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ENGINEERING AND TECHNOLOGY
DACCA

MORPHOLOGY OF DISTRICT TOWNS OF EAST PAKISTAN

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THESIS

MORPHOLOGY OF DISTRICT TOWNS OF EAST PAKISTAN.

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MORPHOLOGY OF DISTRICT TOWNS OF EAST PAKISTAN

CHAPTER I

INTRODUCTION

Some interest has been noticed in settlement studies with the geographers, sociologists and town planners of this part of the country. However, the morphological aspect of the towns of East Pakistan has remained almost unexplored, though the planning of several towns has been taken up. Knowledge of the morphology of urban areas facilitates the understanding of the general characteristics of towns and cities and their implications for the whole country.

There is hardly any other aspect of urbanism which reflects native culture in greater measure than urban morphology as expressed in the form of street patterns, types of buildings and the distribution and arrangement of urban land uses. This emphasis on culture is justified, even though present day cities, incorporate many aspects of Western civilization. Indigineous cultural forces have produced certain

morphological characteristics which distinguish Asian cities from those in the West. The presence of the chain of mosques, Kabbe and Idgah in Pakistani cities reflect the influence of the Muslim cultural tradition. There also are other morphological characteristics of Pakistani cities which are distinctly non-western- street bazars, open markets, house-shop combination, and the like, although in some respects they resemble elements found in the historical landscapes of "pre-industrial" cities in the West. In view of the characteristics, it is not at all surprising if many of the concepts relating to the internal structure of cities in technologically advanced countries lose their validity when applied to non-western cities.

Studies of the form and structure of East Pakistani towns require most strenuous work. Before going to discuss the general features of the internal structure of the district towns of East Pakistan some focus on the size and location of towns in East Pakistan is deemed necessary.

According to the 1961 census of Pakistan, there were 78 urban areas in East Pakistan. A town was defined as an urban area consisting of a continuous collection of houses inhabited by not less than 5000 persons.

In addition, all incorporated municipalities and the towns managed by Notified Area Committee were also treated as urban even if they had less than 5000 inhabitants. Such a definition of urban areas leaves much to be desired. It gives rise to a serious confusion concerning the nature of an urban area. However, there were only 31 towns in East Pakistan in 1961 which had a population of more than 20,000 each. Excepting only Rangamati, the district headquarter town of Chittagong Hill Tracts, and Kushtia, all the district headquarter towns of East Pakistan were among them. Table 1 provides an impression about the variation of population in the district headquarter towns of East Pakistan.

The "district" in Pakistan is the basic unit of administration and the focal point of all social, cultural, economic, administrative and developmental activities.[1] There are 17 districts (excluding the two recently formed, namely Tangail and Patuakhali) in East Pakistan and the 17 district headquarter towns (Fig-1) are the hub of business, trade, commerce, administrative, educational and political activities. These towns have a long history of their origin and

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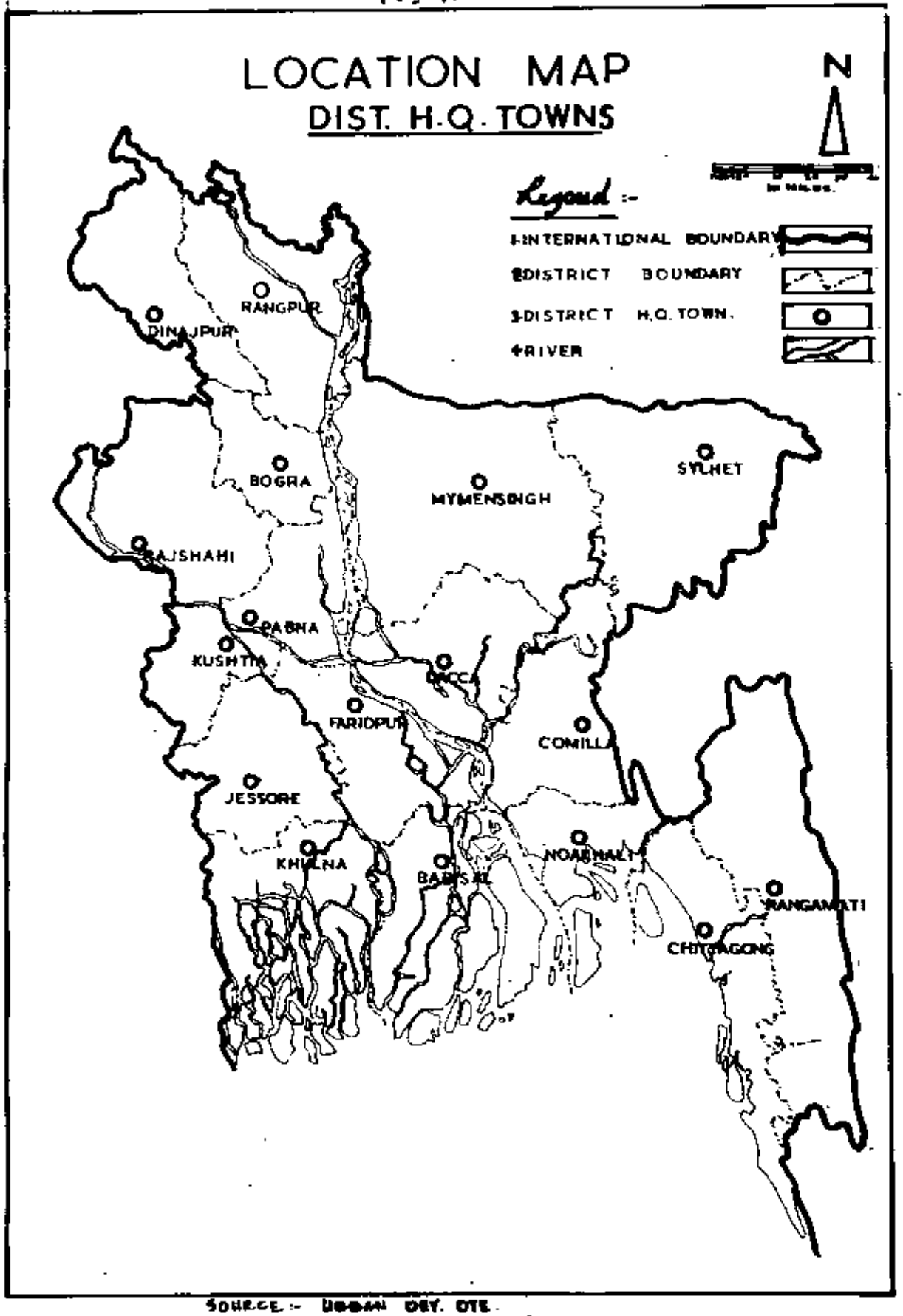
[1] Govt. of Pakistan, District Census Report, Bogra. (Karachi : Manager of Govt. Publications), p-1.

Fig-1.



SOURCE :- URBAN DEV. DTE.
(PET. PLANNING DIVN.)

TABLE I

VARIATION OF POPULATION IN THE DISTRICT HEADQUARTER TOWNS OF EAST PAKISTAN

Sl No	Name of Town	POPULATION							% Increase, decrease over the decades
		1901	1911	1921	1931	1941	1951	1961	
1.	DACCA	128857	153609	169510	196111	297735	338762	556712	64
2.	CHITTAGONG	106848	129226	125968	173577	224732	294046	364205	24
3.	KHULNA	10426	12996	16049	19120	31749	42225	127970	203
4.	BARISAL	18978	22473	26744	35716	61316	89694	69936	22
5.	RAJSHAHI	21589	23406	24938	27064	40778	39993	56885	42
6.	COMILLA	19169	22992	25914	31355	28462	47526	54504	15
7.	MYMENSINGH	14668	19853	25287	30480	52950	49315	53256	18
8.	JESSORE	8054	8911	10139	11356	18419	24346	46366	93
9.	PABNA	18424	19274	19343	21904	32299	32390	40792	27
10.	RANGPUR	19960	16429	19076	20749	31039	31759	40634	28
11.	SYLHET	13693	14457	16912	21435	28128	33124	37740	14
12.	DINAJPUR	13430	15945	18025	19156	28190	35687	37711	6
13.	BOGRA	7094	9113	12322	14619	21601	25303	33784	34
14.	FARIDPUR	11649	13131	14903	15516	25671	25596	28333	11
15.	KUSHTIA	5330	6095	7649	9404	13843	21628	24952	15
16.	NOAKHALI	6520	7009	7715	13063	18575	16677	19874	19
17.	RANGAMATI	-	-	-	-	-	-	6416	-

SOURCE: Government of Pakistan, Census of Pakistan 1961, Census Bulletin No-2 (Karachi: Manager of Government Publications), pp. II 94-97.

development. We may no longer imagine that the physical structure of the city was___ any more than its ancient cultural fibres__ the product of an altogether ordian growth.[1] The internal structures of the district headquarter towns developed to the present stage through the passage of time. Their studies will pave the way for their better understanding and future development in a planned and co-ordinated manner.

AIM AND SCOPE

This work attempts to study the district headquarter towns in two main sections.

1. General analysis of the internal structures of the district towns.

2. Sample studies of towns at greater depth.

The work of the first section deals with a discussion of the internal structures of the district headquarter towns in a general form. An attempt has been made to establish a generalised pattern of the internal structures of these towns.

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[1] Lewis Mumford, The City in History, (London: Secker & Warburg, 1961) p.94.

The work of the second section is mainly confined to the detailed "sample studies" of the particular towns. An attempt has been made to show the evolutionary process of the town development emphasising the special features of the towns.

SOURCES

The various observations and generalisations as presented here, are based on direct and indirect sources of information, chiefly studies of East Pakistani towns by the Urban Development Directorate, together with the writer's personal knowledge and association in some of the works, supplemented by "Guide" maps and plans of cities as published by the Survey of Pakistan. Several other useful sources such as books, periodicals and public documents have also been utilised.

CHAPTER II

CERTAIN DETERMINANTS OF TOWN STRUCTURE

Although no two towns have sites that are exactly similar, it is not difficult to recognise well-defined categories of town sites. Certain physical features, for one reason or another, have been favoured for the siting of towns, and provide a basis for classification of towns according to site types. The site is enlarged in the process of urban growth, yet it nevertheless remains an area local and relatively restricted, and as such is only part of a much wider setting which affects the origin and growth of urban characteristics.[1] East Pakistan is a land of rivers. The numerous rivers form the main system of transportation here and almost all the district towns have been sited on the banks of rivers.

In fact, the majority of the towns are the product of the "Colonial" period(British rule). Towns which were founded earlier were, with few exceptions (Dacca, Chittagong), much smaller settlements as compared to their present configuration. In most cases, the entire townscape as it appears today has emerged during the two centuries of British rule over the sub-continent. Consequently, in essentials of morphology, all the district towns of East Pakistan whatever

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1 Arther E. Smailes, The Geography of Towns, (London: Hutchinson & Co. Ltd., 1953), p. 42

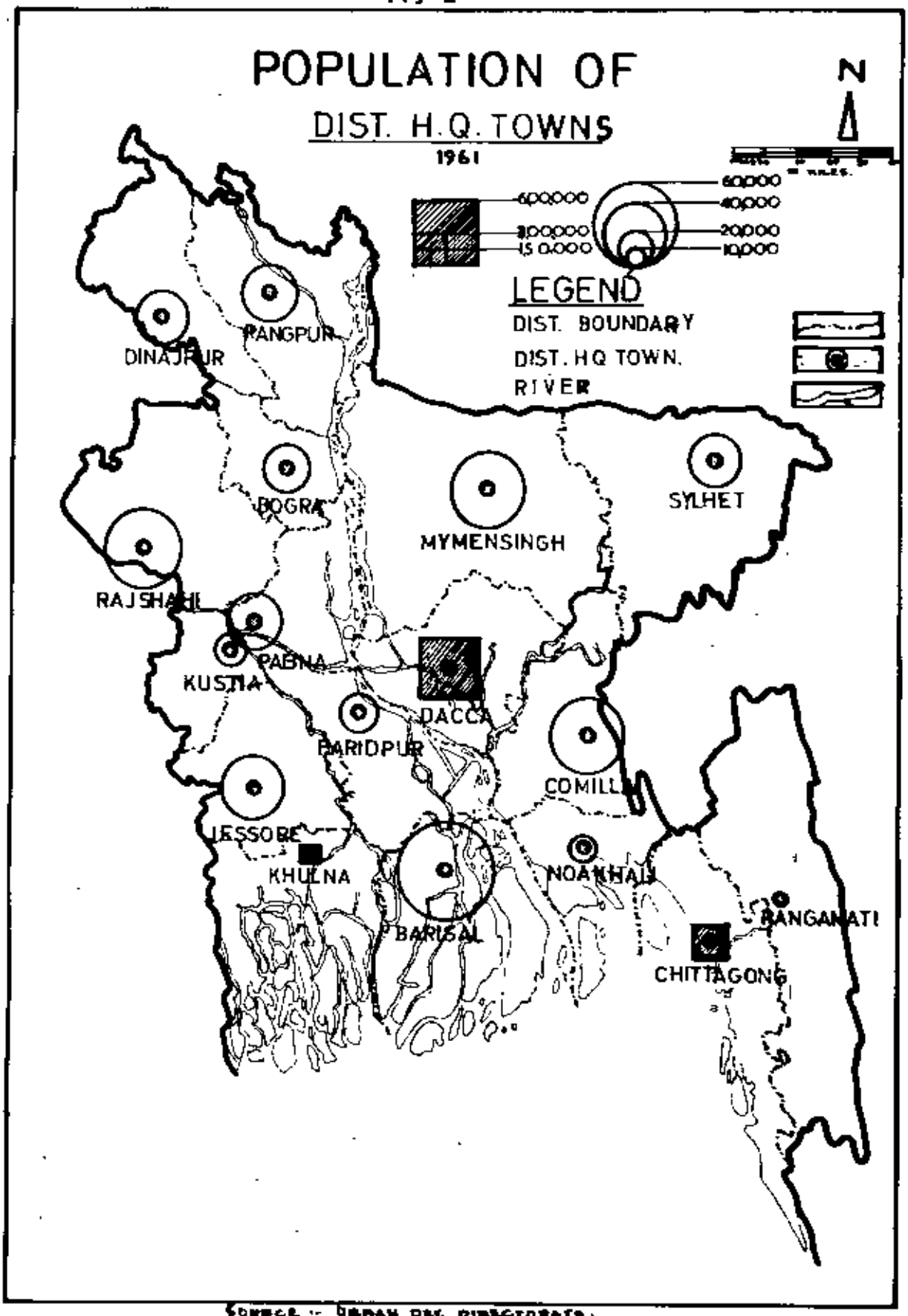
their age are very much alike. Whatever differences or dissimilarities one observes are due to the variation in the degree of urban development which is in part, due to the disparity in the economic base of the towns. For instance, major metropolitan centres possess a stronger economic base and offer services and facilities which smaller towns do not possess due to their weaker economic base. This disparity is reflected in building characteristics, street patterns, and land-use arrangement in the towns.

As a corollary to the observations made above, it is logical to assume that any consideration of the internal structure of the district towns of East Pakistan should take note of the difference in size classes of towns.

In absence of the latest population data, the 1961 census data was considered and accordingly the sizes of the district headquarter towns have been shown in figure-2. It is generally believed that there was an underenumeration of actual population in the 1961 census. However, ignoring such controversies, for the purpose of these study, these towns have been tentatively grouped into three broad size categories, each one of which appears to have certain distinct morphological characteristics.

The three broad categories are : (1) Towns, (2) Cities, and (3) Metropolitan centres. Towns consist of small-size district towns having less than 50,000 population. Cities include the district headquarters with population between 50,000 and least 100,000. According to the census definition,

FIG. 2



SOURCE :- URBAN DEV. DIRECTORATE.
PLY. PLANNING DIVN.

they are towns not cities, and in terms of morphology too most of them resemble larger towns in the size class below 50,000. In most cases the abrupt growth in population as a result of partition has not been accompanied by similar growth in physical and institutional facilities. Nonetheless, they have assumed quite important roles during the last 23 years, as a result of marked growth in the number of functions that they perform as district headquarters and as commercial, industrial, and cultural centres. On this basis, it seems appropriate to include them in the same category as the census "cities", i.e. those over 100,000 population. Metropolitan centres are those having population above 100,000.

The 3 broad classes of these urban centres recognized for the analysis of internal structure are therefore:-

	Population
(1) Towns	20,000 - 50,000,
(2) Cities	50,000 -100,000 and
(3) Metropolitan centres . .	over 100,000.

TOWNS

This category consists of small-size district towns, those having less than 50,000 population. Majority of the district towns(10 out of 17) of East Pakistan belong to this size-class. These are the centres of administration and commercial, financial and cultural activities of their respective districts. All these functions give a peculiar significance to these towns. Yet, in terms of physical and institutional facilities they possess the bare minimum. They have with few exceptions a shabby look with a dull atmosphere, having poor conditions of building structures with poor sanitation and an almost total lack of modern amenities. The well-to-do people as well as prominent businessmen own bigger and comfortable houses. The government offices and educational institutions are only lodged in better structures than the vast generality of houses.

A. STREET PATTERNS

Almost all the towns of this class have streets which are irregular in pattern, narrow and crooked. A few towns have extremely narrow bazar streets, 6 to 8 feet in width. The streets are generally narrow and tortuous often following the boundaries of individual land holdings.The streets are not even uniform in width even if considered individually.The street system developed naturally to satisfy immediate social and economic needs. They are suitable for

pedestrians or at best for bullock carts and horse-drawn vehicles,but unsuitable for motor cars and buses. Due to the introduction of modern modes of transport most of the streets of these towns are overcrowded and traffic is seriously delayed, and to be a pedestrian is a precarious experience. There is a total absence of parking facilities.

LAND-USE PATTERN

These towns are characterised by one-to-two story houses extending in a row along a street or an alley. The buildings consist of both"katcha" and"pucca" houses, the former progressively decreasing with increasing city sizes. Building materials generally vary from region to region. However, in general in addition to bricks corrugated iron and timber are widely used. "Bhd houses" are also seen in some towns.

Residential segregation of the type witnessed in larger cities is almost absent although segregation according to ethnic group is noticed in some of the towns. Both high and low income houses are located in the same area. Residential buildings range from small hovels to fairsized one-to-two story houses all huddled together. Usually,the fringe areas are dominated by hutments.

In the case of smaller towns in this category,almost all the non-residential functions are connected in one street which is also the main thoroughfare. The larger towns, however, are characterized by a "bazar" area which extends

over more than one street, the whole complex being known as "Bara Bazar", "Raja Bazar" etc. The bazar is the centre of trade(retail and wholesale), finance, and service industries,including restaurants, eating places, pan-cigarette shops, barber and tailoring shops, etc. In addition to the bazar, single shop or small cluster can be seen on any street intersection and any lanes within the residential areas. Among these shops, pan and cigarettes shop, tea-stalls and grocers shops are most common.

Modern factories are a rare sight in towns of this class. In those cases where a town does have a big mill or a factory(such as the Cotton and Spinning Mill at Bogra) it is usually located in the fringe area or even beyond that. Most of the industries in these towns are of hand craft type. These 'Cottage' industries are located in the bazar area and are also scattered all over the town including the residential areas.

The only generalisation possible about the distribution of educational land uses in these towns is that schools of the "primary" level are mostly located within or close to residential areas, but the higher institutions (secondary schools and colleges) have a peripheral location.

Administrative land-uses have locations invariably very nearer to the heart of the towns irrespective of their sizes. The public(Govt.)Buildings such as the Civil Courts, the Police Lines and the Jail,Post and Telegraph Office, and the Municipal Office have a more or less uniform pattern.

Cultural and recreational land uses are relatively less significant and are sporadic in their distribution in the towns of this class. The most important and sometimes the only cultural land uses are the public libraries and clubs, usually located in the high-income residential area (Civil Lines). The most common type of recreational land uses are the movie theatres and the playing grounds(foot-ball fields), usually located in the fringe area where land is cheap and readily available. The greater part of the fringe area closely resembles the traditional form of rural settlement.

Thus, it is possible to recognize three major morphological areas or zones in the district towns of this class: (1) the bazar,(2) the residential area and (3) the administrative zone, including educational institutions and official residences.

Although internal differentiation is incomplete, compared to the larger cities, segregation of function is relatively more marked in the small towns of this class.

CHAPTER III

CITIES

For the purpose of this study, cities include the district headquarters with population between 50,000 and 100,000. There are 4 such cities out of the 17 headquarters namely Rajshahi, Barisal, Comilla and Mymensingh. This group of cities is an unusual type. In most cases the abrupt growth in population as a result of partition of the sub-continent has not been accompanied by similar growth in physical and institutional facilities.

One common characteristic of cities of this class is their small areal extent relative to the size of population. They are compact and often display extreme congestion particularly in the older section. The distribution of population in most of the cities, follows a relatively steep gradient from the city centre to the periphery. This obviously is due to the absence of the process of urbanization in the past.

Ch - III

A. STREET PATTERN

Cities of this class are characterized by a variety of street patterns. However, an effort of conscious planning in the street patterns is exhibited in certain areas within a city, such as the Housing Estates, Railway Colony, Civil Lines, Cantonment and high income residential areas. Here one finds relatively wide streets with sidewalks, showing a rectilinier form. In addition, most new residential areas are planned neighbourhoods with wide streets, traffic islands and ring roads.

In contrast to these, other and older sections, particularly the low-income residential areas, are the places where a highly irregular street pattern is most common. The older sections are characterized by extremely narrow streets, often mere alleys 5 to 6 feet wide, that wind through the residential and commercial areas for long distances. The side streets and alleys are often so narrow and crooked as to be almost impassable for wheeled traffic. The main bazar streets are hardly 12 feet wide.

B. LAND USE PATTERN

RESIDENTIAL LAND USE.

As compared to the towns, the urban skyline in cities is marked by residential buildings which present a more modern look and are usually two to three storied. In general, the buildings in the central area are relatively taller than those elsewhere in the city, due mainly to the great demand for space in the central area close to the main bazar.

Residential segregation based on level of income is more clearly defined in cities than in the towns. Occasionally, segregation is based on occupation, as in the case of sweepers Colony, etc. Sometimes, residential segregation reflects cultural including religious differences. Since Independence, there have appeared what are known as "Mohajir" (displaced persons) colonies in practically every city. These are mostly low-income residential areas. High income residence are rather sporadic in older areas of the city. Low income houses are concentrated in older sections of cities, while tenements cover large areas on the city fringes. It is in these two sections that one comes across most of the city's slums and blighted areas.

COMMERCIAL LAND USE.

Unlike towns, most cities are polynucleated in respect of commercial land uses. In other words, in addition to a main market, there are several subsidiary shopping centres located as to serve the needs of one or more residential areas. These shopping centres consist of small retail shops selling goods for daily consumption.

The main market is in the traditional form of a street bazar in which there appears to be a tendency towards the segregation of business types, shops carrying the same types of business tend to cluster together creating small sections more or less specialised in character. Other specialised districts within the main market area are the meat and fish market, and the fruit and vegetable market. In general, retail and wholesale shops are located in the same section of the main market but in the case of certain commodities such as agricultural produce, the wholesalling activity is confined to districts outside the main market.

The market areas, in general, are characterized by relatively small retail shops, which extend in rows on either side of the bazar streets. Banking and financial land uses are generally located close to the main market although a few banks may have their branches in subsidiary shopping centres too.

SERVICE LAND USE.

There are many and varied kinds of services performed in the cities. In general, service industries are located within the central market area as well as outside it. However, most professional services, singly or in clusters, are located outside the market areas but in close proximity to the bazar. In many cases, doctors and lawers have their offices and dispensaries in the same building in which they reside.

Market areas have many restaurants and eating places but only few hotels. Restaurants are usually located at major street intersections where they can attract larger number of customers for a cup of tea or a glass of cold drink. Bigger hotels, especially luxury hotels, are rare sights.

MANUFACTURING LAND USE.

At the time of Independence, the cities of this class did not have any large-scale manufacturing industries. During the last decade, however, there has occured phenomenal growth in the number of factory industries, most of which are located in and around these cities. These cities have one or more well defined industrial districts commonly known as "Industrial Estates". These include factories as well as residential quarters of employees.

Some of the old established (pre-Independence) industrial concerns, such as flour mills, general engineering works, and the like are interwined with residential and commercial land uses. The same is true of the small-scale industries and handicraft activities which are widely dispersed throughout the municipal area.

ADMINISTRATIVE LAND USE.

Segregation of administrative functions, as evidenced by the distribution of internal land uses, is such a striking feature of these cities that even a casual observer cannot miss it. The administrative area includes various office buildings belonging to the district, divisional, and/or provincial administration, together with residential and cultural structures. Often, the whole complex forms part of the Civil Lines area which usually does not have a shopping centre of its own, although a few service establishments such as ration depots, green grocers shops, laundries and schools are almost inevitable. Such cultural and recreational land uses as libraries, luxury hotels, movie theatres, officer's clubs and a mosque may also be located within the administrative district.

CULTURAL AND RECREATIONAL LAND USE.

Among the cultural land uses, community centres like mosques and temples, educational institutions,

libraries, clubs, gymnasiums and playing grounds, gardens, parks, and other historic sites are outstanding. Their distribution hardly shows any consistent pattern among the different cities. Most larger cities are centres of higher education (Rajshahi and Mymensingh) with professional colleges and universities which have their campuses at some distance from the city proper. These may develop into satellite towns.

RURAL-URBAN FRINGE.

For the purpose of this study, the rural urban fringe is defined tentatively as narrow belt or zone on the periphery of the city, characterised by a mixture of urban and rural land uses. For example, such elements of rural occupance as vegetable farms and fodder crops and a few farm residences are a familiar sight on the periphery of all the cities. Similarly, among the urban land uses most common in the fringe area are brick fields, and a few industrial establishments, the central jail, a few historic sites and burial grounds, college or university campuses, and more often hutments of the local as well as mohajir population. On some of the roads leading out of the city in different directions one notices certain commercial, service and transport enterprises, such as teashops, gas and bus stations, 'pan-cigarette' shops and a few vendors stalls.

Suburban development is a recent phenomenon, generally associated with the large cities. The main reason for the absence of suburbanisation is the lack of transportation facilities within cities. The common form of transport available in all the cities, even to this day, is rickshaws. Public transport in the form of buses is very rare in these cities. The tendency to be close to the place of work is a matter of economic necessity. The idea is to minimise the adverse effects of distance in the absence of adequate transportation facilities. Other factors that discourage suburbanization in these cities are inadequate security of life and property and lack of facilities, such as, shopping centres, schools and hospitals outside of the city. Most of the outlying residential areas in these cities do not have adequate supply of water.

CHAPTER IV

METROPOLITAN CENTRES

For the purpose of this study, cities over 100,000 population are designated as metropolitan centres. According to the 1961 census, Dacca, Chittagong and Khulna fall under this category. Their rank in the hierarchy of urban centres is much higher than the cities so far discussed. In addition to size, they are distinguished from other cities in many ways.

Unlike most cities, the areas of metropolitan Dacca and Chittagong are extensive. Both the urban centres have experienced considerable expansion in their limits since Independence. As a result, they display a tendency toward "urban sprawl", a phenomenon conspicuous by its absence in other cities. Khulna is the only city which has shown a tremendous population influx during the last decade. There has been a population increase of 203 percent over the previous decade (Table-I)

The metropolitan centres, in varying degrees, display relatively much greater internal differentiation than noticed in cities. The older sections in these urban centres, however, are characterised by a mixture of residential, commercial and industrial land use.

The distribution of business centres in these metropolitan areas follows a pattern which, to a large extent, accords with the concept underlying the multiple-nuclei theory. All the centres have one main market area (or major business centre) and several outlying business centres. The main market area of the metropolitan centres has much in common with C.B.D. of an American city.

The commercial structure of metropolitan centres is characterised by a relatively larger number of chain stores such as banks, sweetmeat shops, drug stores etc. However, the departmental store type of business organisation is almost non-existent.

The greater part of the built-up area is marked by rectilinear streets. The newly developed residential and commercial areas display a rectangular pattern of streets which are also relatively wider, though not always provided with sidewalks.

The metropolitan centres of Dacca and Chittagong possess a far more developed system of intra-urban mass transportation than the other smaller urban centres

Dacca has a fast expanding system of bus transportation which not only connects different parts of the central city but also links the latter with outlying suburbs. Also an increasing number of motor-rickshaws help in reducing the excessive pressure on mass transportation. Still, both Dacca and Chittagong have their commuting rush-hours, and transportation remains the major problem of these fast growing metropolitan centres.

The development of mass transportation facilities and the abrupt increase in population and functions of metropolitan centres since Independence have led to the growth of residential and industrial suburbs in these centres.

Finally, all these metropolitan centres are very important political, transport, financial and industrial centres. As compared to other towns and cities, they offer greater facilities and amenities in the form of cultural centres including centres of higher learning, sport centres, clubs, theatres, all types of services and shopping centres. Proposed Benevolent Fund Building and Town Hall to be built in Dacca will offer amenities which are absent in other towns and Cities.

In conclusion, it might be restated that, in the present context of East Pakistani Urbanism, the great majority of cities of all sizes display a type of morphology which is typically East Pakistani comprising of both Western and indigenous elements. However, the recent trend of urban development suggests that in future, East Pakistani cities will be much more western in their form and structure, while still retaining certain indispensable elements of native culture.

CHAPTER V

THE MORPHOLOGY OF BOGRA TOWN

Interpretation of the morphology of a town begins with mapping the existing layout of streets, the arrangements and characteristics of buildings and the associated patterns of land use. It necessitates study of its relationship to site & situation.

In this case study of the class-group of towns, an attempt has been made to present and explain the areal pattern of the functional zones of Bogra town.

Location, Origin & Growth

Bogra, the chief town and administrative headquarter of Bogra district, is located in the western part of East Pakistan (Fig.1). Area of the Municipality by which this town is administered is only 1.37 sq. miles. It is fairly well connected with other parts of the Province by railway and road transport. The metre gauge Santahar - Fulcharighat branch railway line runs west to east across the heart of the town.

Bogra is situated on the western bank of the Karatoya River. The Karatoya which was once a large river has now shrunk to a streamlet that is navigable only during the rainy

season. But in the early days when roads were yet to be developed and railways were non-existent the river acted as an important artery of transport. The development of the town along the river has a marked affect on the road pattern and expansion of the town.

The town was named after Nasiruddin Bogra Khan son of Sultan Ghyasuddin Balban, who was entrusted with the ruling of the Province of Bangal from 1279 A.D. to 1282 A.D.[1] The town of Bogra is comparatively of recent origin and does not appear to have been the scene of any authentic historical events, either during the period of the Muslims or the British occupation of the country. The claims of the district to antiquity rest chiefly round the ruins of the old fortified town, now known as the "Mahasthangarh" and the river Karatoya. Mahasthan lies about eight miles to the north of Bogra town. In the extensive ruins of Mahasthan the oldest datable relic of East Pakistan has been found. This is a fragmentary limestone slab discovered by chance in 1951 and bearing six lines of a Brahmin inscription. Both alphabets resembles those of Asoka's pillar edicts (mid third century B.C.) and may indicate that this part of Bangal lay within the Mauryn Empire. The inscription records the earliest known Bengal famine and the measures taken to meet it by the issue of paddy from reserve stocks.

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[1] Manager of Publications: District Census Report of Bogra (Karachi 1961), P. I-3.

Little is known of the history of the district under Muslim rule, but tradition relates that after the subjugation of Bengal by Bakhtiyar Khilji in 1204 A.D. a dynasty of Sen Rajas ruled for nearly a century over the north-eastern tract of this district, as feudatory chiefs, normally under the suzerainty of the Emperors of Delhi, but virtually under the Muslim Governors of Bengal. Their capital was at Ramapur, a few miles to the north of Bhasunipur, and a little to the south of Sherpur. Achyuta Sen was the last prince of the line and he was over thrown by the Muhammadan Governor, Bahadur Shah of Gaur (1310-1330 A.D.) to whom he had given offence.

Bogra was first placed under the administrative control of a Magistrate in 1821. It is, therefore, of recent formation as compared with the other districts by which it is surrounded. It was to provide additional facilities for the administration of criminal justice in the outlying eastern police divisions of Dinajpur, Rangpur, and Rajshahi, which had gained notoriety for dacoity, gang-robbery and other crimes of violence, that the district was created at that time. The thanas or police divisions of Kaliganj, Ghatial and Sadalgachi were taken from Dinajpur, Govindganj and Dimangunj from Rangpur; and Bogra, Adamdighi and Naokhila from Rajshahi. These were all united in 1821 to form the new "Zilla" or district of Bogra, the criminal jurisdiction of which was vested in a new official, called the joint Magistrate of Bogra. In 1832, Bogra became a revenue receiving centre for about half the area of its magesterial jurisdiction and the duties of a Deputy Collector were added

to those of the Joint Magistrate. In September,1839 the new district received a further accession to its size by the transfer to the Police division of Raiganj from Rajshahi. In 1859, the Joint Magistrate and Deputy Collectorate were raised to the grade of a Magistracy and collectorate and Bogra was thus finally constituted into an independent administrative district.

Population of Bogra Town

In 1901, the population of Bogra was 7,094 and it rose to 33,784 in 1961 (Table II). From the table showing the popu-

TABLE II

DECENNIAL CHANGES IN POPULATION OF BOGRA TOWN(1901-1961)

Year	Population	Variation	% of Variation in 10 years.
1901	7,094	-	-
1911	9,113	2019	28.4
1921	12,322	3209	35.2
1931	14,819	2497	20.2
1941	21,681	6862	46.3
1951	25,303	3622	16.7
1961	33,784	8481	33.52

Source: District Census Report,Bogra PP.IV-4-5

lation trend during the period 1901-1961, it is seen that the increase in population over the period of 60 years is almost

five-fold and the growth is progressive. Very sharp increases were registered during all the decades except in the decade of 1941-1951. The reason may be mass migration after Independence in 1947. Of the present population 18,192 are males and 15,592 females. The population is overwhelmingly Muslims constituting 80% of the total population. Industrial development of the town in recent years has largely contributed to the fast growth of the population.

4. ROAD PATTERN

Bogra is not a planned town. Its road pattern, therefore, is a result of natural growth and not of conscious design. The town has a total of 18.75 miles of roads of which 9.06 miles are Pucca and 9.69 miles Kutcha. The principal roads of the town are Nawab Bari Road, College Road, Mission Road, Gobail Road, Park Road, Malatinagar Road, Kali Bari Road (Fig.)). Seven important roads of the town namely, Station Road, Gobail Road, Sherpur Road, Nawab Bari Road, Thana Road, Motahar Ali Khan Road, and Power House Road, converge at one point in the heart of the town which is known as " Satmatha " (seven heads i.e. junction of seven roads) (Fig.3). The "Satmatha" serves as the nerve centre of the town and all the important offices, educational institutions, banks, the Head Post Office, Dak Bungalow, Circuit House and commercial and shopping centres are close to it. The " Satmatha " is a unique feature to the road system of Bogra town which is not ordinarily to be seen elsewhere in the Province of East Pakistan.

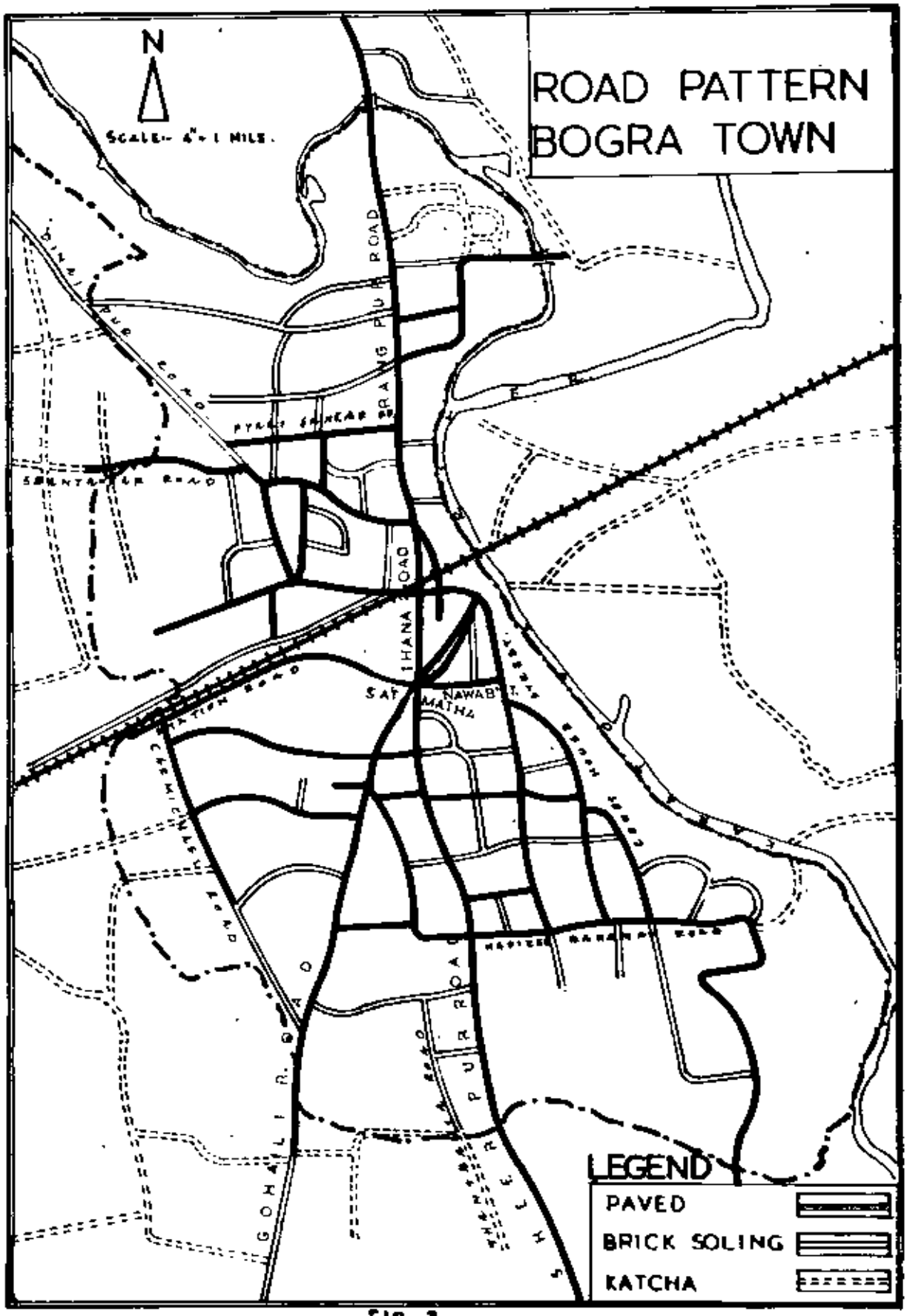
ROAD PATTERN
BOGRA TOWN
N
SCALE:- 4"= 1 MILE.
SATMATHA
NAWAB'S T.
LEGEND
PAVED
BRICK SOLING
KATCHA

Fig. 3

The town originally developed along the western bank of the Karatoya River. Another unique feature of the road system of the town is that the railway passing through the heart of the town in east-west direction, bisects the town into two halves, northern and southern; and the Rangpur-Sherpur Road passing through the heart of the town in north-south direction bisects the town into two portions eastern and western.

Rangpur-Bogra-Sherpur trunk road which passes through the heart of Bogra town in the North-South direction is in fact the principal road of the town and carries through and local traffics. This road while passing through the town is called by different names at different sections, viz.,Rangpur Road, College Road, Thana Road, Sherpur Road. It is a tar macadam road having a bituminous pavement of 22 ft. and the overall width varies from 30 ft. to 50 ft. The other important roads are the radial roads such as Shakjadu Road,Santaher Road, Gohail Road, Station Road, Mamb Bari Road, originating from and near the "Satmatha." The remaining roads constituting the entire road system of the town are mostly the linking routes of these radial roads providing access to the residential and other areas.

The roads of Bogra town can be broadly divided into the following classes on the basis of their functions(Fig.4).

(a) Primary Roads,

(b) Secondary Roads,

(c) Tertiary Roads,

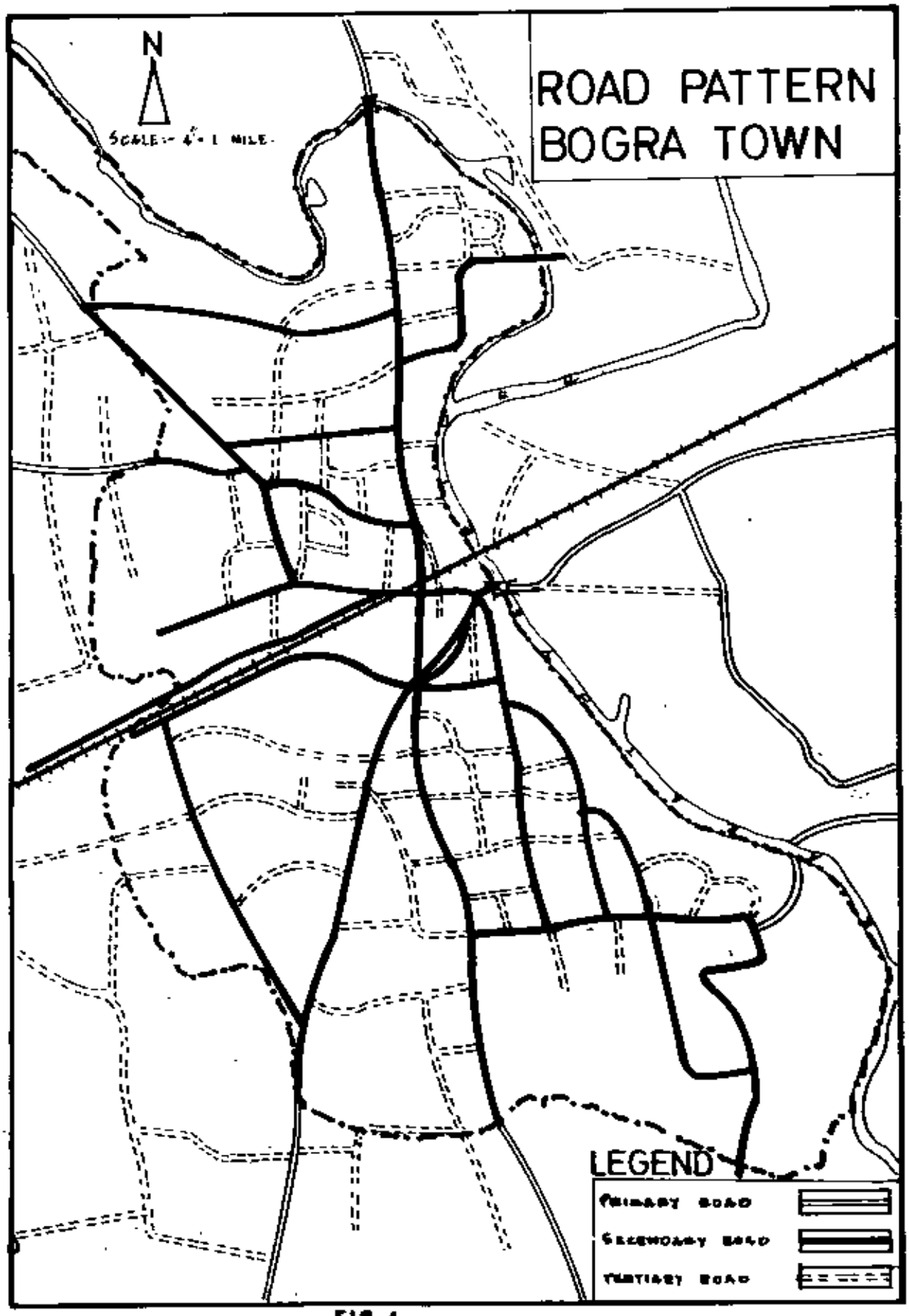
N
SCALE :- 4" = 1 MILE
ROAD PATTERN
BOGRA TOWN
LEGEND
PRIMARY ROAD
SECONDARY ROAD
TERTIARY ROAD

FIG-4

Primary Roads

The primary roads link the town with its umland and also with other towns. These roads carry traffic which originates outside the town and has its destination inside the town, or vice versa. Seven such primary roads, enter into the town of Bogra (Fig.4); of them the roads leading to Rangpur and Sherpur are of special importance. They are mostly metalled roads, and Cars, buses and trucks ply on them. The primary road going to Santahar is still unmetalled.

Secondary Roads

The secondary roads are the major roads of the town. The Rangpur-Bogra-Sherpur Road, the radial roads, and a few intermediary roads of Bogra town belong to this category(Fig.4. They carry the main burden of the intracity traffic,particularly the vehicular traffic. The main shopping and commercial areas of the town are located on these roads. They interconnect one 'mahalla' or ward (neighbourhood) of the town with the other. These roads in Bogra are metalled or brick paved(Fig.3).

Tertiary Roads

The roads other than primary and secondary are grouped together as tertiary roads (Fig.4). They are of lesser importance and primarily serve their respective mahallas. Their main function is to provide access to the secondary roads.They are mostly unmetalled, a few of them are brick paved.Their width is more than 12 feet and some of them are even less than 6 feet

in width. The vehicular traffic on these roads is mostly bi-cycles and paddle - rickshaws.

Bus, truck, bullock carts, push carts, cycle rickshaws, bi-cycles, and tanderm(horse drawn carriage) are the principal modes of transport available within the town. Of these cycle-rickshaw provides the most popular and cheap means of trans-port. The Municipal Committee has issued licence to 57 bullock carts, 485 cycle rickshaws and 26 tandems and three autoricks-haws in 1967 (Table III). This melange of facilities, sharing the right-of-way in generally uncontrolled fashion, is both

TABLE III

NUMBER OF REGISTERED AUTO,HUMAN TRACTION AND ANI-MAL DRAWN VEHICLES IN BOGRA MUNICIPALITY, 1967 .

Sl.No.	TYPE OF VEHICLE	NUMBER
1	BULLOCK CARTS	57
2	CYCLE RICKSHAW	485
3	TANDEMS	26
4	AUTORICKSHAW	3
5	BUS	12
6	PRIVATE CARS	7

Source:- BOGRA MUNICIPALITY

the product and the creator of the typically high mix of land uses in the town. The result of these combinations is a conges-ted flow pattern.

B. LAND USE PATTERN

In the study of Urban land use, we are concerned with surface utilisation; therefore we consider all land in the Urban area to be either developed or vacant, or water area. The term "developed" includes all land that is used for purposes that are recognized as urban in character, whether public or private in nature, and whether devoted to an open use such as parks or playgrounds, or to a site such as residence, industry or commerce. Vacant land is not given over to any urban use even though it may be potentially available for development. Thus for our purposes, agricultural land is considered vacant land. Water areas include natural and artifical bodies of water and represent no urban use except when embraced within a park or recreational area. Broadly therefore, the land we are concerned with can be described as land now used for purposes that are characteristically urban.

All urban land may be classified according to its use. These uses include residence, commerce, industry, roads, railroads, parks and recreational areas, and public or semi-public facilities. The highly mixed landuse in Bogra town(Fig.5) differs markedly from the usual segregation of landuses in Anglo-American cities. This appears to be the result of compact development and the continuing necessity of walking between places of residence and places of work or enjoyment.

RESIDENTIAL AREA

The town of Bogra is predominently residential in nature

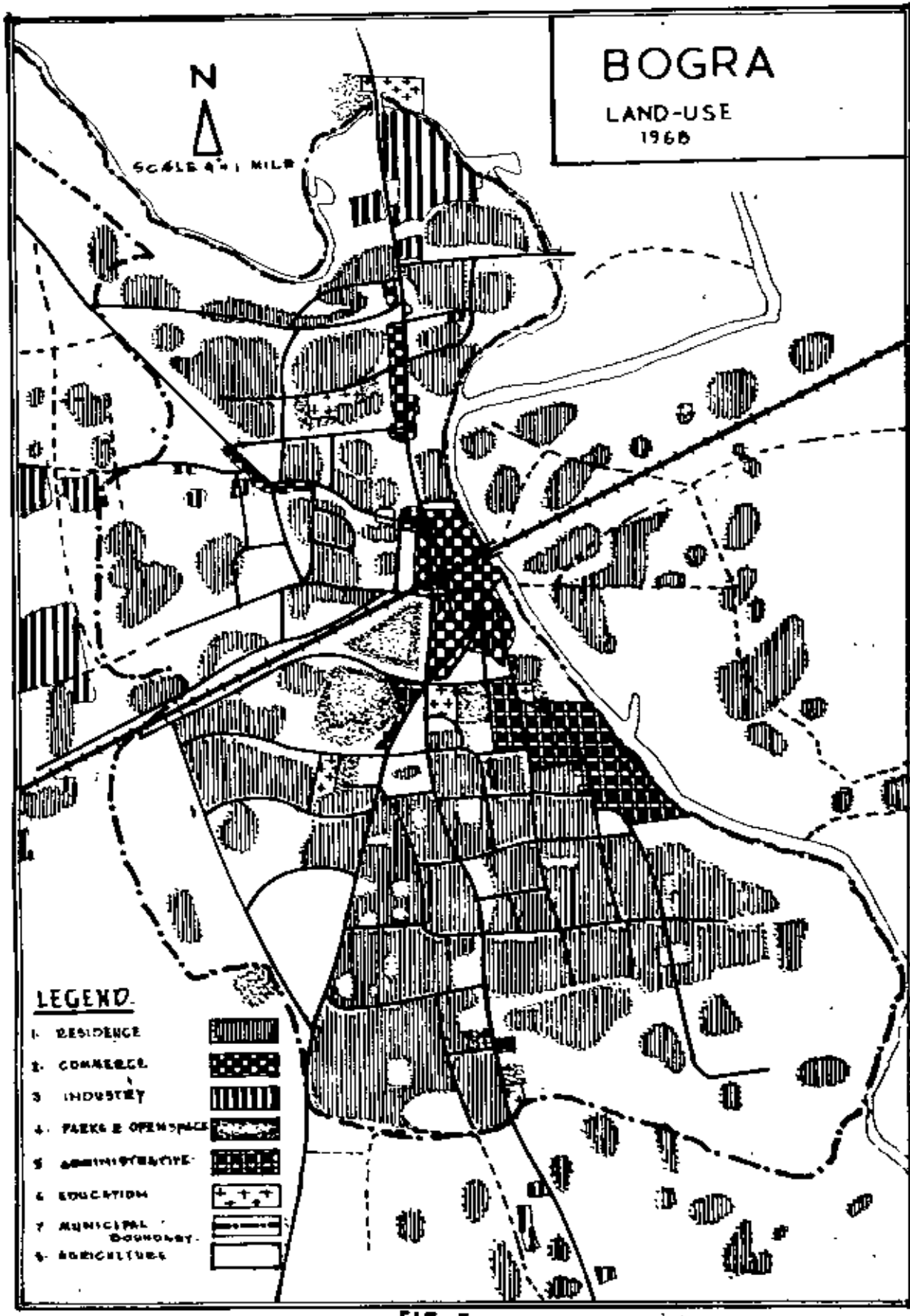
BOGRA
LAND-USE
1968
N
SCALE 4 = 1 MILE
LEGEND
1. RESIDENCE
2. COMMERCE
3. INDUSTRY
4. PARKS & OPEN SPACE
5. ADMINISTRATIVE
6. EDUCATION
7. MUNICIPAL BOUNDARY
8. AGRICULTURE

FIG. 5.

(Fig.6) nearly 28% of the total land (Table IV) within the Municipal boundary is being presently used for residential purposes. There are diversified land uses in the town, but they

TABLE IV

LAND USES IN DOGRA TOWN(1968).

Sl.No.	ITEM	AREA IN ACRES	PERCENTAGE
1	RESIDENTIAL AREA	240.00	27.80
2	COMMERCIAL AREA	75.00	8.54
3	INDUSTRIAL AREA	60.70	5.10
4	ADMINISTRATIVE AREA INCLUDING CIVIL LINES	122.20	13.95
5	EDUCATIONAL	47.30	5.40
6	GRAVEYARD	8.00	0.91
7	BRICK FIELD	15.70	1.79
8	TANK AND DITCH	35.60	4.05
9	PARK AND OPEN SPACE	66.50	7.56
10	HOSPITAL	17.50	2.00
11	AGRICULTURAL LAND	164.50	18.34
12	ROADS AND RAILROADS	40.00	4.56
		TOTAL: 877 acres	100%

have not been so extensive as to materially change the predominant residential character of the community. But there exists a great confusion of land uses through the intermingling of shops, commercial premises, small factories and Government

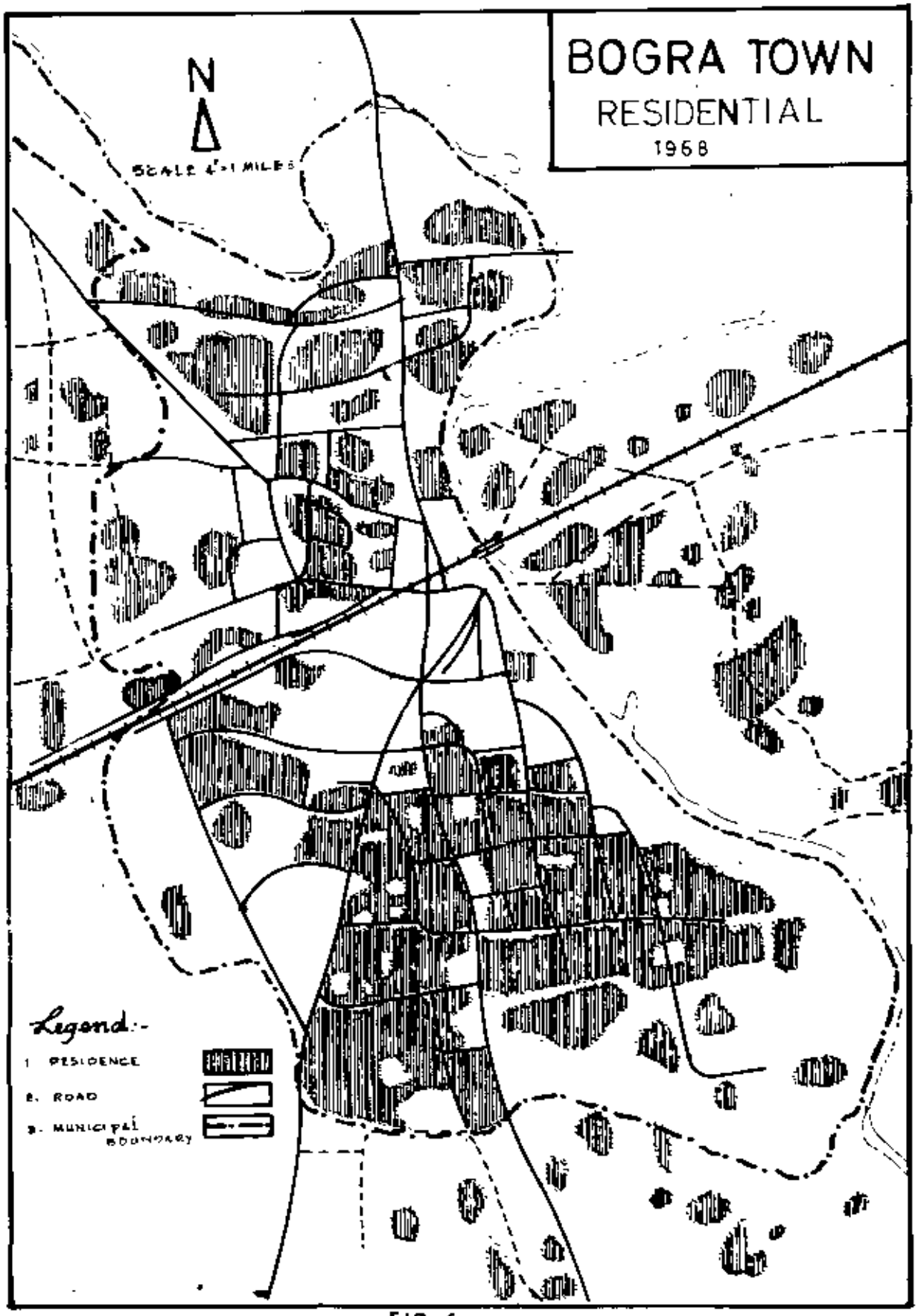
BOGRA TOWN
RESIDENTIAL
1968
N
SCALE 4"=1 MILE
Legend:-
1. RESIDENCE
2. ROAD
3. MUNICIPAL BOUNDARY

Fig. 6

offices within the same zone.

As discussed earlier in the general analysis of the morphology of towns of this size-class, there is not very distinct demarcation of residential zones according to the class or income group. Residential segregation as found in larger cities is almost non-existant here. Both high and low-income houses, are located in the same area. However, a sort of rough demarcation is possible to identify within the Municipal limit through the variation of density of population & existing type and condition of structures.

Residential buildings consist of both "Pucca" and "Kutcha" houses. The town is characterized by one-to-two story houses. Better types of structures are actually noticable in the Government residential areas where the officers and staff of the district administration are lodged. These areas are the low density areas of the town.

In most of the remaining residential areas of the town a dismal and ugly look of the structures are exhibited. Houses with mud walls and roof of corrugated iron sheets are in abundance. Sometimes a secondary roof with a layer of mud over bamboos is constructed below the top corrugated-iron roof to keep the interior of the house cool during the hot summer days.

AREAS OF TRADE & COMMERCE

There are five important markets in Bogra town, namely Fateh Ali Bazar, Raja Bazar, Chandni Bazar, Kalitaler Hat and

and Bakshir Hat. These Bazars are situated in the centre of the town near the "Satmatha" and bounded by Thana Road, Nawab Street, Karatoya River, Chakjada Road and Fatch Ali Bazar Road and extends upto College Road (Fig.7). In fact this Bazar Area is the Central Business District or the chief nucleus of the commercial activities of the town and the main focus of pedestrian and vehicular traffic. Rice and articles of daily necessities are sold in the markets of this commercial area. Kalitalar hat has also a cattle market. The important shopping centres of the town are located here, which are Baragola, Namajgora, "Satmatha", Thana Road, New Market. Most of the retail stores, banks, commercial offices and the two Cinema houses of the town are located here. It is here that the retail stores and other functions of the Central Business District are performed. The market located inside this area and the Thana Road are characterised by the predominance of general stores, cloth stores, shoe stores and medical stores.

The neighbourhood business centres of Bogra have developed along important roads and cross-roads.

They are primarily of neighbourhood significance and their functions depend upon the character of the neighbourhood that they serve.

INDUSTRY

As the train steams into the Bogra station from the west, one can see the big factory of the Virginia Tobacco(Pak.)Ltd.as

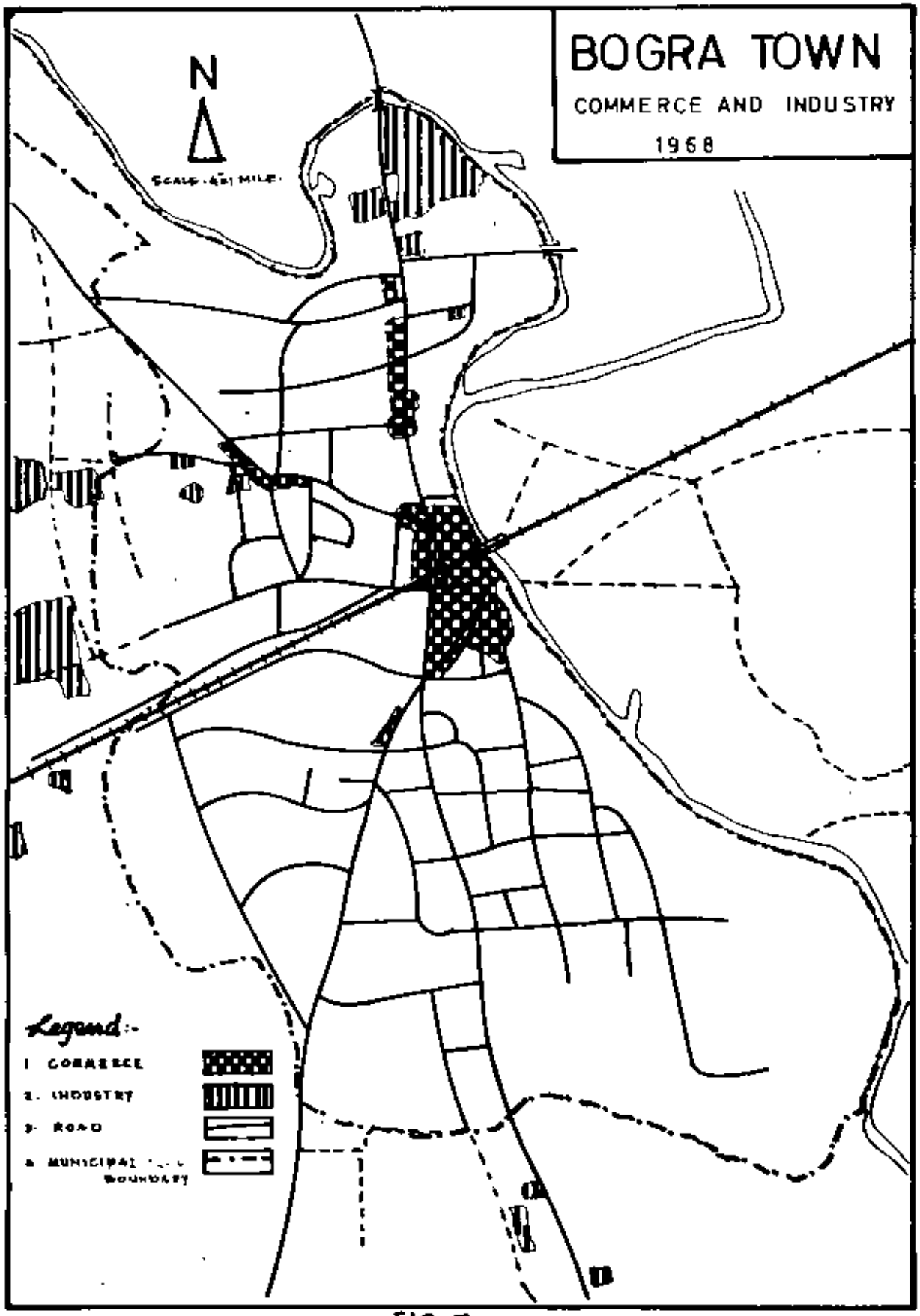
BOGRA TOWN
COMMERCE AND INDUSTRY
1968
N
Legend :-
1. COMMERCE
2. INDUSTRY
3. ROAD
4. MUNICIPAL BOUNDARY

FIG. 7

Gomhala, about two furlongs south-west of the station. This factory works round the clock in three shifts. Its daily output is 20 lakhs sticks. Almost all the other industrial buildings are grouped together on either side of the Rangpur Road in the northern extremity of the town (Fig.7). The leading industrial concern among these is the Bogra cotton Spinning Co.Ltd., located on the eastern side of Rangpur Road (College Road). The spinning mill also works round the clock in three shifts. Its daily production averages 20 bales of yarn of different counts, each weighing 400 lbs. The entire production is disposed of locally for the consumption of the weavers of Bogra and Pabna. 205 looms for production of cloth have recently been installed in the mill. Rough cotton blankets are produced as by-products with the waste cotton of the Spinning mill. At present 50 such blankets are produced daily. The other industries located on the Rangpur Road that deserve mention are Habib Match Factory, Gholam Mobin Soap Works Ltd., Jane Saba Soap Works, Glass Factory and North Bengal Tannery. About 2000 labourers find employment in these industries.

ADMINISTRATIVE AREA

The administrative area or the civil lines of Bogra town lies on the bank of Karatoya River very close to the "Satmatha"(Fig.6). The important Government offices such as Collectorate, Civil Court, Deputy Commissioner's office and residence, Municipal Office, District Council and the central Jail, are located here.

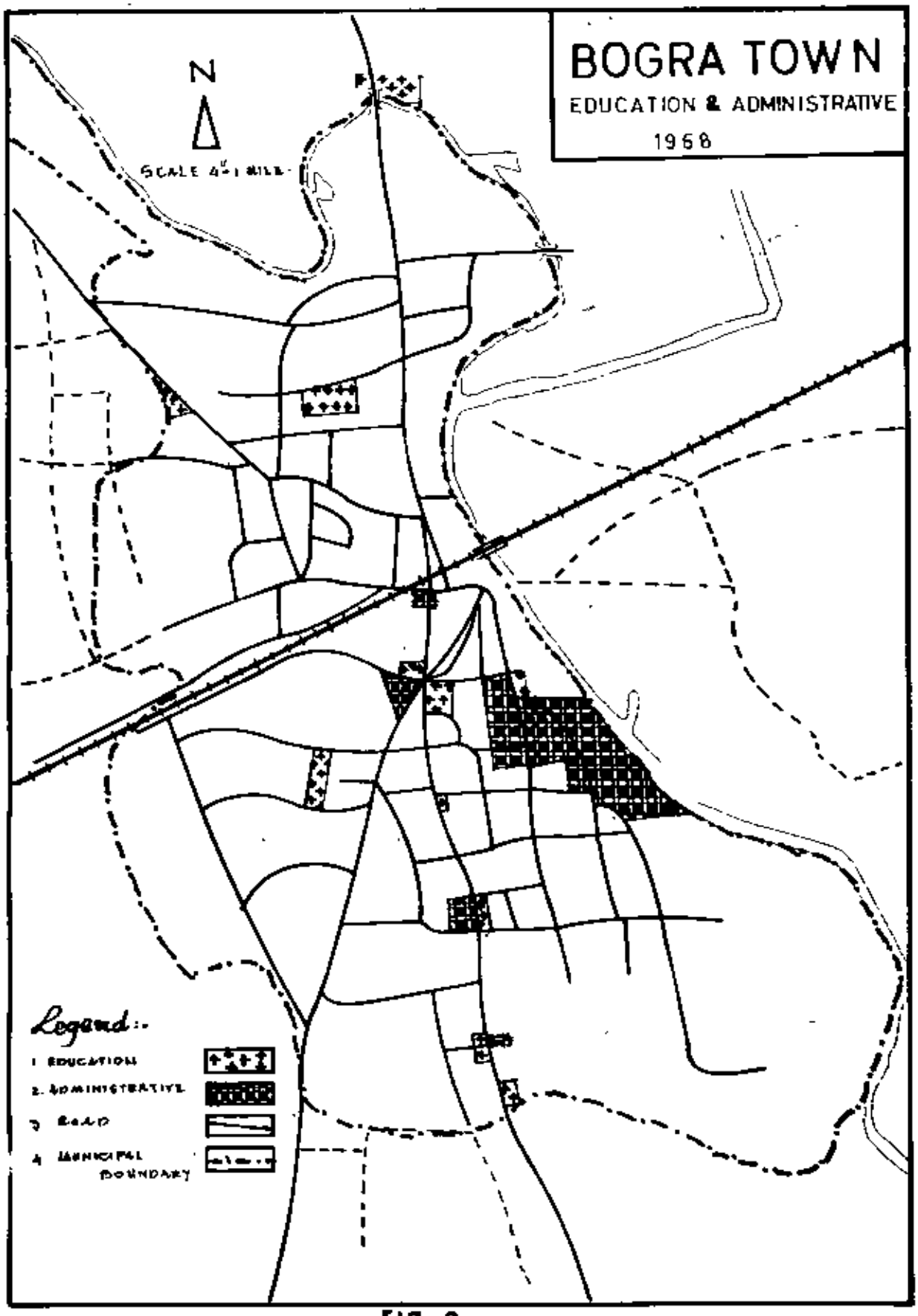
BOGRA TOWN
EDUCATION & ADMINISTRATIVE
1968
N
SCALE 4" = 1 MILE
Legend :-
1. EDUCATION
2. ADMINISTRATIVE
3. ROAD
4. MUNICIPAL BOUNDARY

FIG. 8

The areal segregation of the administrative area is well marked. Large buildings housing the Government offices, spacious bungalows on western style for Government officers and wide metalled roads make this area distinctly different from other parts of Bogra town. After Independence, a number of new Government offices have been opened which have dispersed locations. District Judges Court, Police lines, Divisional offices of Buildings and Roads Directorates are among those (Fig.6).

EDUCATIONAL AREAS

The Chief educational institutions of the town of Bogra are the Bogra Asizul Haque College which has a location outside the northern Municipal boundary and the Zilla School near the "Satmatha". A new degree college has been set up recently, which is located on the western part of the Municipal boundary. The other schools and institutions are distributed throughout the residential neighbourhoods. The educational institutions of Bogra have scattered locations (Fig.6) throughout the town. Thus the educational needs of the whole community are well served. The Government Zilla school established in 1853 is situated in the heart of the town near the "Satmatha". Substantial addition has been made to its building since then. The Thompson Hall originally created as a memorial to Lt.Governor Sir Rivers Thompson, by the Zamindar of Sherpur now forms part of the Government school. Besides the Government School there

are four other high schools for boys,namely,Bogra Coronation Institution, Bogra central High School, Bogra Municipal High school and Bogra Jubilee Institution. Municipality bears the cost of running eight primary schools within the Municipal area.

There are also one Title Madrasah, two Girl's High Schools,one Technical School & one Polytechnic Institute in Bogra.

SOCIAL AND RECREATIONAL AREAS

The social and recreational area of Bogra is located near the "Satmatha" and it is there that the Jinnah Hall,Edward Park, Woodburn Public Library are located (Fig.5). The beautiful theatre hall situated in the centre of a fairly large and well laidout park is the civic centre of Bogra and is often the venue of music and dance festivals. The park and the hall are named as Edward Park and Edward Hall respectively. The Hall fitted with a revolving stage for dramatic performances was constructed out of the funds subscribed by the Public on the occasion of the coronation of the King Edward VII. There is also the public library situated within ~~this~~ park this park which is known as Woodburn Public Library with valuable collection of books. The Edward park which has in it a beautiful flower garden, rows of palms, a nursery, artificial hillock, a tank, a fountain, different kinds of fruit trees and a spacious lawn for sports, is perhaps the best of its kind in the outlying districts of East Pakistan. One of the Cinema

halls of Bogra town is located within this park. The Jinnah Hall has an auditorium on the first floor where important functions of the town are held. Very close to the "Satmatha", there are also the Railway ground and the Exhibition field, two big open spaces for games and sports.

CHAPTER VI

MORPHOLOGY OF COMILLA

Comilla is the principal town and the district headquarter of Comilla district which was formerly known as Tippera. It is situated on the southern bank of the river Gumti in the eastern part of East Pakistan(Fig.1). For the purpose of this study, the municipal limit has been taken as the limit of Comilla urban area.

As mentioned earlier, Comilla falls in the size-class of "Cities" among the district headquarter towns of East Pakistan. It has a population of 54,504 (according to 1961 census) and covers an area of five square miles.It is situated on the main line of Pakistan Eastern Railway. The Dacca-Chittagong highway passes through Comilla and it is fairly well connected with other parts of the Province by Air,Railway and Road transport. Although the river Gumti has now shrunk to a streamlet that is navigable only during the rainy season, the early siting of the city on its bank suggests the intention of taking advantage of the river transport system.

Origin & Growth

The name of Comilla according to a legend is derived from the utterance (Kobmile-meaning obtaining the desired land) of a Muslim Peer named Hazrat Shah Jalal Mujerat Kumi, in the 15th century A.D., who came and settled in a nearby mound after his long and strenous travel under the direction of his spiritual Guide.[1] Later on, the name gradually changed to Comilla.

However, the early history of the district shrouded in obscurity. The 'Rajmala' or the Chronicles of the Kings of Tippera, gives an account of that dynasty.

The famous Dharma Sagar which is about one sq. mile in area, was excavated during the reign of Dharma Manikya in early 15th century. The most noted among the Hindu temples, Satra Ratna temple in Comilla was built in the 16th or 17th century at the time of Raja Krishna Manikya, and the Raja Masjid was constructed in the 17th century. Thus the existence of Comilla at least since the 15th century A.D. becomes established.

The connection of Tippera with Mohammadan history begins from early 18th century when it was brought under the direct administration of Mughal empire. Soon after in 1765 Tippera was taken over by the East India Company and in 1790 the district was formed and Comilla was made its Headquarter.In 1864 the Municipality was constituted.

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1 Source:Urban Development Directorate,Physical Planning Division, Report on the Landuse Proposal of Comilla.

POPULATION

The population of Comilla Municipality was 19,169 in 1901 and it rose to 54,504 in 1961 (Table V). It is seen from the table showing the population trend during the period 1901-61 that the increase in population over 60 years is threefold and the growth is progressive except in the decade 1941-51 when a decline is noticed. The reason of this abrupt break in growth of urban population may be due to -

TABLE V*

POPULATION TREND IN COMILLA DURING 1901 to 1961

YEAR	POPULATION	VARIATION	INCREASE IN 10 YEARS.
1901	19,169	----	----
1911	22,692	3,523	18.3
1921	25,914	3,222	14.1
1931	31,365	5,451	21.0
1941	48,462	17,097	54.5
1951	47,526	- 936	-1.9
1961	54,504	6,978	15

* Source :- Population Census of Pakistan,1961, District Census Report,Comilla,PP.IV-8-9

(1) unreliable census data of 1941 when both the Muslims and the Hindus tribed to inflate their number for political reasons.

(2) a very heavy loss of life due to famine of 1945,and

(3) mass migration after Independence in 1947.

Compared to other urban areas of the Province the rate of growth of Comilla during the last decade was very slow. This slow rate of growth in Comilla was perhaps due to the absence of any major industrial activity exerting pull on its surrounding rural population. The analysis of the occupational structure of Comilla suggests that less than 6% people are employed in Industry.[1] However, it is presumed that the occupational structure of the city will change in the near future due to various factors, e.g., establishment of small scale industrial estates, increase in commercial and tertiary activities etc., and there will be a consequent pull on the surrounding rural population and the city will grow faster in future than due only to natural increase.

A. ROAD PATTERN

The river Gumti has a marked effect on the road pattern of Comilla. The early settlement originally grew along the bank of the river and perhaps "Chawk Bazar" was the centre of all activities. So the principal axis of the traffic movement developed East-West parallel to the river and to the early settle-

[1] Physical Planning Division,Urban Dev.Directorate,Report on the Landuse proposal of Comilla, P-16

ment. Gradually when the urban growth took place towards south and west, unplanned diverging narrow roads from the principal axis also developed to provide access to these unplanned areas (Fig.9). Except the two main roads of the city, which are also part of the Dacca-Chittagong trunk road, the road pattern of Comilla presents a picture of narrow and tortuous secondary streets. The traffic was mostly pedestrian and in comparatively recent period only, the horsedrawn carriages, bullock carts and cycle-rickshaws were the principal modes of travel. But these roads have become outdated for the present day automative vehicles which need much wider and better travel ways for various types of vehicles.

Taking aside the defects, such as, inadequate road width and crooked alignment of the principal roads, hazardous and too many intersections and junctions, absence of any bypass road to deflect the through traffic between Dacca-Chittagong, Dacca-Chandpur, Chittagong-Chandpur, Chittagong-Sylhet, inadequacy of secondary roads etc., it can be surmised that the overall road pattern of Comilla is not bad.

The roads of Comilla can be broadly divided into the following classes on the basis of their functions(Fig.10).

(a) Primary Roads,

(b) Secondary Road, and,

(c) Tertiary Roads.

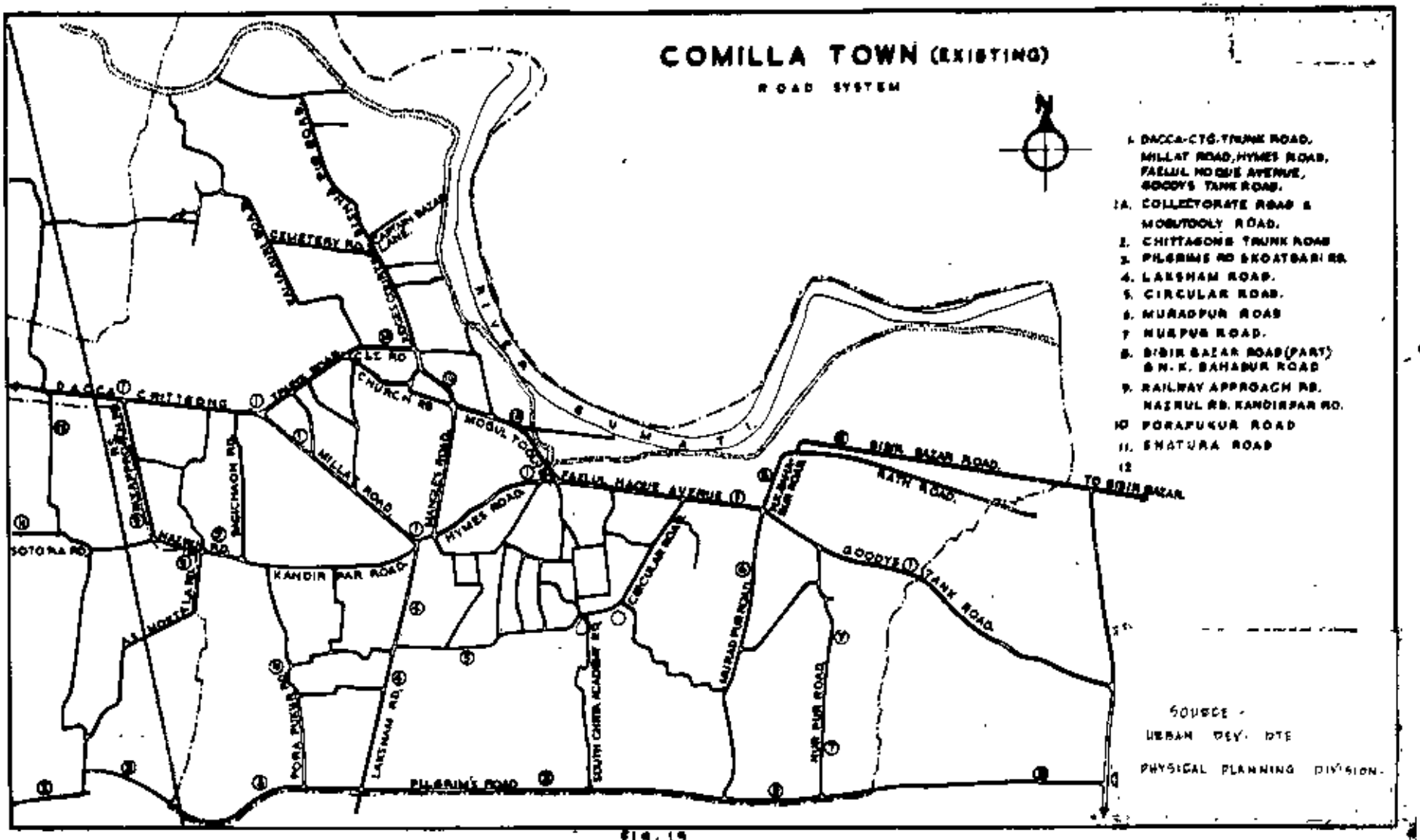

COMILLA TOWN (EXISTING)
ROAD SYSTEM
N
1. DACCA-CTG. TRUNK ROAD, MILLAT ROAD, HYMES ROAD, FAEJUL MOQUE AVENUE, GOODY'S TANK ROAD.
1A. COLLECTORATE ROAD & MOBUTOOLY ROAD.
2. CHITTAGONG TRUNK ROAD
3. PILGRIMS RD SHOATBARI RD.
4. LAKSHAM ROAD.
5. CIRCULAR ROAD.
6. MURADPUR ROAD
7. NURPUR ROAD.
8. BIBIR BAZAR ROAD (PART) & N.K. BAHADUR ROAD
9. RAILWAY APPROACH RD. NAZRUL RD. KANDIRPAR RD.
10. PORAPUKUR ROAD
11. SHATURA ROAD
12
DACCA-CHITTAGONG
TRUNK ROAD
CLC RD
CHURCH RD
MOGUL TOLA
RIVER
SUMATI
MILLAT ROAD
HYMES ROAD
FAEJUL MOQUE AVENUE
BIBIR BAZAR ROAD
TO BIBIR BAZAR
KATH ROAD
GOODY'S TANK ROAD
KANDIR PAR ROAD
SOTORA RD
CIRCULAR ROAD
MURAD PUR ROAD
NUR PUR ROAD
PORA PUKUR RD
LAKSHAM RD
SOUTH CHERA ACADEMY RD
PILGRIM'S ROAD
SOURCE -
URBAN DEV. DTE
PHYSICAL PLANNING DIVISION.

Fig. 19

PRIMARY ROADS

The primary roads link the urban centre with its umland and also with other towns.These roads carry traffic which originates outside the town and has its destination inside the town, or vice versa, and also carry the through traffic which has got no function in the city at all. Six such primary roads, enter into Comilla(Fig.10); of them the roads leading to Dacca and Chittagong are of special importance.These are metalled roads and cars, buses and trucks ply on them.

SECONDARY ROADS

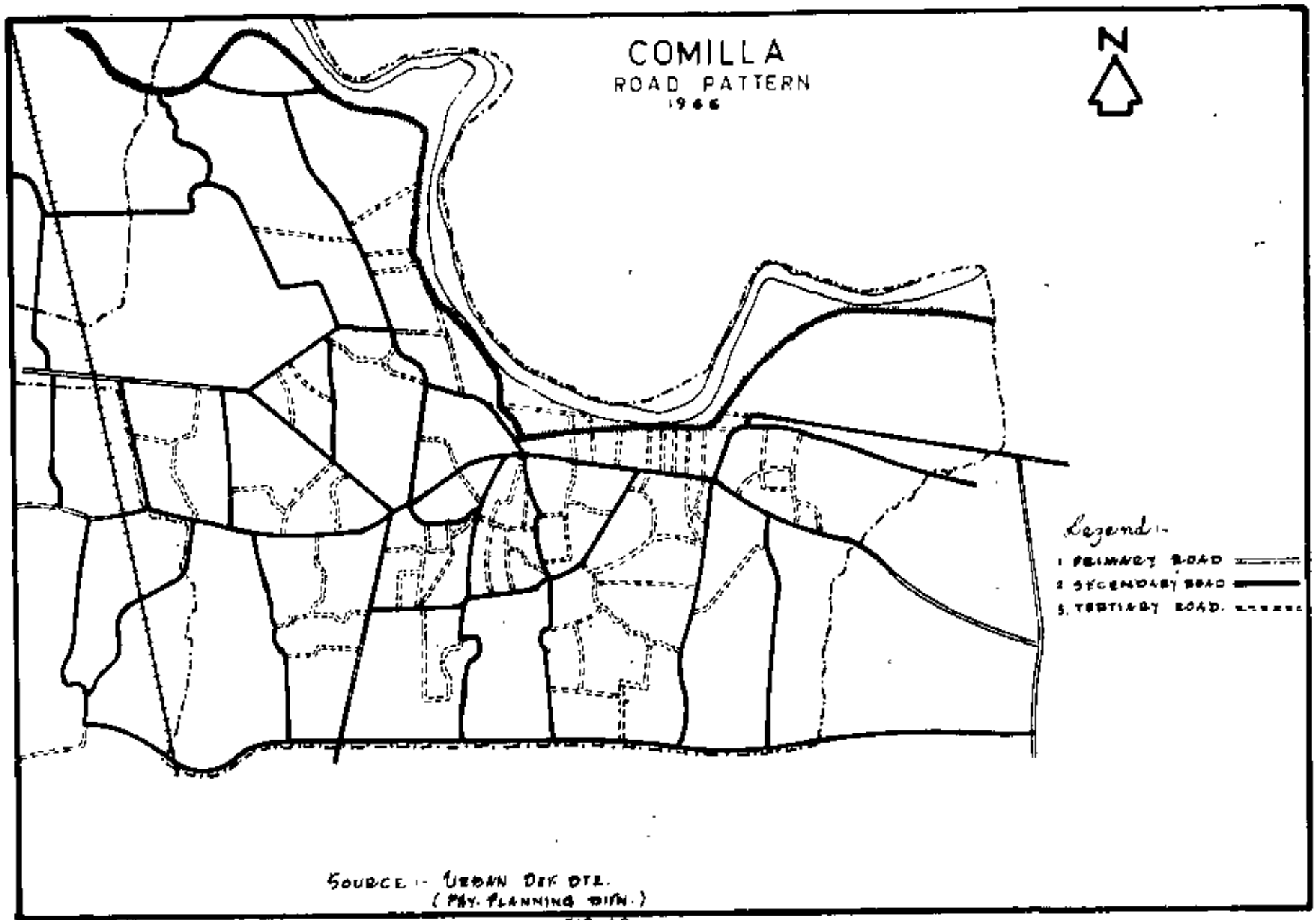
The secondary roads are the major roads of the city.The principal road of the city which is called by different names at different sections(e.g.Millat Road,Nyeso Road,Fazlul Haq Avenue,Goodys Tank Road), and Pilgrims Road,the other radial roads and a few intermediary roads of Comilla belong to this category(Fig.10).They carry the main burden of the intra-city traffic, particularly the vehicular traffic. They interconnect one mohalla(neighbourhood) of the city with the other.These roads in Comilla are metalled or brick paved and are 30 feet or more wide.

TERTIARY ROADS

The roads other than primary and secondary are grouped together as tertiary roads(Fig.10).They are of lesser importance and primarily serve their respective mohallas. Their main function is to provide access to the secondary roads. They are mostly unmetalled, a few of them are brick paved. The vehicular traffic on these roads is mostly bi-cycles and paddle-rickshaws.

B. LAND USE PATTERN

Urban communities have developed as a part of our social



SOURCE :- URBAN DEV DTE.
(PHY. PLANNING DIVN.)

FIG. 10

and economic system. The amount of land utilized by specific activities and their spatial distribution reflect the requirements of this system. In our communities, however, the existing arrangement of land uses, though essentially functional, is not a criterion of modern community design. To a large extent, the pattern is a product of past growth and activities; it does not necessarily represent the most efficient pattern. This is understandable, because urban areas have grown under varying pressures and have been subjected to multitude of personal whims and desires. Yet, despite the lack of formal planning in early cities, the land use pattern that has evolved is essentially functional.

The urban community is a dynamic organism constantly changing in a variety of ways to meet new needs and conditions. The change that has occured in Comilla during a hundred-year period is illustrated in Figs.11,12,13,14 & 15. As the urban community grows older its physical parts become obsolete and should be revitalized as well as rebuilt. With each technical improvement they become less efficient and a change in the utilization of land inevitably occurs.

But the greatest change in the urban community is perhaps a result of growth itself. With the increase in population through natural increase or by migration, new living and working space must be added to the community. This demand may be satisfied by peripheral expansion, by the internal rearrangement of land uses - either through the displacement of one

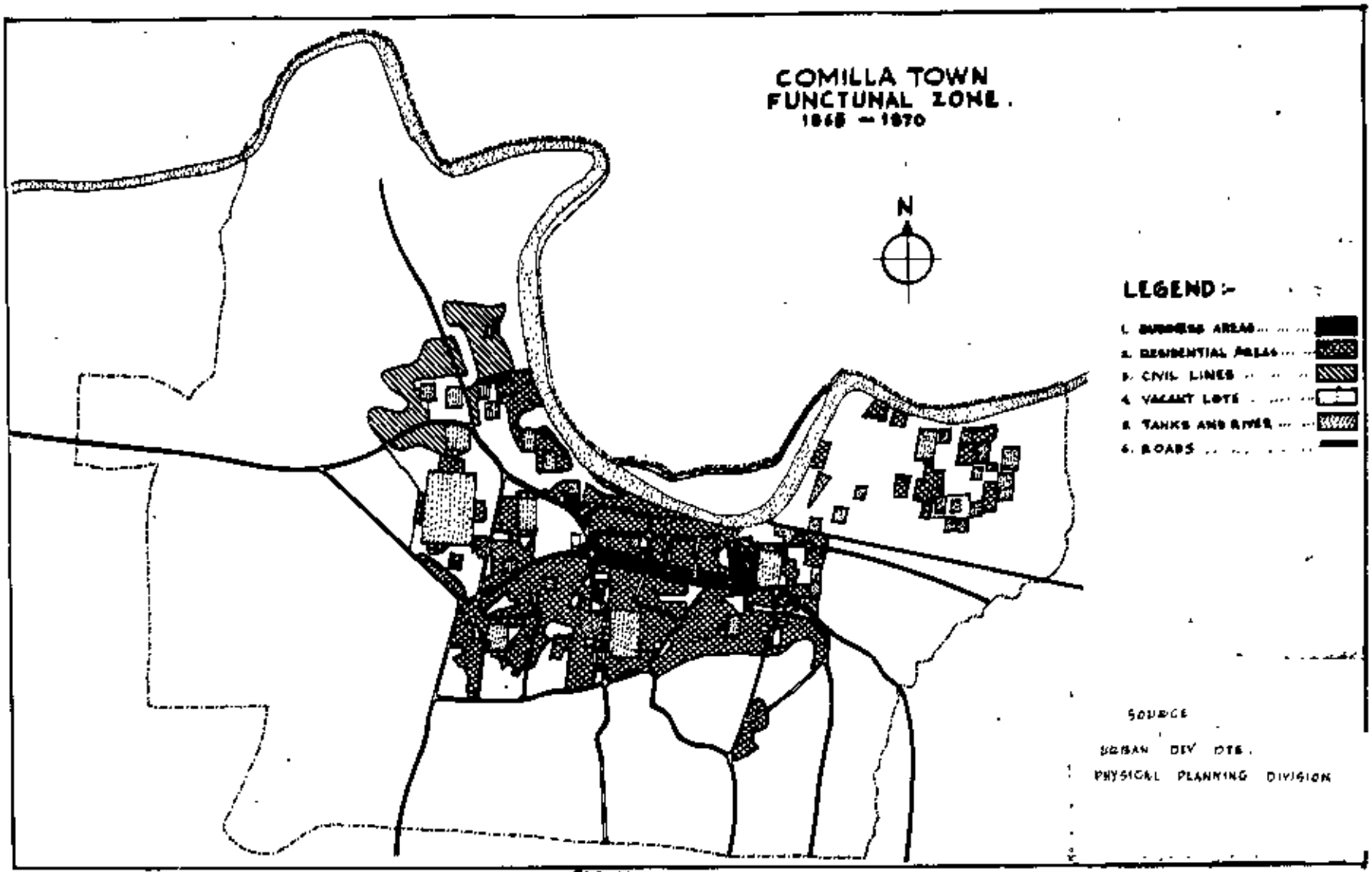

COMILLA TOWN
FUNCTUNAL ZONE.
1968 — 1970
N
LEGEND :-
1. BUSINESS AREAS
2. RESIDENTIAL AREAS
3. CIVIL LINES
4. VACANT LOTS
5. TANKS AND RIVER
6. ROADS
SOURCE
URBAN DEV DTE.
PHYSICAL PLANNING DIVISION

Fig. 11.

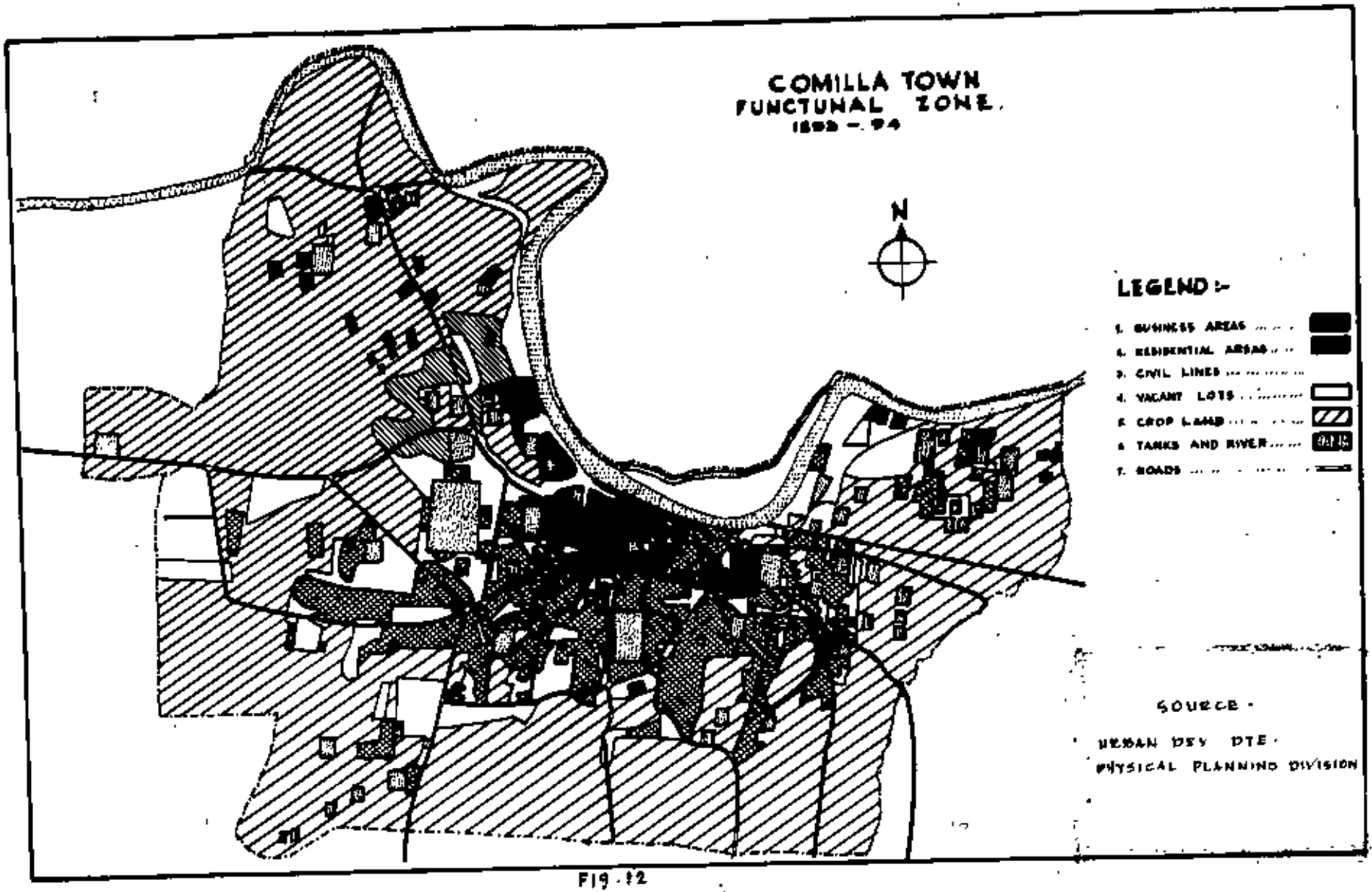

COMILLA TOWN
FUNCTUNAL ZONE.
1992 - 94
N
LEGEND :-
1. BUSINESS AREAS
2. RESIDENTIAL AREAS
3. CIVIL LINES
4. VACANT LOTS
5. CROP LAND
6. TANKS AND RIVER
7. ROADS
SOURCE :
URBAN DEV DTE.
PHYSICAL PLANNING DIVISION

FIG - 12

COMILLA
FUNCTIONAL ZONE
1951

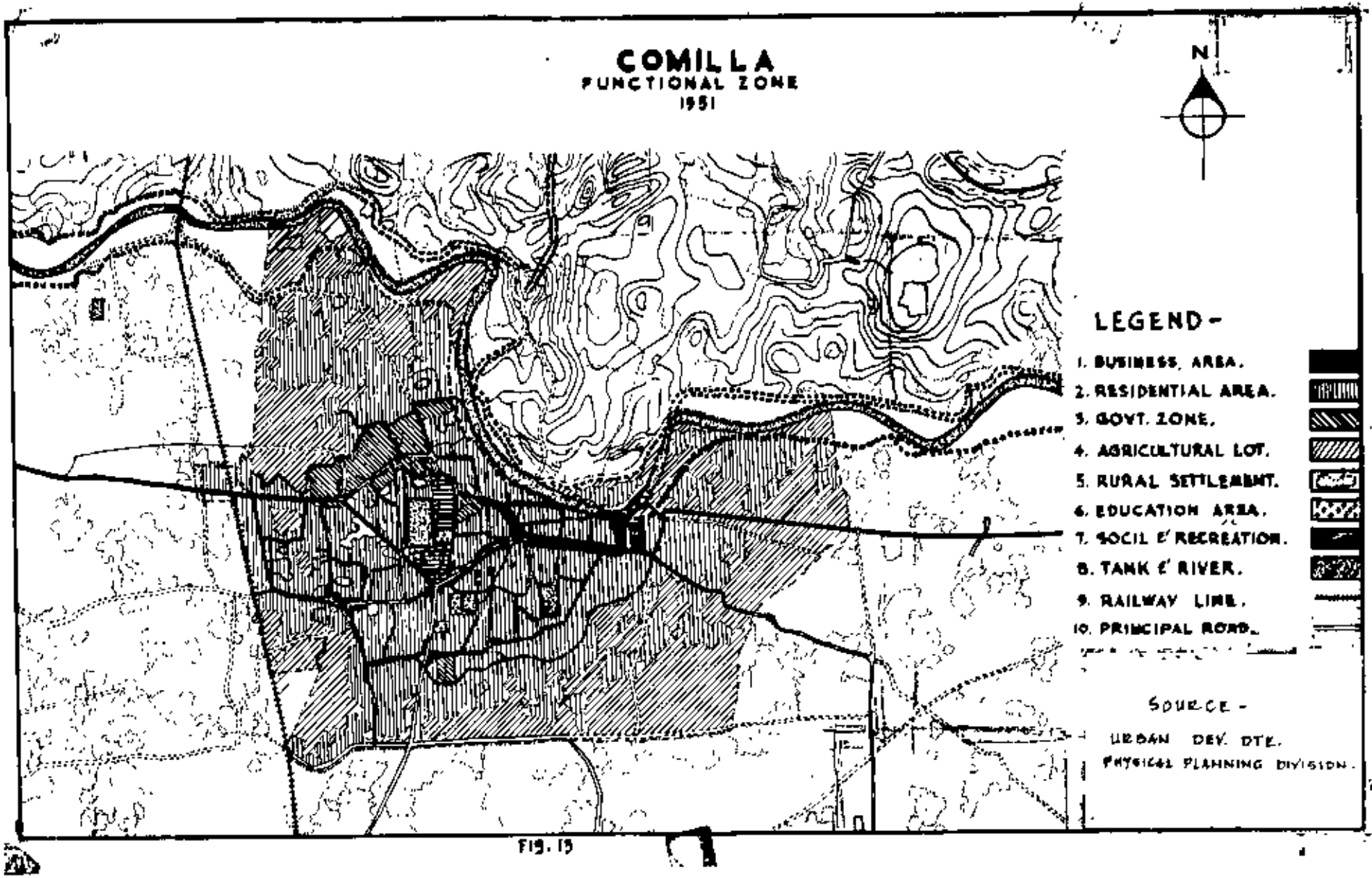


FIG. 13

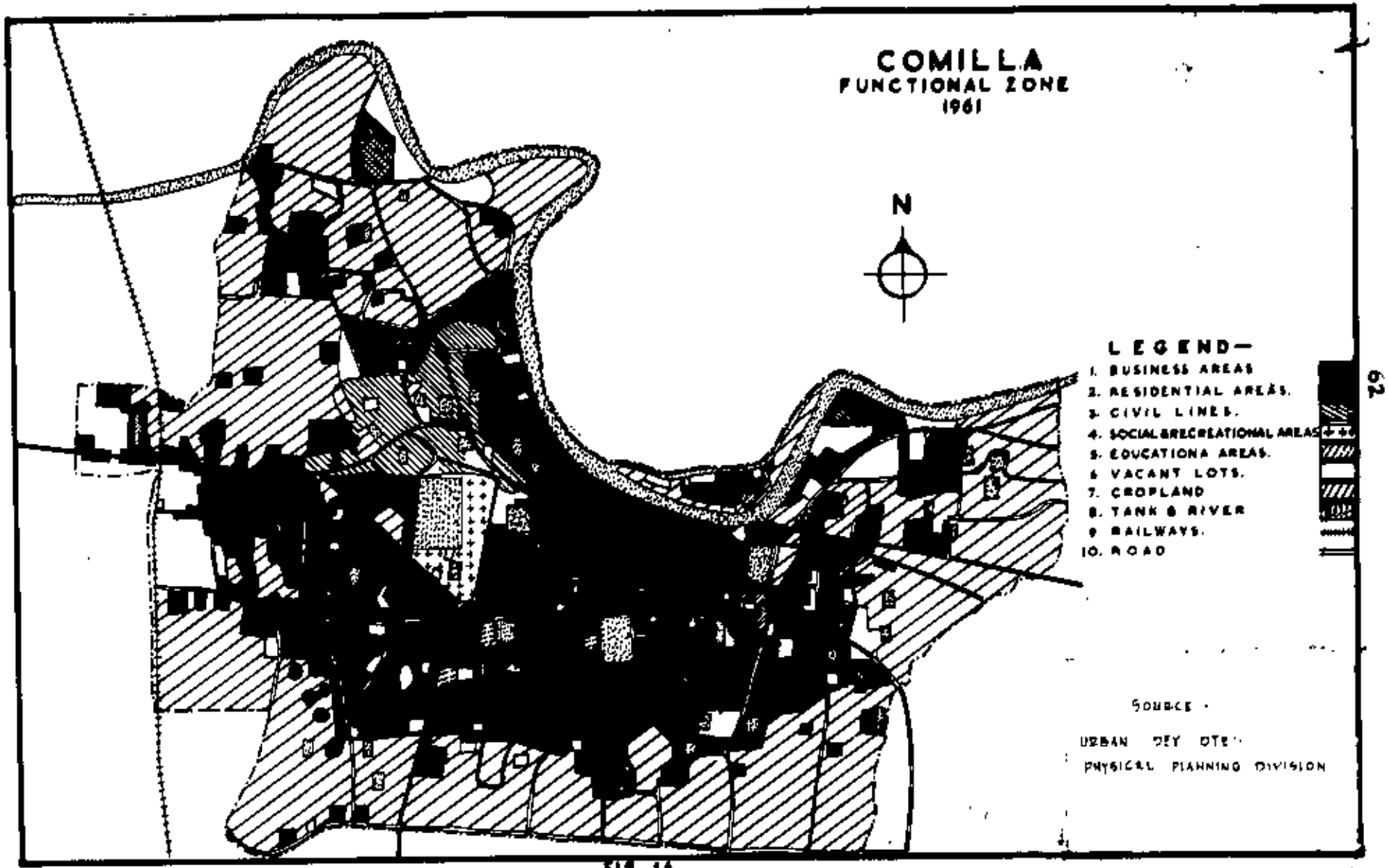

COMILLA
FUNCTIONAL ZONE
1961
N
LEGEND—
1. BUSINESS AREAS
2. RESIDENTIAL AREAS.
3. CIVIL LINES.
4. SOCIAL &RECREATIONAL AREAS
5. EDUCATIONA AREAS.
6. VACANT LOTS.
7. CROPLAND
8. TANK & RIVER
9. RAILWAYS.
10. ROAD
SOURCE :
URBAN DEV DTE
PHYSICAL PLANNING DIVISION

FIG. 14

45528

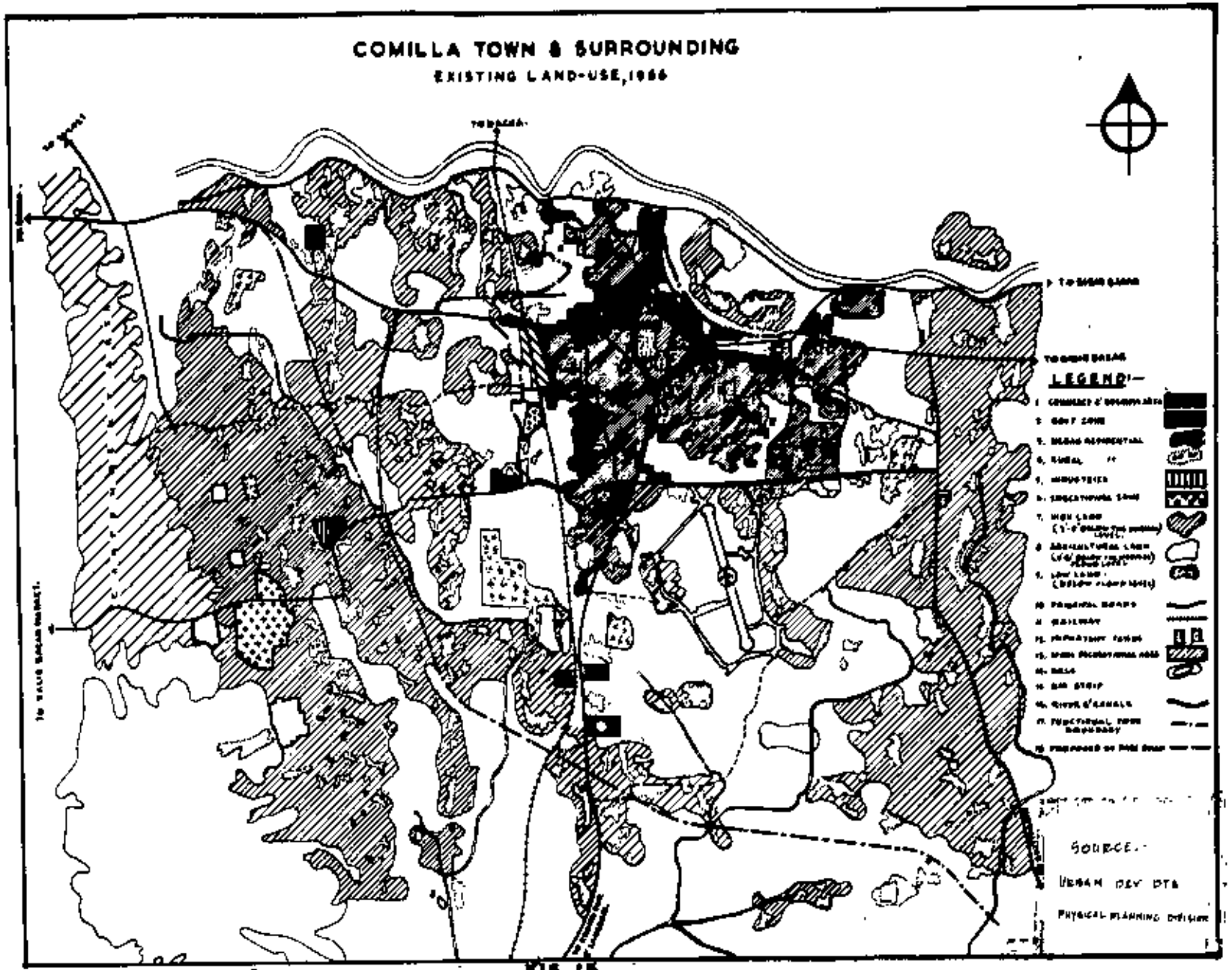

COMILLA TOWN & SURROUNDING
EXISTING LAND-USE, 1966
LEGEND:-
SOURCE:-
URBAN DEV DTE
PHYSICAL PLANNING DIVISION

FIG. 15

use by another or by the infilling of vacant property or by the more intensive use of land and existing buildings,more often urban growth flows into areas offering the least physical or economic resistance to expansion. Thus the predominant type of growth occurs in the form of lateral expansion into surrounding agricultural areas where raw land is converted to urban purposes.

Whatever the nature of the growth, it is apparent that the land use pattern, as well as the amount of land utilised for a particular purpose, and often the density of development ,are constantly undergoing change.[1] Part of this change may be superficial, but most is a direct response to the changing needs of the community.

RESIDENTIAL AREA

The early settlement pattern of Conills suggests that the settlement originally developed along the bank of River Ousti and perhaps Chawk Bazar was the centre of all the activities, Bazar Road (At present Fazlul Haq Avenue) was not only the main axis but also the southern limit of the settlement except for only few isolated and scattered growth such as Sharas Bagar and a few residences in north Charta(Fig.11).

During Mughal period better class residence started

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[1] Harland Bartholomew, Land uses in American Cities, (Harvard University Press, Cambridge, 1955), P.13

growing north-west between the present Mughaltully Road and the River bend. The establishment of civil lines accelerated the growth further. Spacious bungalows on western style were built to accommodate the Government offices and also the officers and a high class residential area started to spring up. By this time, middle class residences also began to grow south of Bazar Road and present Hynes Road bounded on the south by circular Road.

After about three decades Comilla showed a further southward and northward push which can be seen from the Fig.12 Some more new roads have come on the western part of the Municipal area and the residential development has started there perhaps to take the advantage of the projected Railway communication system. The railway started in 1894.

During next 60 years(Fig.13) the expansion took place towards west and south bounded by Railway line and Pilgrim Road. The trend of growth during the last 75 years establish a fact that the natural expansion of Comilla is west and southward. The great change ofcourse is due to the change in transport and communication system from riverine to surface and air borne traffic (Fig.15) and sources of supply of raw materials. Moreover the city is bounded on the north by river Gumti and on the east it is very close to Indian border.

One very important feature of land development in comilla which needs a special mention here is that almost all the residential blocks have been developed on artificially raised

land, the earth being borrowed by digging tanks. Because of the existence of so many tanks, Comilla was popularly known as "a town of tanks"(Fig.16).[1] It is due only to the shortage of suitably located buildable high land free from annual flooding.

A typical example to analyse the extent of excavation necessary to raise the formation level of an area has been worked out from an existing residential unit as shown in (Table VI. It is found that approximately 30% of the total area is wasted by digging.

The city of Comilla is predominantly residential in nature (Fig.15), nearly 61% of the total developed land(Table VIII) within the municipal boundary is being presently used for residential purposes. There are diversified land uses in the city, but they have not been able to materially change the predominant residential character of the community.

The land use maps of different period indicate the trend of growth. In the early period when the settlement was very small in nature, there was not very distinct demarcation of residential segregation according to the class or income group. Residential segregation started with the expansion of the city. At present a sort of rough demarcation is possible to identify within the municipal limit through the variation

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[1] Manager of publications,Karachi,Census of Pakistan, 1961, District Census Report, Comilla, P.I-26.

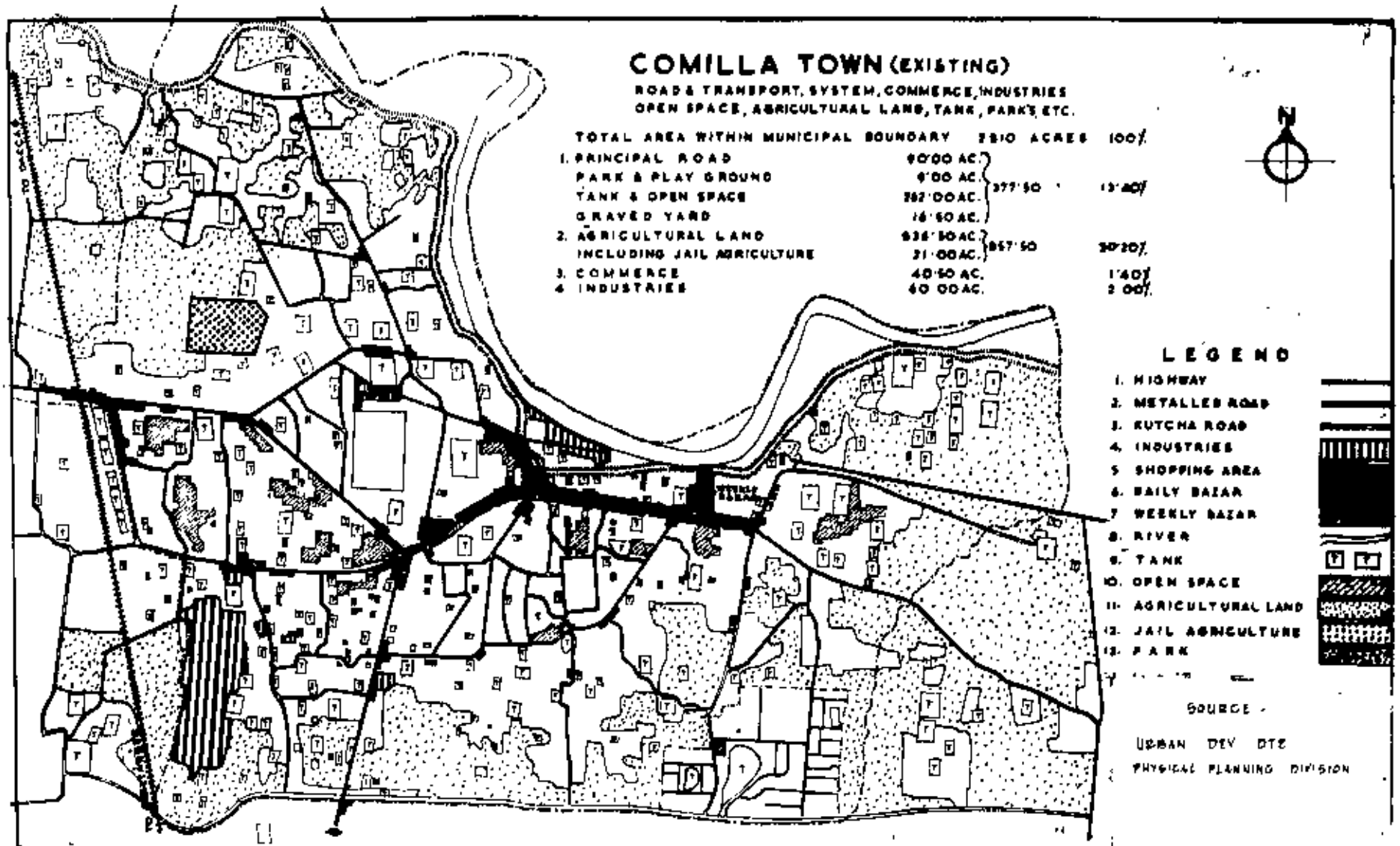

COMILLA TOWN (EXISTING)
ROAD & TRANSPORT, SYSTEM, COMMERCE, INDUSTRIES
OPEN SPACE, AGRICULTURAL LAND, TANK, PARK'S ETC.
TOTAL AREA WITHIN MUNICIPAL BOUNDARY 2510 ACRES 100%
1. PRINCIPAL ROAD 90·00 AC.
PARK & PLAY GROUND 9·00 AC.
TANK & OPEN SPACE 282·00 AC.
GRAVED YARD 16·50 AC.
377·50 15·40%
2. AGRICULTURAL LAND 838·50 AC.
INCLUDING JAIL AGRICULTURE 31·00 AC.
869·50 34·20%
3. COMMERCE 40·50 AC. 1·60%
4. INDUSTRIES 60·00 AC. 2·00%
N
LEGEND
1. HIGHWAY
2. METALLED ROAD
3. KUTCHA ROAD
4. INDUSTRIES
5. SHOPPING AREA
6. DAILY BAZAR
7. WEEKLY BAZAR
8. RIVER
9. TANK
10. OPEN SPACE
11. AGRICULTURAL LAND
12. JAIL AGRICULTURE
13. PARK
SOURCE :-
URBAN DEV DTE
PHYSICAL PLANNING DIVISION

FIG - 16

TABLE VI

Area A	Total area	26 acres	100%
	Tank area	9 acres	34%
Area B	Total area	32 acres	100%
	Tank area	10 acres	31%
Area C	Total area	50 acres	100%
	Tank area	9 acres	18%
Area D	Total area	55 acres	100%
	Tank area	11 acres	20%
Area E	Total area	80 acres	100%
	Tank area	20 acres	25%
Area F	Total area	46 acres	100%
	Tank area	25 acres	45%

Total area of the unit = 26+32+50+55+80+46 = 289 acres.
Total tank area = 9+10+9+11+20+25 = 84 acres.
% of the total area = $\frac{84 \times 100}{289}$ = 29% say 30%

Source: Urban Development Directorate, Physical Planning Division.

of density of population and existing type and condition of structures. According to the 1961 census 21% of the houses are of permanent type and the rest 79% are a mixture of semi permanent and temporary structures.65% of the houses

TABLE VII

AN ANALYSIS OF THE EXISTING LAND USES IN COMILLA(1966).

Sl.No.	DESCRIPTION OF USES	AREA IN ACRES	% OF TOTAL
1	Paddy land	660	25%
2	Char and River	235	8.9%
3	Residential	1076	40%
4	Governmental	105	3.96%
5	Commerce & Industry	100	3.76%
6	Educational Institution	42.05	1.50%
7	Recreation,Health & Religious	29	1. 1%
8	Railways	28	1. 1%
9	Roads and bus terminals	120	4. 5%
10	Tanks,open space,Playground	263	8.75%
11	Graveyard	15	0.56%
12	Service Utility	7	0.29%
	Total	2680	100%

Source: Urban Development Directorate, Physical Planning Division.

are owner occupied, 25% are rented and 7% are occupied free by other urban owners.

In actual practice, it is very difficult to make a distinct demarcation of different residential zones according to the type or structures as the semipermanent and temporary

TABLE VIII

A FURTHER ANALYSIS OF THE DEVELOPED PORTION OF THE MUNICIPALITY

Sl.No.	DESCRIPTION OF USES	AREA IN ACRES	% OF TOTAL
1	Residential	1026	61%
2	Governmental	105	6%
3	Commerce & business	42	2.4%
4	Educetion,health,religious	91	5.2%
5	Light industry	58	3.3%
6	Principal roads & Railways	148	8.4%
7	Other uses(including tanks)	255	13.7%
		Total 1755	100%

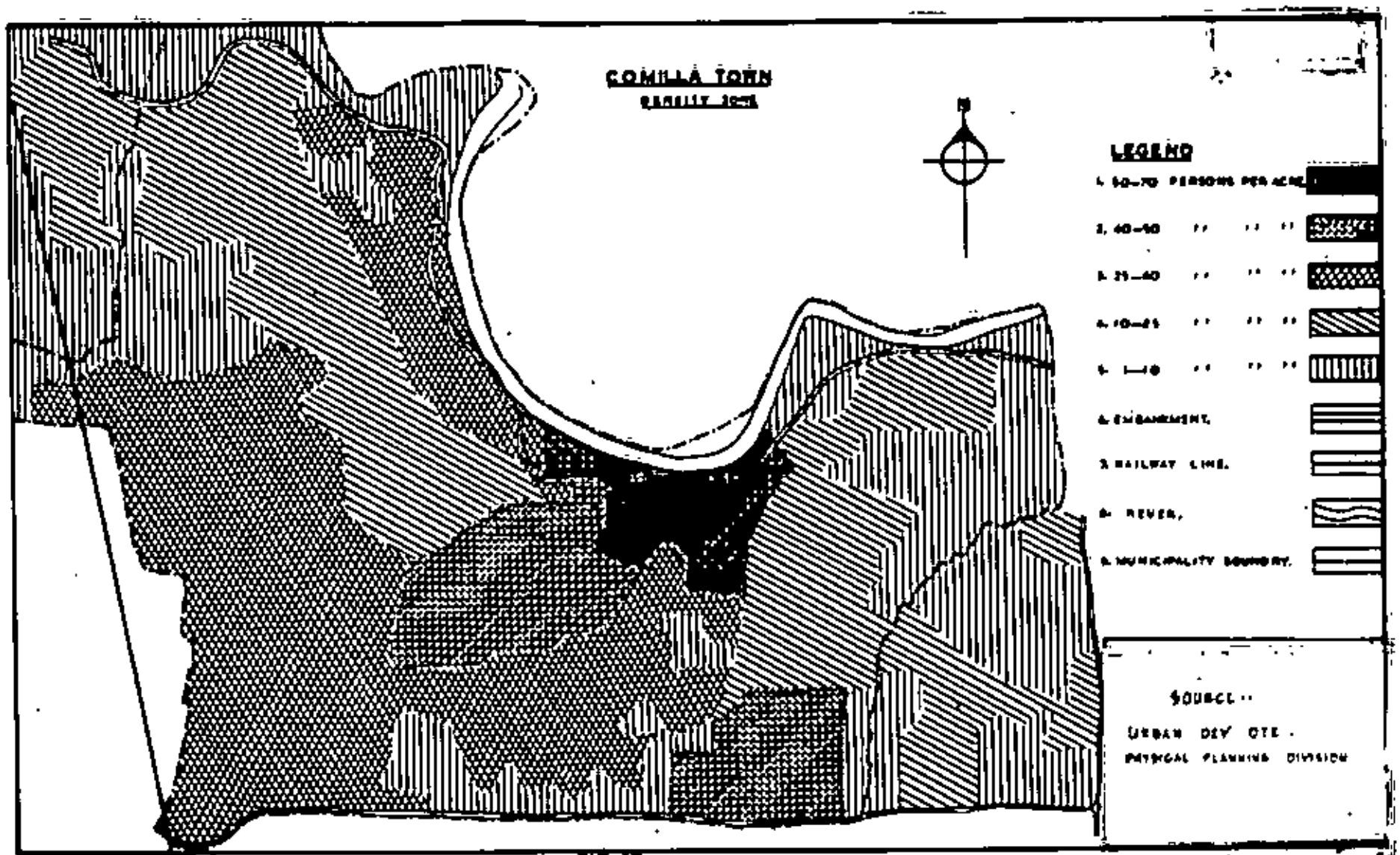
Source: Urban Development Directorate,Physical Planning Division.

structures are scattered allover the city except only the civil lines. However, a classification of the residential areas of Comilla has been attempted according to the variation of density of population as follows (Figs.17 & 18) -

(a) better class housing area,

(b) middle class housing areas with compartively smaller plots, and,

(c) the highly densed decaying inner zone presently occupied by mostly low income group people and lastly farm houses built within crop lands by the respective owner.


COMILLA TOWN
LEGEND
SOURCE :-
URBAN DEV' DTE .
PHYSICAL PLANNING DIVISION

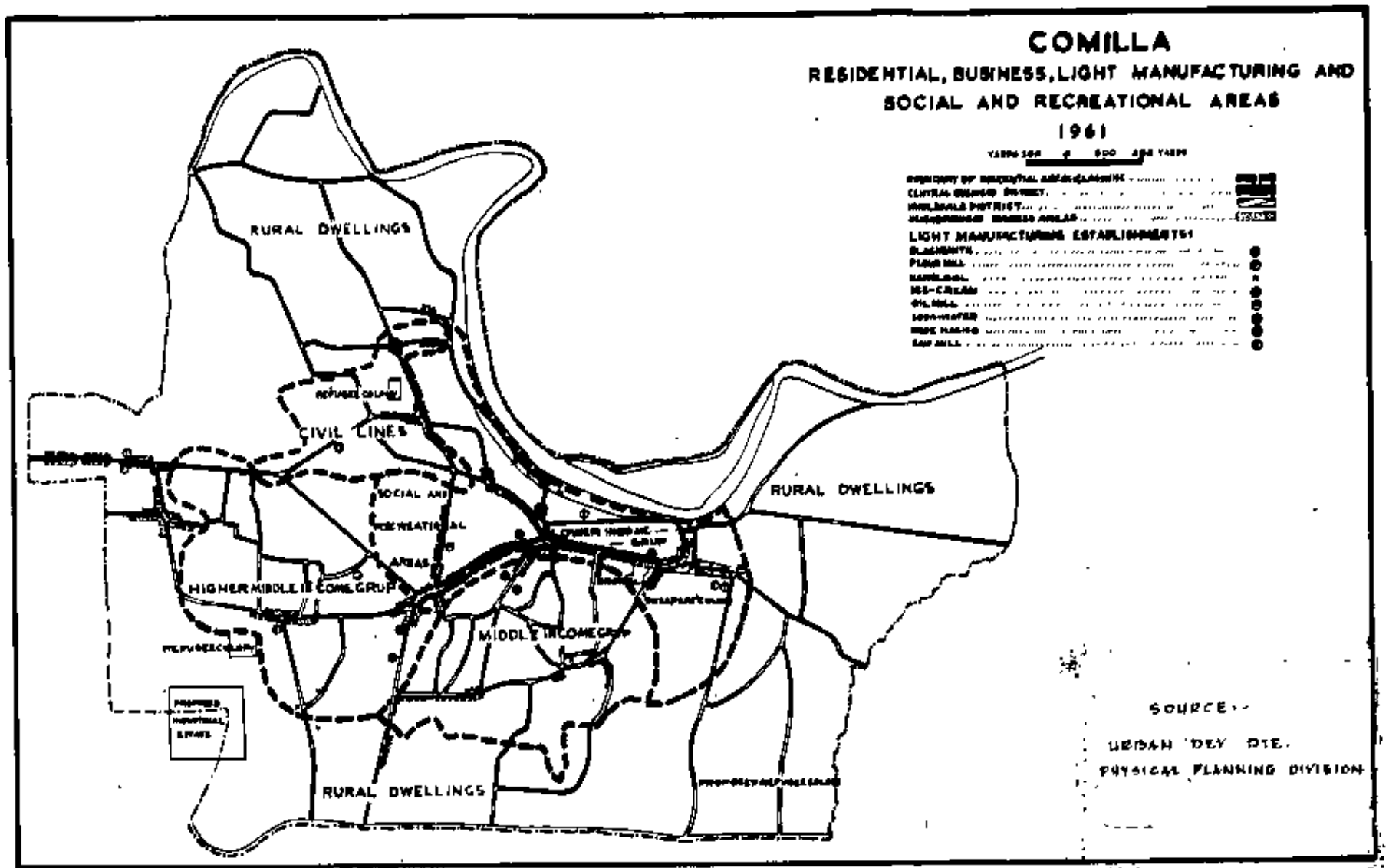

COMILLA
RESIDENTIAL, BUSINESS, LIGHT MANUFACTURING AND
SOCIAL AND RECREATIONAL AREAS
1961
LIGHT MANUFACTURING ESTABLISHMENTS
RURAL DWELLINGS
CIVIL LINES
SOCIAL AND
RECREATIONAL
AREAS
HIGHER MIDDLE INCOME GROUP
MIDDLE INCOME GROUP
RURAL DWELLINGS
RURAL DWELLINGS
SOURCE:-
URBAN DEV DTE.
PHYSICAL PLANNING DIVISION

FIG. 18.

COMMERCIAL LAND USE

The percentage of land use for commercial purposes decreases with the increase in population. This may be due to the fact that the smaller towns serve as market centres of districts; whereas the commercial areas of larger towns are less influenced by the needs of the surrounding villages.[1] 2.4% of the total developed area of Comilla is being used for commercial purposes(Table VIII) whereas the area covered by this kind of use in smaller towns like Bogra is 8.54%(Table IV).

The city of Comilla is polynucleated in respect of commercial land uses. That is, in addition to a main market, there are several subsidiary shopping centres so distributed as to serve the needs of one or more residential areas.

The main commercial area and shopping centre though confined within the area from New Market to Chawk Bazar through Mogultully Road and Rajganj Bazar, yet it is seen that the commercial activity have substantially extended westward along the Kandirpar Road, Millat Road and Comilla-Dacca Trunk Road beyond the Railway line and southward along the Railway approach, Nazrul Avenue and Lakshan Road(Fig.16).

The commercial areas of Comilla can be divided into two main groups - the retail trade areas and the wholesale trade areas. The retail trade areas again can be further

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[1] T.J. Manickam, Indian City Patterns, EXISTICS, August,1961, P.127

subdivided into two classes - the Central Business District and the Neighbourhood shopping centres.

Central Business District

The central Business District(CBD) which is the Chief nucleus of the commercial activities of Comilla is located on Faslul Haq Avenue, Nagultully Road, Kynes Road and also partly extended on Amir Digi Road and Lakshma Road. Most of the retail stores, banks, commercial offices and cinema houses are localised here. Though at present the pattern of this CBD is linear but many of the back line houses of Faslul Haq Avenue are now being used for commercial purposes having a trend towards expansion.

Chawk Bazar was the early centre of retail trade and other functions of the Central Business District. Gradually the CBD expanded. In 1891-49, the CBD was mainly confined in the Bazar Road i.e. Faslul Haq Avenue(Fig.12). Afterwards it moved in the westward direction along the Kynes Road, and Ramir Dighi Road(Fig.13). Present tendency of the CBD is to move and expand along the principal roads(Figs.14 & 15).

The principal retail shopping centre is located on the Kynes Road which is characterised by the predominance of general, stores, cloth stores, shoe stores, medical stores and restaurants. Kynes Road is the chief focus of the pedestrian and vehicular traffic. Bazar Road(present Faslul Haq Avenue) is next in importance. But it has lost its early

glamour as the CBD is moving westward. It was once the retail heart of the city, to-day it is characterised by the predominance of jewellery stores, silver, brassware, bakery and confectionery, cycles parts, motor accessories and general hardware stores. Only a few cloth and stationery stores are noticed on this road and a cinema house in a dilapidated condition stands to speak of its past glory.

Neighbourhood Shopping Centres

In addition to the principal business and commercial areas there are other local shopping centres in different Mahallas. These are the neighbourhood shopping centres which cater to the daily needs of the neighbourhoods. They mostly serve the surrounding neighbourhoods and their scale and the area are principally determined by the type and number of people they serve. Jamalpur-Railway station centre, civil lines centre and Kazi Bazar represent such business centres.

Jamalpur Business Centre

This business centre is located near the railway station and extends on the Dacca-Chittagong Trunk Road(Fig.16). Because of nearness to the railway station and main bus stand a large number of restaurants and hotels have developed at the Jamalpur-Railway station business centre. These establishments primarily serve to visitors who come to Comilla for business

purpose or for other works in the Government offices.Because of the location of main bus stand at Sasangacha a number of automobiles workshops and stores dealing in motor parts have developed.

Civil Lines Business Centre

Most of the government offices particularly the magesterial and judges Courts are located in the civil lines. This area becomes a centre of great activities during the day-time and becomes almost lifeless at night. Restaurants have grown up in large numbers to cater to the needs of the people who have to stay there for the whole day. A few general and stationery shops are also located and a few hotels have developed there. On sundays and holidays this business centre has a deserted look.[1]

Bani Bazar

Bani Bazar is a large shopping centre and is more truly a neighbourhood business area than Sasangacha or civil lines. Its service area extends over Kandirpar, Ashoktala,southern part of Bagichagaon and its shops primarily carry things of daily consumption. [2]

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1 Khan, F.K.,& Hasood, M.,Urban structure of Comilla town, Oriental Geographer,July,1962, P.122

2 Ibid, P.124.

Wholesale Trade Areas

There are two prominent wholesale places in Comilla: (1) Chawk Bazar and (2) Sasangacha. These centres act as the collecting and distributing centres for the umland of Comilla and also supply goods to the retail stores within the urban area.

Chawk Bazar, the principal wholesale area is perhaps the trading place from the time of earliest settlement. This wholesale district is close to the central business district, thus the retail traders can easily get their supply of goods from the wholesalers.

The Chawkbazar wholesale district primarily deals in food products, rice, wheat, pulses, gur, salt, spices, mustard oil etc.

The wholesale district according to Burgess encircles the CBD, according to Harris it is close to the CBD and near the focus of the extra-city transportation lines. Comilla has two wholesale districts. None of them encircles the CBD but are close to the retail trade area and one (Chawk Bazar) is located on the road going to Chittagong and the other (Sasangacha) is located close to the railway station and on the road going to Daud Kandi.[1]

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[1] Ibid, P.124.

MANUFACTURING LAND USE

There is no large-scale manufacturing industry in Comilla. But quite a number of small service industries grew up mixed with other functional uses(Fig.16) mostly in the residential areas scattered indiscriminately throughout the city. All these establishments are very small in nature and have grown up within the premises of residential areas as back-street industries.[1] Most of the light manufacturing establishments are located close to or within the central business district.

Chawk Bazar is the chief centre of flour mills oil mills and black smiths. Bazar Road is the main centre of goldsmiths and Mogultully Road is the seat of printing presses, wooden sandals, and some of the close by-lanes house the bakery, wood workers and "Biri" makers.

Recently EPSIC has established a small industrial estate of 45 acres right in the heart of thickly populated residential area, one workshop, manufacturing the light agricultural tools has also been established in this area.Three other medium size industries are on the way to establishment, scattered outside municipal boundary on Comilla-Dandkandi Road and Pilgrims Road extension. All of these are Cotton Textile mills. One Oil Mill is also under construction on Laksham Road south of municipal boundary. The siting of these textile mills

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1 -Urban Dev. Dte., OP.CIT.,P.67

have been very inconveniently located particularly from the point of view of future expansion of the city. The only consideration for selection of these sites were perhaps the availability of cheap undeveloped land.

ADMINISTRATIVE LAND USE

Government activities constitute a major factor in the development of the city of Cosilla. At present the government offices are scattered all over the city. Some of the offices have been located in private buildings which others have come up on open spaces or vacant buildings wherever they have been available. However, a defined administrative area or the civil line can be identified in Cosilla(Figs.15 & 16). The important government offices such as the Collectorate Civil Court, Police Lines, Municipal office, District Council and the Central Jail are located in this area. This area is distinctly well marked from other parts of the city with its large buildings housing the Government offices, spacious bungalows on western style for Government officers and wide metalled roads.

CULTURAL & RECREATIONAL LAND USE

The cultural and recreational area of Cosilla is located close to the CBD and it is here that the Town Hall,

the stadium and Idgah are located. The Town Hall is the civic centre of Comilla and is often the venue of music and dance festivals. The stadium, though too small for the vast sport-loving public, provides the facilities for local games and sports. Annual agricultural and industrial exhibition is also held in this stadium. Besides the stadium, every school has its own play-ground attached to the institution. Yet, play-grounds and public parks are quite inadequate for the city. Cinema, restaurants and theatre are the other sources to serve the purpose of recreation and entertainment of the city dwellers. These are mostly located in and near the central business district.

EDUCATIONAL AREAS

Comilla has as many as 30 primary schools, 9 high schools or secondary schools(6 for boys and 3 for Girls). 2 Intermediate colleges or higher secondary institutions (One for boys and one for girls) and one Degree College sized. There are also one senior Cambridge school, and 18 Maktabs and Madrasahs and a Tol(Hindu religious school). Besides there is one Primary Training Institute, one Junior Training College, one Survey school and one Polytechnic Institute.

Apart from these institutions there is one Academy for Rural Development which is located at Kotwali on the eastern foot of the Lalmai Hill range.

Though the existing number of institutions are quite sufficient for the city they are not conveniently located and properly distributed to afford equal opportunities to the city population. Moreover, their space provisions are much too inadequate to meet the standard requirements.

CHAPTER VII

SUMMARY AND CONCLUSION

The intent of writing this thesis is to investigate the composition of the district headquarter towns of East Pakistan. The work has been divided into two sections.The first section deals with a general analysis of the morphological characteristics of the district towns of East Pakistan and the second section deals with detailed sample studies. The primary purpose of this study thus has been to examine the form and structure of these urban areas. A hierarchy of these urban areas has been defined as Metropolitan centres, cities and towns, for the purpose of detailed discussion.

The district towns falling in the size-class of towns present an interesting study. These towns are marked by streets which are irregular in pattern, narrow and crooked. It is possible to recognize three major morphological areas or zones in these towns: (1) the bazar, (2) the residential area, and (3) the administrative zone, including educational institutions and official residences.

In the case of the district towns falling in the size-class of "cities" it is observed that abrupt growth in pop-

ulation as a result of independence has not been accompanied by simultaneous growth in physical and institutional facilities. One common characteristic is their small areal extent relative to the size of population. They are characterised by a variety of street patterns. Certain areas of these cities, such as the Soaring Estates, Civil Lines, exhibit an effort at conscious planning in their street patterns. Internal differentiation of land uses in these cities is complete compared to the towns. Residential segregation on level of income is more clearly defined. They are polynucleated in respect of commercial land uses. They are also characterised by a mixture of urban and rural land uses in the fringe areas.

Study of the metropolitan centres reveals that these urban centres are distinguished from other towns and cities in many ways in addition to size. Unlike most cities and towns, the areas of metropolitan Dacca, Chittagong and Khulna are quite extensive. These urban centres display a tendency toward "urban sprawl", a phenomenon which is absent in other cities. They display relatively much greater internal differentiation than noticed in cities and towns. The older sections, however, are characterised by a mixture of residential, commercial and industrial land uses.

The distribution of business centres in the metropolitan areas follows a pattern which, to a large extent accords with the concept underlying the multiple nuclei theory. The main market area has much in common with the C.B.D. of an American city.

The metropolitan centres possess a more developed system of intra-urban transportation than the smaller urban centres. This development of mass transportation facilities and the abrupt increase in population and functions since Independence have led to the growth of residential and industrial suburbs in these centres.

From the detailed sample studies it is clear that the particular town and city fully justify the observations made earlier regarding their morphological characteristics. Detailed quantitative analysis of different land uses has been made in the case studies.

Knowledge of the composition of the urban area is a pre-requisite to rational planning and zoning. This planning requires both knowledge of the broad characteristics of the urban pattern and quantitative analysis of the space devoted to each type of land use.

The application of land use data for planning purpose are manifold. For example, they can be used to determine commercial markets, to locate institutions such as Mosques and schools, or for zoning purposes. Therefore, the type of statistical analysis in any given situation will be determined by the problems under study. In zoning studies, it is essential to know the extent of land used for various purposes.

The primary purpose of this study has been to examine the form and structure of the district headquarter towns of East Pakistan in so far as they effect comprehensive plann-

ing for urban development. The various categories of land use and the most significant components of typical district towns have been studied to determine their origin, characteristics and function as factors to be taken into account in comprehensive planning. The generalization have been made considering so many similarities among these urban centres although some dissimilarity exists regarding their site and situation. The district towns of East Pakistan are comparable among the different size-classes in terms of (1) rapid growth, (2) high mixture of land uses, specially in older areas; (3) wide ranges in density of population; (4) large housing and amenity deficits (5) many similarity in transportation and communication problems; (6) multiplicity of governing units specially in metropolitan areas; and (7) low levels of public participation in the planning process. So far, these factors have not been tackled in a planned way. Piecemeal developmental works are being carried out, but an integrated approach has not been made to arrest the haphazard growth and indiscriminate use of land in these urban centres. Land being a scarce commodity specially in East Pakistan, it is high time that all physical development schemes or programmes should be integrated, to achieve greater economy in utilization of urban land and also to make these urban areas, places for better and healthful living. The control and guidance in the land-use pattern should be tried to achieve through a series of processes as follows:

(1) The first and foremost of all measures that should be adopted is to control and guide the use of land in the district towns of East Pakistan through a proper organisation. This organisation should be called "Physical Planning Authority" in the line of existing Urban Development Directorate of the Government of East Pakistan, which will also co-ordinate all the physical developments of the province under a unified approach. The planning process will prescribe measures also called "control" or "guidance" with the intention of producing the best and an economic land use pattern. The goals are primarily the protection of future as well as present land-use pattern from chaos created out of haphazard growth of unthoughtful action. Physical planning as a conceptfor rational development must therefore receive priority at all level of administration. The relationship of the organisation with the local organisations should clearly be worked out and their responsibility should be -

(a) To prepare comprehensive land-use plans or Master Plans which will indicate the proposals in accordance with the policy for all the district towns.

(b) To co-ordinate all physical development activities.

(c) To take up research projects for formulating the standards for each category of different land consuming institutions like educational institution, residential areas, industries, commercial activities and land for open spaces and recreational purposes.

these various components of urban complex should be properly planned and organised in their spatial relationship.

(d) To suggest both functional and desirable standards suitable in our East Pakistan environment.

2. The second most important measure is the preparation of tools or Legal Instruments, for the implementation of the plans and policies. This should be done by the introduction of a system of Town and Country Planning Acts through legislation. Two things will be necessary here to make the plans operative. First is the preparation and promulgation of Town and Country Planning Act supported by the Ordinances and By-laws such as zoning ordinances, Building By-laws which should be done immediately on the priority basis. The other is the setting of an appropriate machinery or the organisation to enforce all these Acts provided in the legal instrument for the control of development.

Finally it is not desirable that the economic activity should be concentrated in a few large cities only. This is a self reinforcing trend and may be expected to continue indefinitely unless deliberate effective measures are taken to channel industrial investment into new locations in smaller district towns to revitalise them and thereby promote new centres of economic activity.

Findings:

1. Our Urban form is a blending mixture of western as well as indigenous cultural forces of our own.
2. As regards spatial distribution, it is quite evident that the growth of our Urban areas has been haphazard, inefficient and unhealthy. Mixed landuse is prominent in all the urban areas which is a great threat to future planning.
3. Main growth trends within the urban area, topography and provision of services dictate the form of the urban areas.
4. Most of the urban areas developed on the bank of rivers which have the greatest influence on their form and structure. Main cause was possibly to take advantage of the river transportation. Such physical constraints dictate upon the urban morphology.
5. The road pattern of small size towns is marked by streets which are irregular in pattern, narrow and crooked. However, in certain areas of urban areas of higher order, an effort at conscious planning in the street patterns is marked.
6. Residential segregation on level of income is more clearly defined in urban areas of higher order. They are polynucleated in respect of commercial land uses.

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