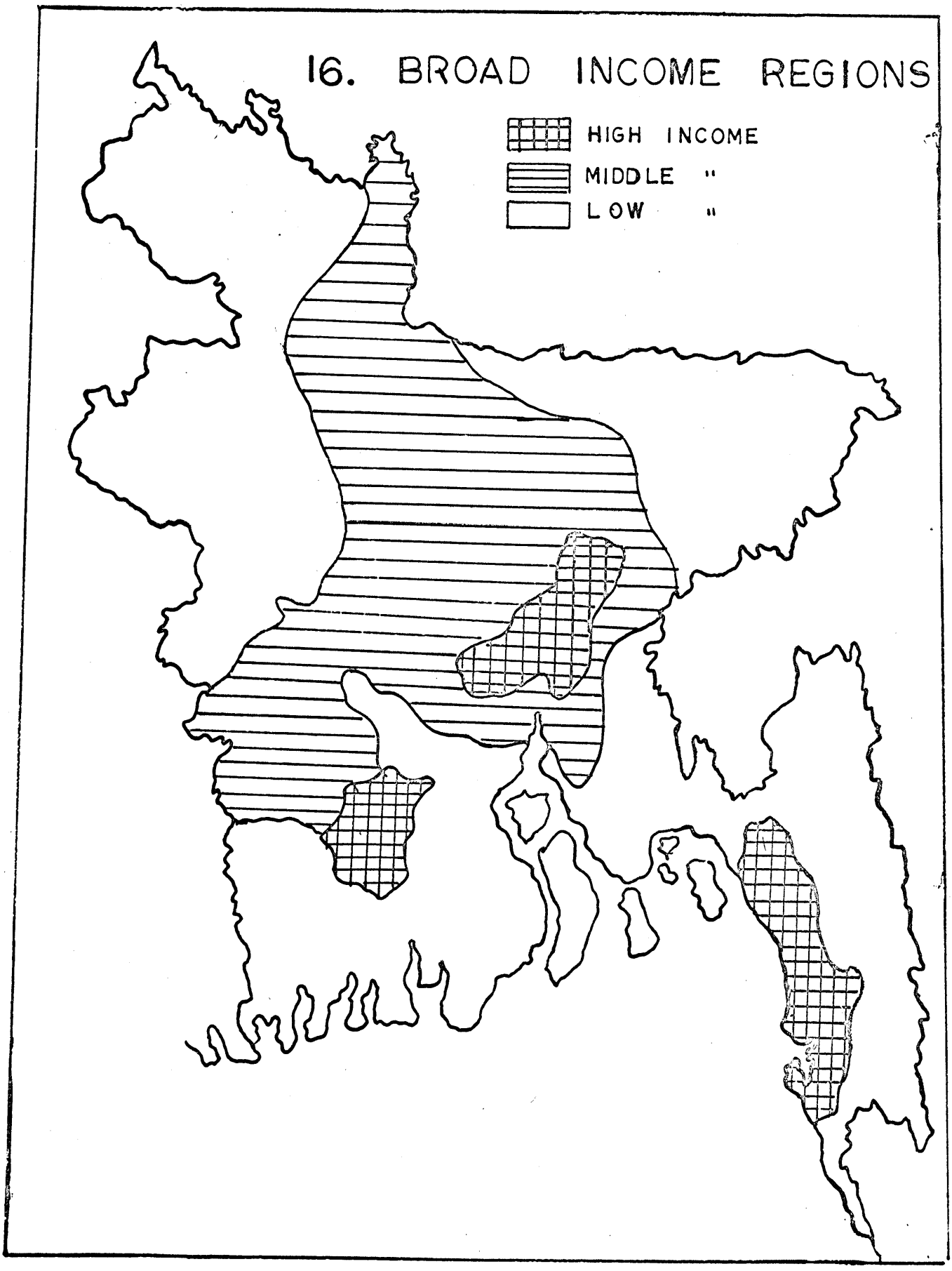


# 13. AREA OF URBAN INFLUENCE

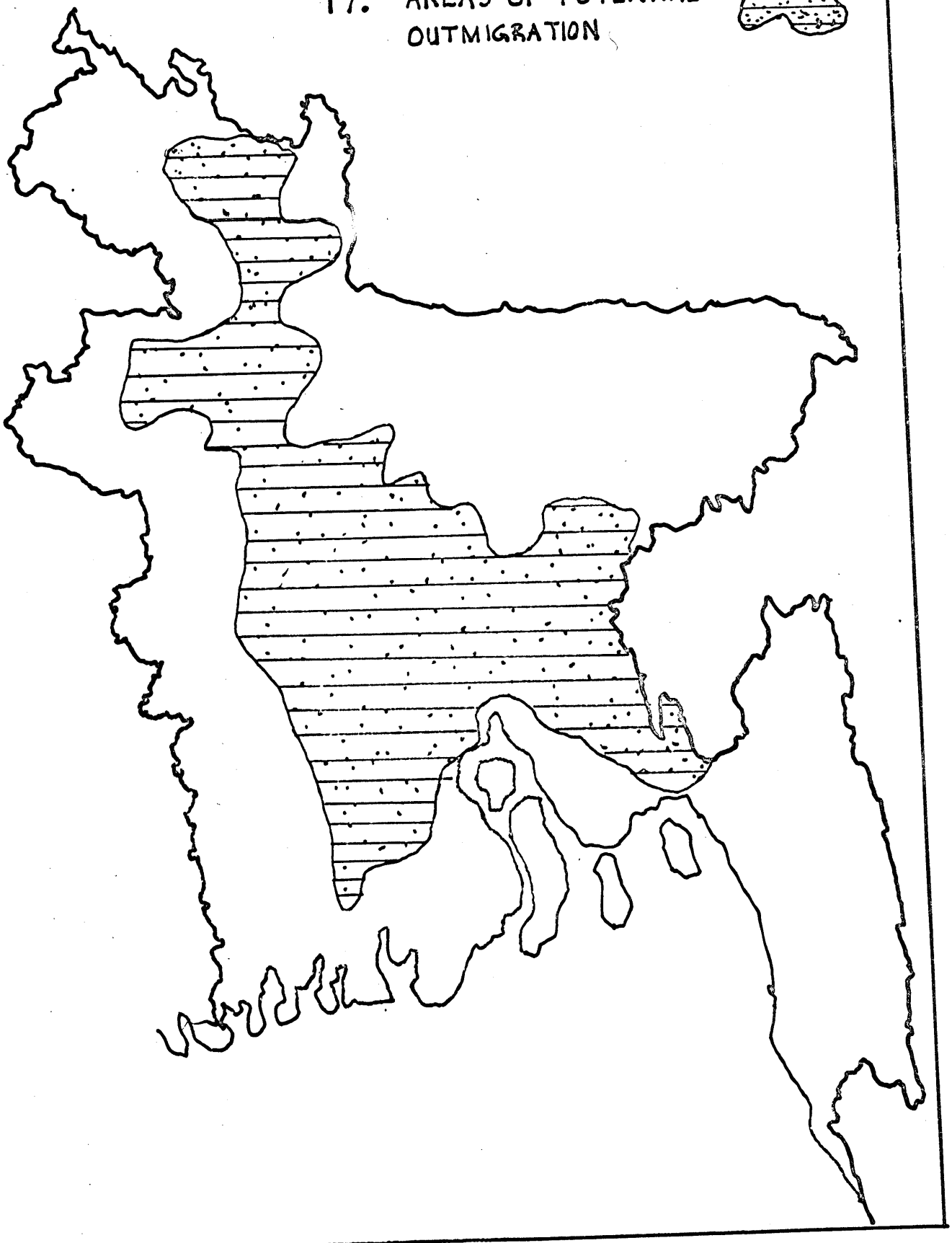



14. INTERNAL MIGRATION
1951-1961
CITYWARD
INTERDISTRICT

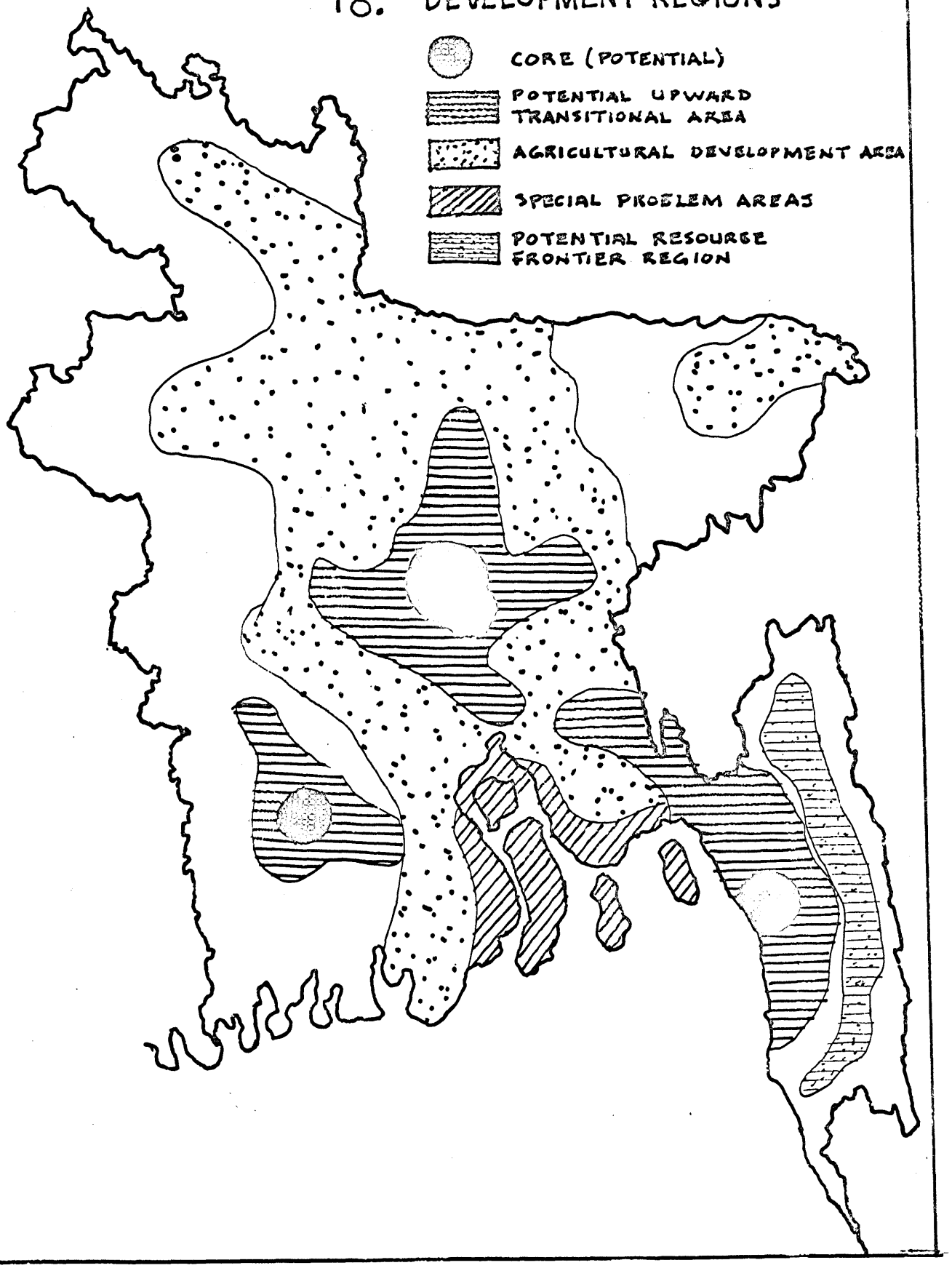

15. COMMODITY FLOW
WATER CARGO
RAILWAY CARGO


16. BROAD INCOME REGIONS
HIGH INCOME
MIDDLE "
LOW "

17. AREAS OF POTENTIAL OUTMIGRATION



# 18. DEVELOPMENT REGIONS



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# APPENDICES

## APPENDIX A-I

| Urban Area | 1951 | 1961 | increase or decrease(%) |
|---|---|---|---|
| 1.Dacca city | 338,762 | 556,712 | 64 |
| 2.Chittagong city | 294,046 | 364,205 | 24 |
| 3.Narayanganj city | 72,517 | 162,054 | 123 |
| 4.Khulna city | 42,225 | 127,970 | 203 |
| 5.Barisal muncl. | 89,964 | 69,936 | 22(-) |
| 6.Saidpur muncl. | 61,369 | 60,628 | 1(-) |
| 7.Rajsahi muncl. | 39,993 | 56,885 | 42 |
| 8.Comilla muncl. | 47,526 | 54,504 | 15 |
| 9.Mymensingh muncl. | 45,315 | 53,256 | 18 |
| 10.Serajganj | 37,858 | 47,152 | 25 |
| 11.Jessore | 24,146 | 46,366 | 92 |
| 12.Brahman Baria | 38,042 | 44,784 | 18 |
| 13.Pabna | 32,240 | 40,792 | 27 |
| 14.Rangpur | 31,759 | 40,634 | 28 |
| 15.Jamalpur | 27,078 | 37,988 | 40 |
| 16.Sylhet | 33,124 | 37,740 | 14 |
| 17.Dinajpur | 35,687 | 37,711 | 6 |
| 18.Chandpur | 32,048 | 34,837 | 9 |
| 19.Bogra | 25,303 | 33,784 | 34 |
| 20.Bhairab Bazar | 12,040 | 31,749 | 164 |
| 21.Nawabganj | 23,446 | 29,725 | 27 |
| 22.Faridpur | 25,556 | 28,333 | 11 |
| 23.Parbatipur | 32,876 | 27,118 | 17(-) |
| 24.Madaripur | 21,693 | 25,328 | 17 |
| 25.Kushtia | 21,628 | 24,952 | 15 |
| 26.Sherpur | 19,312 | 24,924 | 29 |
| 27.K$_1$shorganj | 19,067 | 24,031 | 26 |
| 28.Tangail | 21,639 | 23,688 | 9 |
| 29.Lalmonirhat | 9,170 | 22,001 | 140 |
| 30.Nawgaon | 11,287 | 20,276 | 80 |
| 31.Sathhira | 14,758 | 20,169 | 36 |
| 32.Noakhali | 16,677 | 19,874 | 19 |
| 33.Gaibandha | 14,310 | 17,738 | 24 |
| 34.Netrokona | 12,924 | 17,008 | 32 |
| 35.Bagherhat | 7,431 | 16,398 | 121 |
| 36.Rajbari | 11,398 | 16,044 | 41 |
| 37.Perojpur | 14,551 | 15,754 | 8 |
| 38.Narshindi | * | 14,752 | -- |
| 39.Natore | 10,455 | 13,317 | 27 |
| 40.Patuakhali | 10,289 | 12,325 | 20 |

| Urban Area | 1951 | 1961 | increase of decrease(%) |
|---|---|---|---|
| 40.Habiganj | 10,882 | 12,097 | 11 |
| 42.Bajitpur | 13,111 | 12,097 | 8(-) |
| 43.Kaptai | * | 11,967 | -- |
| 44.Manikganj | * | 11,676 | -- |
| 45.Choudanga | 8,617 | 11,625 | 35 |
| 46.Ishurdi | * | 11,566 | -- |
| 47.Jhalakati | 10,009 | 10,709 | 7 |
| 48.Sunamganj | 8,488 | 9,843 | 16 |
| 49.Feni | 4,951 | 9,817 | 98 |
| 50.Nilphamari | 5,413 | 9,757 | 80 |
| 51.Jhenida | 4,570 | 9,055 | 98 |
| 52.Gopalganj | * | 8,856 | -- |
| 53.Kotchandpur | 6,004 | 8,737 | 36 |
| 54.Kurigram | 8,063 | 8,703 | 8 |
| 55.Muktagacha | 6,982 | 8,658 | 24 |
| 56.Munshiganj | 7,071 | 8,604 | 22 |
| 57.Cox's bazar | 5,925 | 8,427 | 42 |
| 58.Bhola | 6,198 | 8,406 | 36 |
| 59.Shantahar | 7,442 | 8,292 | 11 |
| 60.Meherpur | 7,174 | 8,147 | 14 |
| 61.Darshona | * | 7,665 | -- |
| 62.Thakurgaon | 10,049 | 7,039 | 30(-) |
| 63.Ghouripur | 6,048 | 7,028 | 16 |
| 64.Magura | * | 6,999 | -- |
| 65.Moulvibazar | 5,967 | 6,522 | 9 |
| 66.Rangamati | * | 6,416 | -- |
| 67.Alamdanga | * | 5,494 | -- |
| 68.Kumarkhali | 3,896 | 5,353 | 37 |
| 69.Manamoti | * | 4,908 | -- |
| 70.Sherpur | 4,267 | 4,812 | 13 |
| 71.Choumohani | * | 4,545 | -- |
| 72.Chondroghona | * | 4,421 | -- |
| 73.Moheshpur | 2,983 | 4,153 | -- |
| 74.Dehhata | 5,738 | 4,042 | 30(-) |
| 75.Sreemangal | 3,010 | 4,040 | 34 |
| 76.Mongla | * | 3,847 | -- |
| 77.Nalchity | 2,248 | 2,314 | 3 |

Note: * denotes that this was not classed as urban area in 1951.

## APPENDIX A-II

## URBAN HIERARCHY SCORE

| | Capital | Div.Hq. | Dist.Hq. | Bulk + Port | Whlsl. | Rtl. |
|---|---|---|---|---|---|---|
| Dacca | x | x | x | x | x | x |
| Narayanganj | | | | x | x | x |
| Kishoreganj | | | | | x | |
| Chanpur | | | | x | x | |
| Faridpur | | | x | | | |
| Barisal | | | x | | x | x |
| Khulna | | x | x | x | x | x |
| Sherpur | | | | | x | |
| Jessore | | | x | | | x |
| Rajshahi | | x | x | | x | x |
| Pabna | | | x | | x | |
| Sirajganj | | | | x | x | |
| Kushtia | | | x | | | |
| Bogra | | | x | | x | x |
| Dinajpur | | | x | | x | x |
| Parbatipur | | | | x | | x |
| Rangpur | | | x | | x | x |
| Saidpur | | | | | | x |
| Nawabganj | | | | | x | |
| Mymensingh | | | x | | x | x |
| Tangail | | | | | x | x |
| Chittagong | | x | x | x | x | x |
| Bhairab | | | | x | x | |
| Jamalpur | | | | | x | |
| Madaripur | | | | | x | |
| Sylhet | | | x | | x | x |
| B. Baria | | | | | x | |
| Comilla | | | x | | x | x |

| | Large Mdm. | Small Univ.2+ | Univ.1 | Tech.Coll. | Stadium |
|---|---|---|---|---|---|
| Dacca | x | x | x | x | x | x | x |
| Narayanganj | x | x | x | | | | |
| Kishoreganj | | | x | | | | |
| Chanpur | | x | x | | | | |
| Faridpur | | | x | | | | |
| Barisal | | x | | | | | |
| Khulna | x | x | x | | | x | |
| Sherpur | | | x | | | | |
| Jessore | | | x | | | | |
| Rajshahi | | | x | | x | x | |
| Pabna | | | x | | | | |
| Sirajganj | | | x | | | | |
| Kushtia | | x | x | | | | |
| Bogra | | x | x | | | | |
| Dinajpur | | | x | | | | |
| Pakbatipur | | | x | | | | |
| Rangpur | | x | | | | | |
| Saidpur | | x | | | | | |
| Nawabganj | | | | | | | |
| Mymensingh | | x | | | x | x | |
| Tangail | | | x | | | x | |
| Chittagong | x | x | x | | | x | x |
| Bhairab | | x | | | | | |
| Jamalpur | | | x | | | | |
| Madaripur | | | x | | | | |
| Sylhet | | x | x | | | | |
| B. Baria | | | x | | | | |
| Comilla | | | x | | | x | |

| | Movie +Thet. | Fine Arts | Radio | TV. | Sp. Med. | Bank. +Ins. | News pap. | Port Int. | Port Inland |
|---|---|---|---|---|---|---|---|---|---|
| Dacca | x | x | x | x | x | x | x | | x |
| Narayanganj | x | | | | | x | | | x |
| Kishoreganj | x | | | | | x | | | |
| Chanpur | x | | | | | x | | | x |
| Faridpur | x | | | | | x | | | x |
| Barisal | x | | | | | x | | | x |
| Khulna | x | x | | | | x | | x | x |
| Sherpur | x | | | | | x | | | |
| Jessore | x | | | | | x | | | |
| Rajshahi | x | x | x | | | x | | | |
| Pabna | x | x | | | x | x | | | |
| Sirajganj | | | | | | x | | | x |
| Kushtia | x | | | | | | | | |
| Bogra | x | x | | | | x | | | |
| Dinajpur | x | x | | | | x | | | |
| Parbatipur | x | | | | | x | | | |
| Rangpur | x | x | | | | x | | | |
| Saidpur | | | | | | x | | | |
| Nawabganj | x | | | | | x | | | |
| Mymensingh | x | | | | | x | | | x |
| Tangail | | | | | x | x | | | |
| Chittagong | x | x | x | | x | x | x | x | x |
| Bhairab | x | | | | | x | | | x |
| Jamalpur | x | | | | | x | | | |
| Madaripur | | | | | | x | | | x |
| Sylhet | x | x | x | | | x | | | |
| B. Baria | x | x | | | | x | | | |
| Comilla | x | x | | | x | x | | | |

| | Air-port | Airport Dom. | Heliport | Rly.Junct. | Total Points Scored |
|---|---|---|---|---|---|
| Dacca | x | x | x | | 24 |
| Narayanganj | | | | | 9 |
| Kishoreganj | | | | | 4 |
| Chanpur | | | x | | 8 |
| Faridpur | | | x | | 6 |
| Barisal | | | x | | 8 |
| Khulna | | | x | | 15 |
| Sherpur | | | | | 4 |
| Jessore | | x | | x | 7 |
| Rajshahi | | | x | | 12 |
| Pabna | | | | | 7 |
| Sirajganj | | | x | | 6 |
| Kushtia | | | x | | 5 |
| Bogra | | | x | | 9 |
| Dinajpur | | | x | x | 9 |
| Parbatipur | | | x | x | 7 |
| Rangpur | | | x | | 8 |
| Saidpur | | | | | 3 |
| Nawabganj | | | | | 3 |
| Mymensingh | | | | x | 10 |
| Tangail | | | | | 6 |
| Chittagong | x | x | x | x | 22 |
| Bhairab | | | | x | 7 |
| Jamalpur | | | | x | 5 |
| Madaripur | | | | | 4 |
| Sylhet | | x | | | 10 |
| B. Baria | | | | | 5 |
| Comilla | | x | | | 10 |

APPENDIX A-III

| | Density 1961 | Females Per 1000 Males 1961 | % Literacy 1961 | 1961 Civilian Labor Force Agricul. | Non-Agr. |
|---|---|---|---|---|---|
| Thakurgaon | 564 | 875 | 19.5 | 227,823 | 15,537 |
| Dinajpur Sadar | 738 | 909 | 22.6 | 292,767 | 37,292 |
| Nilphamari | 1094 | 915 | 17.3 | 189,363 | 25,647 |
| Rangpur Sadar | 981 | 925 | 16.7 | 362,929 | 28,495 |
| Kurigram | 926 | 923 | 12.3 | 287,226 | 16,245 |
| Gaibanda | 1155 | 924 | 14.5 | 284,728 | 21,445 |
| Bogra Sadar | 1048 | 953 | 18.7 | 404,452 | 49,100 |
| Nawabganj | 724 | 988 | 14.1 | 150,569 | 23,590 |
| Rajshahi | 791 | 940 | 16.5 | 174,986 | 36,914 |
| Natore | 742 | 932 | 15.2 | 133,423 | 18,026 |
| Naogaon | 804 | 946 | 17.9 | 254,975 | 19,757 |
| Serajganj | 1150 | 951 | 13.5 | 240,686 | 53,969 |
| Pabna Sadar | 932 | 935 | 14.3 | 179,592 | 53,344 |
| Kushtia Sadar | 1012 | 917 | 12.6 | 141,792 | 53,278 |
| Meherpur | 693 | 939 | 11.0 | 50,745 | 6,410 |
| Chuadanga | 711 | 917 | 13.0 | 77,100 | 21,182 |
| Khulna Sadar | 492 | 862 | 24.1 | 177,656 | |
| Satkhira | 563 | 942 | 18.7 | 202,387 | 37,821 |
| Bagerhat | 530 | 921 | 24.3 | 202,788 | 18,565 |
| Jhenaidah | 757 | 9905 | 14.4 | 163,040 | 30,239 |
| Magura | 865 | 935 | 15.3 | 88,336 | 15,149 |
| Narail | 979 | 963 | 19.4 | 89,665 | 16,045 |
| Jessore | 900 | 909 | 18.3 | 202,186 | 38,447 |
| Barisal S. North | 1190 | 935 | 20.8 | 199,691 | 27,797 |
| Barisal S. South | 1482 | 935 | 24.4 | 169,893 | 19,205 |
| Bhola | 856 | 921 | 14.4 | 176,389 | 18,202 |
| Patuakhali | 727 | 956 | 16.1 | 275,221 | 24,939 |
| Perojpur | 1236 | 980 | 25.7 | 196,056 | 57,777 |
| Jamalpur | 1105 | 937 | 12.4 | 475,088 | 46,710 |
| Sadar South | 1246 | 909 | 16.1 | 481,798 | 43,157 |
| Sadar North | 1104 | 906 | 13.8 | 290,244 | 17,367 |
| Netrakona | 832 | 893 | 14.9 | 348,906 | 27,107 |
| Kishoreganj | 1245 | 939 | 13.3 | 401,890 | 44,082 |
| Tangail | 1143 | 952 | 14.8 | 386,705 | 51,546 |
| Dacca Sadar South | 3429 | 799 | 28.5 | 90,585 | 265,986 |
| Dacca Sadar North | 1044 | 937 | 16.0 | 244,936 | 38,602 |

| | Density 1961 | Females Per 1000 Males 1961 | % Literacy 1961 | 1961 Civilian Labor Force Agricul. | Non-Agri. |
|---|---|---|---|---|---|
| Narayanganj | 2175 | 882 | 17.1 | 301,209 | 161,565 |
| Munshiganj | 1979 | 1000 | 17.5 | 127,542 | 56,416 |
| Manikganj | 1318 | 982 | 12.4 | 151,358 | 34,338 |
| Goalanda | 934 | 921 | 14.9 | 109,131 | 23,090 |
| Faridpur Sadar | 1092 | 950 | 12.2 | 202,707 | 33,152 |
| Madaripur | 1366 | 966 | 13.7 | 306,506 | 38,322 |
| Gopalganj | 1203 | 965 | 18.5 | 166,772 | 20,110 |
| Sunamganj | 601 | 908 | 14.5 | 273,314 | 24,214 |
| Sylhet | 789 | 905 | 17.6 | 245,086 | 58,001 |
| Moulvibazar | 710 | 944 | 19.6 | 252,742 | 24,010 |
| Habiganj | 859 | 971 | 14.9 | 358,220 | 27,918 |
| Brahmanbaria | 1552 | 954 | 16.1 | 397,392 | 49,415 |
| Sadar South | 1649 | 954 | 20.0 | 457,365 | 35,153 |
| Sadar North | 1865 | 967 | 18.5 | 454,191 | 25,025 |
| Chandpur | 1761 | 943 | 26.1 | 518,204 | 29,898 |
| Noakhali | 1194 | 970 | 19.9 | 560,638 | 57,001 |
| Feni | 1668 | 983 | 20.8 | 219,592 | 25,626 |
| Chittagong South | 1368 | 968 | 19.6 | 256,029 | 77,388 |
| Chtttagong North | 1317 | 872 | 27.6 | 332,644 | 253,325 |
| Cox's Bazar | 616 | 931 | 10.3 | 146,961 | 32,651 |
| Ramgarh | 78 | 855 | 12.6 | 69,424 | 4,446 |
| Rangamati | 102 | 747 | 16.4 | 67,200 | 17,123 |
| Bandarban | 49 | 889 | 6.3 | 45,561 | 2,995 |

## APPENDIX A-IV

## NET MIGRATION 1951-1961

| Places of Birth | Dinajpur | Rangpur | SaidpurTown | Bogra | Rajshahi | RajshahiTown | Pabna | Kushtia |
|---|---|---|---|---|---|---|---|---|
| Dinajpur | | 5287 | | | | | | |
| Rangpur | 8823 | | 19302 | 2396 | 1008 | | | |
| Bogra | 3752 | 10892 | | | 4559 | | | |
| Rajshahi | 5156 | | | 4381 | | 15594 | 1022 | 1697 |
| Pabna | 1760 | 4507 | | 1616 | 14035 | | | 3519 |
| Kushtia | | | | | 1813 | | -1986 | |
| Jessore | | | | | | | | |
| Khulna | | | | | | | | |
| Bakerganj | | | | | | | | |
| Mymensing | 29785 | 33822 | | 1288 | 6733 | | 1859 | |
| Dacca | 4740 | 6414 | | | 5460 | | 3892 | 2850 |
| Faridpur | 973 | | | | | | 1055 | 2609 |
| Sylhet | | | | | | | | |
| Comilla | 5310 | 2600 | | | 5980 | | -1295 | 3037 |
| Noakhali | 3273 | 8716 | | | 3576 | | | 2121 |
| Chittagong | | | | | | | | |
| ChittagongHills | | | | | | | | |
| West Pakistan | | | | | | | | |
| India | -21383 | -35318 | -20961 | -10053 | -27739 | | -22429 | 052107 |

| Places of Birth | Jessore | Khulna | KhulnaCity | Bakerganj | BarisalTown | Mymensing | MymensingTown |
|---|---|---|---|---|---|---|---|
| Dinajpur | | | | | | 1153 | |
| Rangpur | | | | | | 2295 | |
| Bogra | | | | | | | |
| Rajshahi | | | | | | | |
| Pabna | 1794 | 1947 | 1621 | | -1035 | | |
| Kushtia | 9147 | 1029 | 1181 | | | 1108 | |
| Jessore | | 2570 | 2388 | | | | |
| Khulna | 18166 | | 33161 | | | | |
| Bakerganj | 4417 | 17771 | 12522 | | -13977 | | |
| Mymensing | 1136 | 1070 | | | | | 10184 |
| Dacca | 7116 | 5922 | 4192 | -2277 | -1538 | 9710 | 1155 |
| Faridpur | 9517 | 15386 | 10593 | -3326 | | | |
| Sylhet | | | | | | | |
| Comilla | 25245 | 3629 | | | | 6443 | |
| Noakhali | 22345 | 5952 | 5770 | -6673 | | | |
| Chittagong | | 3662 | 1664 | | | | |
| ChittagongHills | | | | | | | |
| West Pakistan | 1945 | | | | | | |
| India | -9432 | 1217 | 8908 | -3297 | -2198 | -2897 | -4201 |

| Places of Birth | Dacca | DaccaCity | NarayanganjCity | Faridpur | Sylhet | Comilla | ComillaTown |
|---|---|---|---|---|---|---|---|
| Dinajpur | | | | | | 1154 | |
| Rangpur | 1738 | 1106 | | | | 1268 | |
| Bogra | 1262 | | | | | 1060 | |
| Rajshahi | 1713 | 1247 | | | | 1067 | |
| Pabna | 3298 | 1729 | | 5039 | | 1073 | |
| Kushtia | 1010 | | | 1812 | | 1332 | |
| Jessore | 1536 | | | -1355 | | 1312 | |
| Khulna | 1787 | 1086 | | | | 1380 | |
| Bakerganj | 11907 | 6460 | 2805 | 3346 | 1442 | 1820 | |
| Mymensing | 18930 | 6834 | 2505 | | 15533 | 1556 | |
| Dacca | | 76173 | 110241 | 2916 | 5042 | 4033 | |
| Faridpur | 39566 | 18742 | 3777 | | | 5936 | |
| Sylhet | 4188 | 2865 | | | | 2720 | |
| Comilla | 45811 | 24183 | 14735 | 8761 | 14393 | | |
| Noakhali | 31237 | 15747 | 9210 | 2827 | 8195 | 2025 | |
| Chittagong | 4189 | 1784 | 2055 | | 2597 | 3624 | |
| ChittagongHills | | | | | | 1061 | |
| West Pakistan | 2645 | 1985 | | | | 1555 | |
| India | | -11214 | 13384 | -6611 | -10706 | -2666 | |

| Places of Birth | Noakhali | Chittagong | ChittagongCity | ChittagongHills |
|---|---|---|---|---|
| Dinajpur | | | | |
| Rangpur | | | | |
| Bogra | | | | |
| Rajshahi | | | | |
| Pabna | | | | |
| Kushtia | | | | |
| Jessore | | | | |
| Khulna | | | | |
| Bakerganj | 3070 | 3270 | 2830 | |
| Mymensing | | 1531 | 1348 | |
| Dacca | | 3732 | 2927 | 1088 |
| Faridpur | | 1208 | | |
| Sylhet | | 1428 | 1078 | 1154 |
| Comilla | 4822 | 18383 | 14887 | 2945 |
| Noakhali | | 25227 | 17084 | 7373 |
| Chittagong | 1965 | | 28035 | 9476 |
| ChittagongHills | | | | |
| West Pakistan | | 1430 | 1326 | |
| India | -2613 | 1869 | 2351 | |

## APPENDIX A-V

## INCOME REGION SCORE

| | City Size Grade | Urban-izat. Grade | Pop. Growth Grade | Inds. Grade | Com. Agric. Grade | |
|---|---|---|---|---|---|---|
| Thakurgaon | 1 | - | 3 | 1 | | |
| Dinajpur | 3 | - | 3 | 1 | | |
| Nilphamari | 4 | 1 | 3 | 1 | | |
| RangpurSadar | 3 | 2 | 4 | 1 | | |
| Kurigram | 2 | 5 | 3 | 1 | | |
| Gaibandha | 2 | 1 | 3 | 1 | | |
| Bogra | 3 | 1 | 3 | 1 | | |
| Naogaon | 2 | 5 | 3 | 1 | | |
| Nawabganj | 3 | 1 | 3 | 1 | | |
| Rajshahi | 4 | 3 | 3 | 3 | | 3.2 |
| Natore | 2 | 1 | 5 | 1 | | 2.2 |
| Serejganj | 3 | 1 | 3 | 3 | | 2.5 |
| Pabna | 3 | 5 | 3 | 3 | | 3.5 |
| Kushtia | 2 | 1 | 4 | 4 | | 2.7 |
| Meherpur | 1 | 1 | 3 | 1 | | |
| Chuadanger | 2 | 5 | 4 | 3 | | 3.5 |
| Jhenaidah | 1 | 5 | 4 | 2 | | 3 |
| Magura | 1 | - | 3 | 2 | | |
| Narail | | - | 3 | 2 | | |
| Jessore | 3 | 5 | 4 | 2 | | 3.5 |
| Satkhira | 2 | 1 | 2 | 2 | | |
| Khulna | 5 | 5 | 3 | 4 | | 4.2 |
| Bagerhat | 2 | 5 | 2 | 1 | | 2.5 |
| BarisalSadar N. | | - | 3 | 1 | | |
| BarisalSadar S. | 4 | Φ | 2 | 1 | | |
| Bhola | 1 | 2 | 3 | 1 | | |
| Patuakhali | 2 | 1 | 3 | 1 | | |
| Perojpur | 2 | 1 | 1 | 3 | | |
| Jamalpur | 3 | 2 | 3 | 1 | | 2.2 |
| MymensingS.N. | 1 | 1 | 3 | 1 | | |
| MymensingS.S. | 4 | 1 | 3 | 1 | | 2.2 |
| Netarkona | 3 | 2 | 2 | 1 | | 2 |
| Kishoreganj | 3 | 4 | 2 | 1 | | |
| Tangail | 2 | 1 | 3 | 1 | | |
| DaccaS.S. | 5 | 5 | 5 | 5 | | 5 |
| DaccaS.N. | | - | 3 | 1 | | |

| | City Size Grade | Urban-izat. Grade | Pop. Growth Grade | Inds. Grade | Com. Agric. Grade | |
|---|---|---|---|---|---|---|
| Narayanganj | 5 | 5 | 3 | 4 | | 4.2 |
| Munshiganj | 1 | 1 | 1 | 4 | | |
| Mahikganj | 2 | - | 2 | 3 | | |
| Goalanda | 2 | 3 | 3 | 3 | | 2.7 |
| Fairdput | 3 | 1 | 2 | 1 | | |
| Madaripur | 3 | 1 | 2 | 1 | | |
| Gopalganj | 1 | - | 2 | 1 | | |
| Sunamganj | 1 | 1 | 2 | 1 | | |
| SylhetS. | 3 | 1 | 2 | 3 | | |
| Moulvibazar | 1 | 1 | 2 | 1 | | |
| B. Baria | 3 | 1 | 2 | 1 | | |
| ComillaS.N. | | - | 2 | 1 | | |
| ComillaS.S. | 4 | 1 | 2 | 1 | | 2 |
| Chandpur | 3 | 1 | 2 | 1 | | |
| Noakhali | 2 | 3 | 2 | 1 | | |
| Feni | 1 | 5 | 1 | 1 | | |
| ChittagongS.N. | 5 | 1 | 2 | 4 | | 3 |
| ChittagongS.S. | - | - | 2 | 3 | | |
| Cox's Bazar | 1 | 3 | 3 | 3 | | 2.5 |
| Ranagarh | | - | 5 | 1 | | |
| Rangumati | 2 | - | 4 | 3 | | |
| Bandarban | | - | 3 | 1 | | |