

ZONING CONCEPT AS APPLIED IN DACCA :

A CRITICAL ANALYSIS

BY

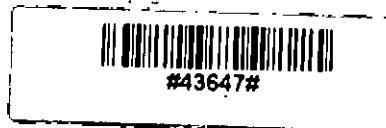
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THESIS

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T H E S I S

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TO

MY PARENTS



ZONING CONCEPT AS APPLIED IN DACCA

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A B S T R A C T

Now-a-days the land use pattern of Dacca City has become a serious problem for the implementation of its Master Plan which is diverting to a certain extent from achieving its aims and objectives. This is because of the uncontrolled and incompatible uses that are developing and increasing day-by-day within the different functional zones of the city.

The present study reveals that a considerable percentage of incompatible use has invaded the planned areas of the city. In this context the land use pattern of Dhanmondi Residential Area has been taken as a case Study. From the survey that covered 100% of the buildings, it has been found that about 13.14% of the total buildings of this residential area are now used for official purpose. The percentage of the floors used as offices is the highest for the three storied buildings. The most remarkable feature is the mixed type of use of the buildings either as residential -cum-commercial or residential -cum-office which is about 0.7% and 1.00% of the total buildings respectively. This incompatible official use in the residential area will lead it to a business district in the near future. Controlling measures are necessary to protect the different zones of the city from being encroached upon by such non-conforming uses. Chapter Five of this study deals with this case study.

The evidences of non-conforming uses and structures within the city are also found from several court cases which

establish that the present Town Improvement Act and the Building Construction Act are not sufficient enough for controlling the development pattern of the metropolitan city according to its Master Plan. It may be said that in our country the legal side which is the most important aspect of city planning is given very little consideration.

A Zoning Ordinance for the city of Dacca has become essential to control and regulate its future growth and development. A guide line of comprehensive zoning ordinance for the city with all the required provisions has been suggested in Chapter Six. It has also been suggested to enact this ordinance by considering all or parts of the local rules and regulations that control the constructions and the use of land and structures of the city.

Title of Thesis : ZONING CONCEPT AS APPLIED IN DACCA :
A CRITICAL ANALYSIS.

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1. INTRODUCTION

The time when land was first allocated to specific uses is, of course, shrouded in pre-historic mystery. At the outset it was the nature that determined the use of land. Tribal experience indicated that certain land was suitable for raising crops, other land was better for grazing animals, and some was unproductive. When these experiences were transmitted from generation to generation by word of mouth and tribal custom, we had the first haphazard land - use plan. Thus land was identified as either agricultural or non-agricultural, and if the latter, it had little value. Since there was much land and the people were few in number, man, living a nomadic life, found little need to fight for or limit himself to any single area. In those regions where the land gave bountiful harvest from the seeds planted, the wanderers settled down and formed the first permanent agrarian Communities. Thus it was the settlers capabilities that regulated the land use pattern.

The customs of land use in the earliest days defined the planting seasons, the harvesting seasons, the first descriptions of crop rotation, and the idea of resting the land after a number of years of use. Many codes of land uses were incorporated in religious doctrines, some of which are still part of religious observations today.

With the development of civilization, the building of cities and the growth of population, land took on other values than that attached to agricultural use. The fixed market place became a land-use of great value, the public open space, the forum became the important centre of the town. Special places were designated for the storage of explosives, for the slaughter of animals and for the residential developments of the aristocracy. It did not take rulers long to recognize that the relation-

ship between land uses was of paramount importance. The storage of gun powder in a convenient place was important to the people's defence, it was soon recognized as a menace when stored near their homes. With these early concepts of danger and discomfiture began the first official designation of areas within which certain uses were segregated as a matter of protection to the people in a community.

In ancient cities people were themselves regulated as to where they might live. Workers were restricted to areas outside the fortress walls and were called within when required to protect the interests of rulers. As cities grew in size and power, certain minority groups were restricted to areas. These minority groups differed in various periods and in different parts of the world. These areas were always the over crowded slums and the centre of poverty, and when disease struck the city the people in these areas suffered most. Fear of these plague ridden spots generated hatred and conflict, and confinement of living quarters was extended to restrictions on the work the inhabitants might perform and the places they might travel. These imposed regulations were accepted as legal control when they were enforced by the police with public sanction.

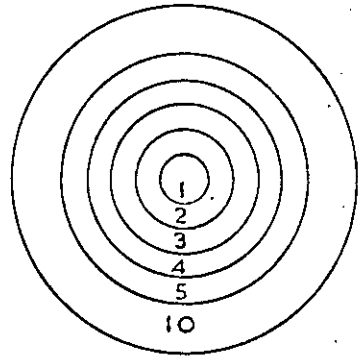
In contemporary planning literature the term urban land use is viewed in various ways. Generally urban land use refers to the spatial distribution of city functions - its residential areas, industrial, commercial, retail business districts, open space etc. Again, Urban land use may be viewed in terms of activity patterns of people and their institutions as they require space. The role played by the value systems of people in regulating the land use pattern has been established by some planning literature.

The earliest attempts at a systematic theoretical explanation of Urban Land use are found in the works of Burgess, Hoyt,

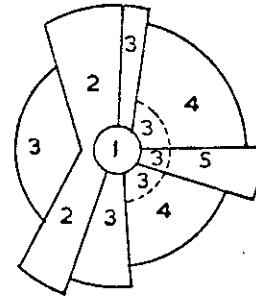
Mc kenzie Harris and Ullman, and Firey. Burgess in his concentric zonal theory has attempted to explain the Urban land use in a series of five concentric zones.¹ At the core is the Central Business District around which other zones may be found in the following order ; Zone of Transition, Zone of working men's homes, Zone of better residences and commuter's Zone (Fig. 1a). In the work of Hoyt,² land use is explained in terms of the economic behaviour of land users. In his sector theory he identified that " There is a gradation of rentals downward from the high rental areas in all directions. Intermediate rental areas, or those ranking next to the highest rental areas, adjoin the high rent area on one or more sides, and tend to be located in the same sectors as the high rental areas. Low rent areas occupy other entire sectors of the city from the center to the periphery."³ (Fig. 1b). While Harris and Ullman observed that urban land use pattern is built not around a single centre but around several discrete nuclei⁴ (Fig. 1c). In Firey's⁵ work land use arrangements are interpreted in terms of values and attitudes by city residents and the resultant actions in the selection of locations to satisfy these values and attitudes. Both in Burgess's, Hoyt's and Harris Ullman's hypothesis, emphasis is placed on economic determinism that controls land use. But Firey challenged them by establishing that it is the social behaviour that determines the urban land use pattern.

-
1. Ernest W. Burgess, "The Growth of the city", in R.E.Park et al. (eds.), *The City*, Chicago : University of Chicago Press, 1925.
 2. Homer Hoyt, "The structure and Growth of Res. N.H. in American cities," Washington, FHA, 1939.
 3. Ibid., P. 76.
 4. Chauncy D. Harris and Edward L. Ullman, "The Nature of cities" *the Annals of the American Academy of Political & Social Sciences*, No. 1945.
 5. Walter Firey, *Land use in Central Boston*, Cambridge : Harvard University Press, 1947.

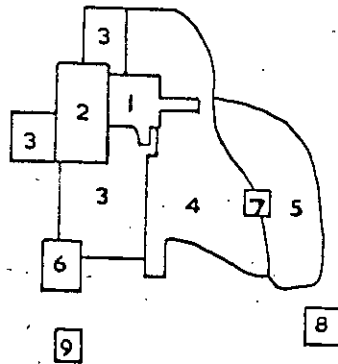
LAND USE MODELS



a. CONCENTRIC ZONE



b. SECTOR THEORY

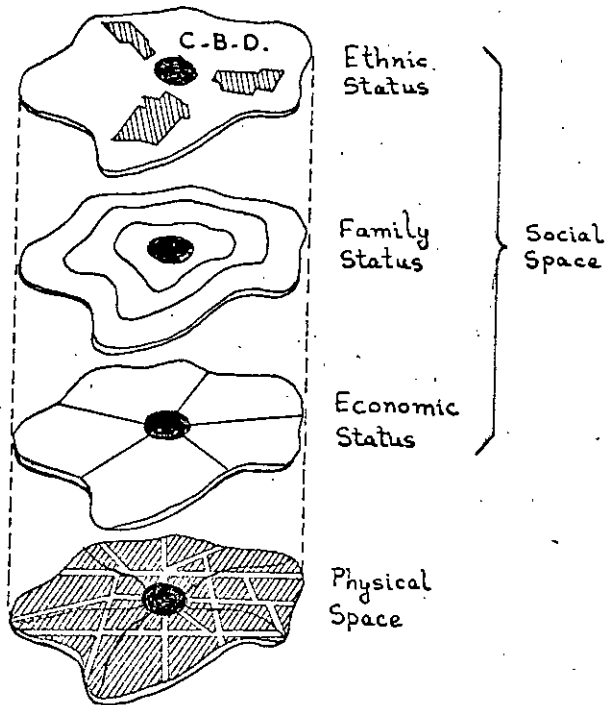


c. MULTIPLE NUCLEI

DISTRICT

- 1. CENTRAL BUSINESS DISTRICT.
- 2. WHOLESALE LIGHT MANUFACTURING.
- 3. LOW CLASS RESIDENTIAL.
- 4. MEDIUM CLASS RESIDENTIAL.
- 5. HIGH CLASS RESIDENTIAL.
- 6. HEAVY MANUFACTURING.
- 7. OUTLYING BUSINESS DISTRICT.
- 8. RESIDENTIAL SUBURB.
- 9. INDUSTRIAL SUBURB.
- 10. COMMUTER'S ZONE.

Source: Chapin, "Land Use Planning." Univ. of Illinois Press, 1972, P. 15.



d. URBAN ECOLOGICAL STRUCTURE

Source: Theodorson, "Studies in Human Ecology". Harper & Row, N.Y., 1961, P.140.

Fig. 1

A more idealized land use pattern takes into account the ecological process and Social values in shaping Urban structure. In this Context Anderson suggest that the three models complement one another in describing Social differentiation within a city¹ (Fig. 1d). Later on, Quinn has observed that the various urban Land use patterns find their respective locations and functions as co-ordinated parts of a unified city. Each area takes on its character and location because it performs a specialized function within a larger communal structure².

Again another way of viewing the urban land use is the public interest in determining the land use. The public interest connotes the notion of control. It involves control not only in the sense of imposing regulatory measures, but also in the preaction sense which is involved in the city process itself. City planning has been defined as "a means for systematically anticipating and achieving adjustment in the physical environment of an urban area consistent with social and economic forces and sound principles of land planning. "In land use planning or city planning, the purposes usually identified with the public interest are health, safety, convenience, economy and amenity. In this connection, Abrams³ identifies five public purposes for which land use controls are employed in the public interest :

1. Guide the use of land to promote the advantageous development of the community (e.g. protection of factory, residential, commercial, park & other sites under a Master Plan.)

-
1. T.R. Anderson & J.E. Egeland; " Spatial Aspects of Social Area Analysis", American Sociological Review, XXVI (1961), Pp.392-98.
 2. James A. Quinn; " The nature of Human Ecology : Re-examination and Re-definition" in " Studies in Human Ecology", ed., G.A. Theodorson, Harper & Row, N.Y., 1961, P. 140.
 3. Charles Abrams et al., "Urban land Problems and Policies," Housing and Town and Country Planning Bulletin 7, United Nations, 1953, P. 34.

2. Curb the misuse of land so that it will not injuriously affect the interests of the community (e.g., prevention of slum construction or unnecessarily intense development.
3. Prevent the abuse of land.
4. Regulate the nonuse or disuse of land
5. Guide the reuse of land for more appropriate purposes.

All are concerned with needs or problems of landuse and are referred to as planning control.

The development of regulatory measures in the cities evolved from a series of events. There was no restriction on the use of land before the 19th century. As the city developed and intensified, the lines between the public right of way and the private domain become very important. Maintenance of the right of way for traffic, the operation of a police fire system, sewage disposal, water supply, and public schooling emerged as Govt. task, by the middle of the 19th century. The political and social dialogue at one time evolved a system of private rights. From that time social requirements began to be major regulators. Rudimentary agreement between private citizens in collective action established rules for the use of Urban land. With the development of technology urban problems compounded. The 19th century saw the inception of many public regulatory measures. Laws were drafted for fireproof building constructions after fires levelled extensive portion of several crowded cities. Measures were established for obtaining drinking water and for carrying away sewage when the dangers of polluted water were recognized. When living conditions in crowded areas became intolerable and the public at large was aroused by inhuman slum conditions, housing codes were adopted for runners of zoning.

The real plans for the cities are the standards prescribed by law - the codes and ordinances that regulate the development of urban property. Laws form an integral part of the whole planning process and it is appropriate that the people who design and invest in urban building shall find free expression and action within the limits prescribed by law. It is the obligation of the people to determine the standards, they deem appropriate for their city and translate these standards into effective rules and regulations.

In recent years, land use problems in the urban centres of our country have become one of the leading questions. This is because of lack of any established rules and regulation for the planning of our cities. There is an attempt to plan our cities through some regulatory measures which are not actually the planning laws as found in other countries. And as such it is necessary to establish appropriate rules and regulations for the future of our cities.

2. CONCEPT OF ZONING

2.1. ZONING DEFINED :

The term "Zoning" has been derived from the word "Zone" which refers to the division of the surface of the earth. The surface of the earth can be divided according to various criteria such as climate, agriculture, minerals, vegetation, population etc. A city can also be classified into zones on the basis of density of population, physical characteristics, activity pattern, social rank, family status, building types, land use etc. The land use pattern of a city can again be categorized as residential, commercial, industrial, recreational etc. Zoning is the legal regulation to control and regulate these various types of land uses within the city. It is the legislative method of controlling the use of land through establishment of standards and requirements concerning the use of land and buildings, the proportion of lot to be covered by the buildings, and the density of population in urban areas. The most appropriate definition is that of Webster who defined Zoning as "the division of a community into zones or districts according to present and potential use of properties for the purpose of controlling and directing the use and development of those properties"¹. Each zoning district has specific conditions under which land and buildings may be legally developed and used.

Zoning has also been defined as a legal instrument whereby people could exercise effectively their powers to control the use of the urban community. It protects the general welfare of the people by protecting that of each individual citizen. It can also be defined as a means of control over private property to save the

1. D. H. Webster, "Urban Planning and Municipal Public Policy", Harpes & Brothers, N.Y., 1958, P. 362 .

community against harmful invasion of buildings and structures. It ensures the most appropriate use of land. In order to relieve the shortage of housing facilities by adopting zoning plans, the Advisory Committee on Zoning has outlined the following statement of what zoning is : -

"Zoning is the application of common sense and fairness to the public regulations governing the use of private real estate. It is a painstaking, honest, effort to provide each district or neighbourhood, as nearly as practicable, with just such protection and just such liberty as are sensible in that particular district. It avoids the wrong of trying to apply exactly the same building regulations to every part of a city, or town, regardless of whether it is a suburban residence section or a factory district, or a business and financial centre. Zoning gives everyone who lives or does business in a community a chance for the reasonable enjoyment of his rights. At the same time it protects him from unreasonable injury from neighbourers who would seek private gain at his expense"¹.

Zoning plan is a part of the Master Plan. It covers that portion of the Master Plan which is devoted to proposals for residential, commercial, business and industrial uses - the so-called private uses of land. Zoning Plan comprises of two parts :

- (1) The Ordinance in which regulations are defined, and
- (2) The Zoning Map which delineates the districts

Within which the provisions of the ordinance apply.

1. Department of Commerce, Advisory Committee on Zoning, Washington D.C., "A Zoning Primer", 1926, P. 1 .

2.2. GENERAL PLAN AND ZONING PLAN :

The term "General Plan" identifies long range, comprehensive planning by or for a government agency as an over-all land development policies within specific corporate limits. Alfred Bettman, a pioneer in the city planning profession, defined the General Plan in the following way :

" A city plan or General Plan constitutes a plan of the division of the land between public and private uses, specifying the general location and extent of new public improvements, ground and structures, such as new, widened or extended streets, boulevards, parkways or other public utilities and the location of public buildings, such as schools, police stations, fire station; and, in the case of private developments, the general distribution amongst various classes of uses, such as residential, business and industrial uses."

From the above definition it is clear that every general plan contains three basic physical elements of urban environment : land use, circulation and community facilities. Land use refers to the use of "Private" property for commercial, industrial and residential purposes. The general plan should include a comprehensive large scale drawing of the general physical design of the whole community and a written summary describing the major policies and proposals of the plan. It states the desired ends, but does not specify the means for achieving them. It does not contain schedules, priorities, or cost estimates and detail documents like Zoning Ordinance, Capital improvement program and detailed district development plans. Zoning Plan has been defined as the

specific regulatory device of controlling the use of the land ; and height and bulk of the buildings within an urban environment. It is concerned only with the private property development.

Although both the general plan and the zoning plan are concerned with urban planning ; and both the plans aim at achieving the goals of city planning, yet the two plans differ greatly from each other.

The fundamental point on which the General Plan and Zoning Plan differ is that the former controls and regulates both the public and private developments within the city, while the later regulates only the private developments . The second major difference between them is that the General Plan is general in character against the more specific and detailed nature of the zoning plan . Because the general plan expresses the basic policies which shape the community character, the general land use, circulation and relationship among the various urban facilities. And the Zoning plan establishes the specific limitations on the use of land as an instrument for achieving the goals set forth in the General Plan. Again the two plans also differ in terms of time scale as General Plan considers long-range of period while zoning plan is designed for a shorter period of time. The next major difference is that General Plan is a comprehensive guide for urban development

and adopted as a resolution by the legislative body whereas zoning plan is adopted and rendered effective as a legal Ordinance. And the last point on which they differ from each other is that the General plan is an affirmation of goals of city planning but zoning plan does not represent the ultimate goal of city planning.

Although, the general plan and zoning plan varies greatly from each other, they are interdependent, as zoning plan is an integral part of the General Plan. Zoning is one of the methods of carrying out the general policies set forth in the "Land Use" section of the general plan. Furthermore, the zoning ordinance and the zoning map constitute part of the General Plan.

Unfortunately, still there remains confusions regarding the functions of general plan and zoning plan. Many communities consider zoning as synonymous with or a substitute for planning rather than as a device of plan implementation.

2.3. HISTORY OF ZONING :

The history of zoning is as old as the history of Urban Planning. In the early days zoning was only in the form of laws concerning those uses which were menace to the life of the people. These early laws were based on the presentation of evidences in courts. One of the first important cases which opened up the way of developing the theory of zoning was that of Welch Vs. Swasey, which upheld a Boston ordinance limiting the height of building¹. This ordinance was not a comprehensive Zoning Act.

1. Webster, op. cit., P. 374.

The establishment of districts or zones can also be traced up in the early days of modern city planning. King Philip of Spain directed that the slaughtering places for cattle were to be located on the outskirts of town so that odour would not be "nuisance" to the citizens. In Boston the segregation of the storage place for gunpowder from the center of the city was one of America's first recorded acts of zoning. In 1810, Napoleon established certain land use regulations in France. And the Prussian Codes of 1845 also contained some land use regulations.

Thus at the early stage zoning was a form of "Nuisance Control" such as, exclusion of laundries, brick manufacturing, slaughter houses, rock crushing and other disagreeable business from residential districts.¹

Among the European countries the concept of zoning was first developed in Germany in the form of use zoning about 1875. From the Imperial "Industrial Law" the "protected districts" of residence and business were established. These districts were free from heavy manufacturing; thus constituting separate manufacturing district in the city. This country has also adopted bulk and height regulation for the buildings. Later on, zoning was introduced in England in 1909 when the first Town Planning Act of England was passed. These early British zoning regulations put emphasis on "Securing the amenity of the area" by regulating space, height or character of buildings.

1. Ibid.

Before zoning regulations were employed in American Continent, a Federal Statute was enacted limiting the heights of buildings by zones in Washington D.C. in 1889 and in 1904 Toronto began to create residential and industrial districts under Ontario Municipal Act¹. In Baltimore and Indiannopolis a height limit for a small area, lower than the limit for the city as a whole was fixed². In Boston height districts covering the entire city were created during 1909. And in several cities residential districts excluding industries and business were established. Use restrictions were upheld in California in 1886.

The most fully zoned city of the earlier period was Los Angeles, California. In New York, the first comprehensive zoning ordinance was passed and enacted in 1916, covering the entire city both by use and by bulk. Zoning in New York was necessitated by the threat to property values posed by the unregulated erection of tall buildings. Over crowding and over development had long been of concern to New Yorkers. Safeguarding adequate light and air was basic to public health and zoning was therefore in the public interest. The most important case that recognized zoning plan was that of Village of Euclid Vs. the Ambler Realty Co. (1926). The decision in this case upheld the authority of the Village to zone as residential a strip of land along a railroad that had been acquired by the owner for industrial development.

1. F.B. Williams, "The Law of City Planning & Zoning", Mc Grath Publishing Co., U.S.A., 1969, P. 265.

2. Ibid.

With the large scale growth of cities, Latin America could not adopt any zoning ordinances till 1950's. However, zoning regulations of European types have been adopted in larger cities.

Untill 1856, there was practically no legal control over the development of land in Singapore. In that year, an Act was passed by the Legislative Council of India to provide for the conservancy and improvement of Calcutta, Madras, Bombay, Penang, Singapore and Malacca. In 1887, the Municipality of Singapore was given power to prohibit the erection of any particular building on payment of compensation and to make building by laws regarding the space to be left about a building to secure circulation of air. It was not until 1919 that the Municipality had the power to control the design and class of buildings intended to be erected. In 1927 the first comprehensive planning legislation in Singapore, " the Singapore Improvement Ordinance," was enacted for the Improvement of the Town & Island of Singapore¹. The Singapore Master Plan has introduced and regulated development with density control in residential areas and plot ratio in commercial and industrial usages. In 1965, the Calcutta Metropolitan Planning Area (Use & Development of land) Controls Act was formulated and enacted.

At present there is no established zoning regulation for city planning in Bangladesh. However, some form of zoning concept has been introduced in 1960 in the Municipality Building Regulation. Before that the East Bengal Building Construction Act was passed in 1952 to regulate the building construction within the Urban areas.

1. T.T.D. Koh & William S.W. Lim, "Planning Law & Process in Singapore", Ekistics, Vol. 30, No. 176, July, 1970, Pp. 42-48.

2.4. NATURE OF ZONING :

2.4. 1. PRINCIPLES AND OBJECTIVES :

From the history of zoning regulation it has been found that at the early stage the only principle of zoning was "Nuisance Control" - i.e., exclusion of certain uses harmful to the health of the city dwellers. The principles of zoning regulation has also developed with the city planning concept. The fundamental principle of zoning has been recognized as the establishment of general welfare in the community. And planning rests upon the concept that regulation of property use will secure to the community numerous benefits.

Bassett¹, in his "Statement of Principles of Zoning " formulated the following principles :

The subject, in relation to city planning, should be called zoning.

Zoning is the creation by law of different districts with different regulations prohibiting injurious or unsuitable structures, and uses of structures and land. Zoning should be done under the police power of the state. Zoning must relate to the health, safety, moral, order and general welfare of the community. Different districts of zoning are arranged according to use of structures and land, according to height of buildings and according to portion of lot covered by buildings - for the protection against risk, lack of light and air and congested living condition. A city should obtain the power of enacting

1. E. M. Bassett, "Zoning," Russell sage Foundation, New York, 1940.

regulations from the state legislature.

Zoning, being a part of the city plan, should be applied to land at the time the street layout is adopted.

Zoning should be sufficiently stable to protect those who comply with the law. It should also be flexible to meet the changing conditions. The Municipality, and not the property owner should be empowered with the actual application of zoning regulations to the land and any change there-on.

Regulations applicable to all buildings of a class regardless of location, i.e., building law, factory law, housing law should not be placed in a zoning law. Only these requirements which differ in different districts enter into law.

Classes of use districts should be few and the principal uses and the special uses permitted in each district should be stated in the ordinance.

Buildings occupied by non-conforming uses should be forced to become in conformity with the use of buildings in a district.

Height limitation should be determined primarily by widths of streets and the use of property.

In business and industrial district towers within a prescribed height limit should be permitted.

The regulation should also contain percentage of lot coverage, and number of families per acre or minimum square feet per family.

Lastly there should be an administrative board with power under state law to formulate and alter Zoning Ordinance.

The main objectives of the zoning plan are the following :

Zoning promotes the general welfare of the community by regulating the use of land and buildings.

It prevents overcrowding of land by regulating density standards and thereby lessening congestion on streets.

It secures greater safety from fire, panic and dangers by preventing non-conforming use of land. It promotes health by providing adequate light and air.

Zoning provides all the required amenities such as parks, playground, shopping areas etc.

It preserves and stabilizes property values.

It discourages the growth of slums, blight and obsolescence within the city ensuring orderly growth of the city.

Zoning inspires the physical and moral fibre of the community and reduces social welfare costs.

The objectives of the zoning plan can be achieved by the application of police power. Police power has been defined as the power which by restraint and compulsion aims to promote the public health, safety, morals and general welfare. Police power controls freedom of action, personal conduct and the use and control of property. In cases where police power is used to regulate or deny the use of property without compensation it must be clearly shown that the continued use of that property would be inimical to the interests of the community.

It can be concluded that zoning is a major instrument for gaining greater physical order of cities, and it establishes a rational balance among the amounts of land of various urban activities.

2.4.2. TYPES OF ZONING :

Zoning regulations may be of various types, such as Comprehensive zoning, Spot zoning, Interim zoning etc. These various types of zoning are formulated mainly for the convenience of establishing and enacting zoning regulations throughout the city.

The most widely accepted type of zoning is the comprehensive type. The dictionary meaning of the word 'comprehensive' is "including much ; comprising many things ; having a wide scope". Comprehensive zoning is applied to the entire areas of the jurisdiction which enacts it. It should cover a long period of time keeping in view the welfare of the inhabitants of the city as a whole. "Comprehensive Zoning shall promote the health, morals, convenience, order, prosperity, or welfare of the present and future inhabitants of any town, including lessening congestion in streets or roads ; securing safety from fire and other dangers ; preventing, on the one hand excessive concentration of population and, on the other hand, excessive wasteful scattering of population or settlements ; with a view to facilitating and conserving provisions for transportation, water flowage, water supply, drainage, sanitation, educational opportunities, recreation, soil fertility and protection of both urban and non-urban development"¹.

1. C. M. Haar, Landuse Planning : A case Book on the Use, Misuse and Reuse of Urban Land, Little Brown and Co., Canada, 1971. P. 341.

Spot Zoning, as against the comprehensive type, signifies carrying out of one or more properties located in a given use district and reclassifying them in a different use district. Spot zoning results when a small lot or parcel of land is singled out and placed under regulation of a use which is prohibited in that zone by the original zoning ordinance. Spot zoning is formulated to meet unusual situations or changed conditions. Spot zoning results in the creation of two types of "island". One type of island arises when the zoning authority improperly limits the use of a small parcel located in the centre of an unrestricted area. And the second type of island results when most of a large district is devoted to a restricted use, but additional uses are permitted in one or more "spots" in the district.

Still, another type of zoning is known as "Interim Zoning". This type of zoning is formulated for a short period of time for meeting temporary emergency measures. This temporary measure is adopted as an attempt to develop a comprehensive plan. Most planners oppose Interim zoning because they are hurriedly enacted, arbitrary and uncertain ; and they are extremely difficult to administer. There may be two approaches to these problems : (a) a change in the manner of enacting zoning ordinances ; and (b) a statutory time limit for interim ordinance after which time they will be invalid unless re-enacted after the preparation and promulgation of a comprehensive plan.¹

1. F. E. Horack, and Vs. Nordam, "Land Use Controls", St. Paul, Minnesota, West Publishing Co., 1955. p. 48.

2.4.3. ZONING REGULATIONS :

Zoning regulations, as a part of Master Plan, are prepared in the Zoning Ordinance. These regulations aim to achieve the desired ends and objectives of the Master Plan. And accordingly regulations are formulated to control the use of lands, and the density of population ; and for the orderly physical growth of the city. Further more it should be so prepared that the groups or individual affected can most readily understand.

With those ends in view, usually, three main types of zoning regulations are authorized : (1) Use regulations, (2) Building Bulk regulations, and (3) Building Height regulations.

Use regulations are generally adopted mainly for the purpose of controlling the use of lands and structures within a city. It is for this purpose that the city planners have to divide the community into several use categories. These different categories of land uses with their definite boundaries are known as Zoning Districts. Thus there may be residential districts, commercial districts, industrial districts within a city. However, these use districts differ in different communities and are generally classified according to the local customs and requirements. Each major classification may contain several sub-classifications of higher or lower uses, such as residential districts may be subdivided into single family, two - family and multiple family districts. All the use districts are separated from each other by the special regulations prescribed for them.

The regulations for use types can be set up in various ways. It can be framed either by "inclusive" type, i.e., specifying only the permitted uses in each district, or by "exclusive" type, i.e., specifying only the prohibited uses. Usually, most of the cities adopt inclusive ordinance or zoning districts. However, a combination of these two methods has been found advantageous, i.e., first permitted uses are listed and then prohibited types, A specific provision must be included in the ordinance stating that the use of all land, buildings or structures shall be in conformity with the regulation.

Of all the use classes, the greatest percentage of the total developed areas of an urban community is devoted to residential use. From the study of 53 American cities Bartholomew found that it occupies about 39.61% of the total developed area¹. Therefore, the zoning regulations for residential district should carefully consider both the existing and future residential use of the community. The main purpose of zoning residential areas is the protection of living areas from encroachment by other types of use not appropriate in such an area, for this may lead to a loss of values of the property.

So far as strictness is concerned, the "Single family" residential district is the most restricted zone.

Although, regulations regarding permitted uses differ in different jurisdictions, every neighbourhood or residential area requires, other than dwellings, some 'non-residential' uses such as, schools, parks, playgrounds, clubs, mosques etc.

1. H. Bartholomew, "Urban Land Use", Harvard City Planning Series, Harvard University Press, Cambridge, 1932.

The zoning regulations should consider these non-residential uses in such an area for the maintenance of its residential character. These uses may be permitted only after a review by the local planning agency. Furthermore, a limited type of business use such as professional offices and home occupations is also desirable in residential districts. In most cases doctors, lawyers and dentists are generally permitted to use part of their residences as offices. The "two family" residence zone allows any use permitted in a single family residence zone with some additional uses specifically permitted in that zone. The two family residence zone can also be termed as the medium density residence district as the density is more than the single family zone and less than the "multifamily" residence zone. It should be mentioned here that the zoning regulations control the density of different residence districts in many ways such as buildings per acre, square feet per family, families per acre, and persons per acre. The multifamily or apartment house zone is the least restricted and allows all the uses of other more restricted residential zones plus some additional uses. The most important thing that is to be considered in the multifamily district is to insure adequate light, air, open space and parking space. Webster suggested that this zone may serve as buffers between the business and other classes of residential districts preventing encroachment of blights.¹

The zoning ordinance also contains regulations for commercial or business areas. The market or the commercial area has always been the focal point of the city and with the increasing importance of the cities various types of commercial or business districts have developed.

1. Webster, op. cit., p. 381

They may range from neighbourhood retail centres devoted primarily to shops serving the day to day need of the nearby residents to the Central Business Districts containing a wide variety of business activities. Some older ordinances permitted in the business districts residences and all the uses permitted in residential districts, but many modern ordinances restrict these uses. Although it appears that the business zone is free from industries, still certain light industries may be allowed as adjuncts to the business districts. These permitted light industries should not constitute a nuisance by emitting smoke, odour, fumes etc. Again the uses that are permitted in the retail business districts should encourage pedestrians and discourage heavy traffic, noise and congestion in the residential areas. As a result regulations for local business districts are usually more strict than those for the central business zone which permits a wider range of uses than the former. In the central Business District the provision for offstreet parking and loading space should be given particular importance.

Another major components of urban land use is the industrial area. Industrial districts form the economic framework of most cities. It is the least restricted of all the zones. Generally in the "light" industrial zones, the industries which are injurious, noxious, offensive or hazardous are not permitted whereas the unrestricted "heavy" industrial district allows any type of manufacturing enterprises. Normally, in most cases residences are prohibited in the industrial zones. But in recent years there is a change in attitude

with the technological development that many industrial uses are not incompatible with certain residential and commercial uses. As a matter of fact, many modern ordinances usually do not specify permitted or prohibited uses. They only classify industries on the basis of "Performance Standard"¹. This type of zoning permits any use that fulfils the standards set for each zone. On this basis the industrial uses are classified as being less objectionable and more objectionable.

Besides these major land uses, there may be some other types of use zones within an urban area e.g., open space, airport, recreation, flood plain, urban fringe etc. Regulations for these zones should also be formulated for the proper growth of the city. Further, it should be kept in mind that the use districts must be designed to bear a relationship to each other as well as to their physical environment if zoning is to achieve its basic aim.

Although the classification of uses into industrial, commercial and residential zones is the primary zoning control, restrictions on the intensity of use seem to be an inevitable corollary. Thus the zoning ordinance contains regulations not only for use districts but also for building bulk and building height. Like use regulations, the bulk and height of the buildings should also be controlled for providing adequate light, air and open space in all the districts. Different regulations segregate the districts from one another and the regulations should clearly mention the percentage of lot coverage by the buildings, yard requirements and the maximum height of buildings for each district.

1. A.B. Gallion and S. Eisner, "The Urban Pattern", Von Nostrand Reinhold Co., N.Y., 2nd Edition, 1963, P. 210.

Usually the bulk of a building is controlled by establishing regulations for required front, rear and side yards of a building. The objectives of establishing front yards have been clearly pointed out in the court's opinion of the case, *Gorieb Vs, Fox* : "Front yards afford room for lawns and trees ; keep the dwellings farther from the dust, noise and fumes of the street ; add to the attractiveness and comfort of a residential district ; create a better home environment ; and by securing a greater distance between houses on opposite sides of the street, reduce the fire hazards"¹ Likewise side yards are also regulated mainly in the residential districts to provide access in case of fire and to insure light, air and privacy whereas the rear yards provide light, air and vegetation in residential districts, and parking and loading space in the business and industrial districts. It should be mentioned here that the modern zoning ordinance provides regulations for off-street parking and loading space. Off-street parking is determined by the number of family units in multiple dwellings and by floor area in case of industrial and business zones. The bulk of the building is also regulated by specifying the maximum lot coverage i.e. the percentage of the total lot area occupied by the building. But the prevailing method of controlling the bulk is "Floor Area Ratio" which refers to a ratio of permissible floor space to lot area. An advantage of this method is the flexibility in planning and shaping buildings.

1. Webster, op. cit., p. 395.

With reference to the building bulk and use districts, zoning ordinance also establish height regulations for the buildings. Height regulations are formulated primarily for the purpose of insuring adequate light and air. In most cases zoning ordinances permit buildings to exceed height limits provided the upper stories are set back a certain number of feet from the street or lot line. It is quite obvious that the density of population is controlled to some extent by the limitation on the height and bulk of the buildings.

As a matter of fact, these rigid regulations for use, bulk and height may, at the same time, be flexible under certain circumstances. The zoning ordinance specifies these circumstances under which the flexibility is permitted. Usually a change or amendment in zoning district, on the request of owners, is granted only when such changes conform to the General Plan. Sometimes a 'variance' is also granted as a relief from some specific and unusual hardship imposed by the ordinance. It permits the property owner to use his land at the same intensity allowed to others in that zone. Again, there are occasions when a special use is necessary for the welfare of the community. Permission for such uses may be granted by the 'Conditional Use Permit'.¹

However, all the above mentioned regulations are usually prepared by the planning department of the local authority.

1. Gallion, et. al., op. cit., Pp. 204-5.

or by a city planning commission. Most enabling acts require a publicised public hearing before final adoption and any change or variance in the zoning ordinance is subject to the decision of the Board of Appeal. Nevertheless, it should be mentioned that the administrative and the enforcement provisions vary with the size of the city, the character and quality of its administration and the attitudes of the state courts toward administrative laws.

3.1. OBJECTIVE AND NEED OF THE STUDY :

Dacca is the capital city of Bangladesh. It is a premature metropolis too. It attracts population not only from the surrounding rural areas but also from all over the country and has become the inevitable target of migration. Besides, the city is experiencing rapid spatial expansion both horizontally and vertically. The ever increasing population requires increased percentage of urban spaces for settlements. This has resulted in unmanageable problems in the provision for basic urban amenities like housing, transportation, employment, health, education, and recreational facilities. Furthermore, non-conforming land use pattern is increasing day by day resulting in an unplanned growth of the city. The reason may be due to the lack of any defined planning laws for controlling the use of land and buildings within the urban centres of our country. The present rules and regulations for our cities are not sufficient and appropriate from the planning point of view. Again there are frequent violations of these rules causing great inconvenience in implementing the Master Plan. The trend of the capital city to become too large compared to the administrative efficiency as well as in terms of other centres of the country, may not be very welcome, as this may lead to unbalanced man-land ratio. The real problem, now, is to ensure maximum functional efficiency among various land use patterns within the city and to establish a balance between nature and man. In view of the above situation, it is necessary to investigate and analyse the existing planning rules and regulations for the Dacca city and to find out a better condition for the present problem and future progress by establishing zoning Ordinance.

Broadly speaking, the main objective of this research study is to prepare a guideline for the control of the use and of the structure on the urban land in order to restrain the haphazard growth of mixed land uses within the Metropolitan city and to check its sprawling developments. The present unguided physical growth of the city should be stopped so that a planned development can ensure a pleasant, desirable and attractive community in which to live, work and to play. Its aim is to achieve an unity and a balance between all the functional zones of the city e.g. residential, commercial, industrial etc. Another objective is to create a living environment which is safe, healthy, attractive and convenient to the residents. The commercial and industrial areas along with the residential areas also need control to operate smoothly and to provide goods and services to the future community in a clean and attractive, safe and convenient atmosphere. These will ultimately lead to arrest deterioration of certain built-up areas and to stabilize property value by discouraging the growth of slums, blight and obsolescence within the urban environment.

To achieve the above mentioned goals and objectives the present study aims at firstly a systematic case studies of the application of zoning concept in the Metropolitan city of Dacca ; secondly, critical appreciation of the existing planning regulations including examination of the relevant court cases, and, finally, formulation of a set of measures or indicators for assessing the impact of zoning in Dacca city.

However, it should be noted that the study does not predict any final solution, instead, it is an attempt to suggest some better conditions for the present problem .

3.2. SCOPE OF THE STUDY :

The scope of the present study is limited to some extent as the zoning regulations for the city of Dacca only have been taken into consideration. Zoning is a means of control of the urban land use pattern. The Master Plan of a city is generally accompanied with a zoning plan which in turn consists of a zoning map and a zoning ordinance. The zoning map delineates the proposed general distribution and the general location of housing, business, industry, recreation, education & other categories of public & private uses of land whereas Zoning Ordinance specifies the regulations for different zoning districts. It also recommends the standard of population density and building intensity. Zoning regulations are primarily devised for the control of private developments within a city, i.e. residential, commercial and industrial land uses with which the present study is concerned. However, publicly developed areas such as streets, parks, schools, public buildings and utilities are beyond the scope of this study, yet they also need control through zoning regulations. Zoning regulations are specifically concerned with the use of land and buildings, the height and bulk of buildings, the proportion of a lot which buildings may cover and the density of population of a given area.

Zoning regulations for Dacca city have been selected for the study on the following grounds : -

Firstly, it appears that there are many deviations in the land use pattern from the Master Plan.

Secondly, it seems the existing rules and regulations for our towns and cities are not sufficient enough for proper city planning :

Thirdly, new regulations need be enacted for the future developments of our towns and cities by supplementing the existing regulations.

Besides, the study also investigates into the legal and practical difficulties of applying restrictive land use taking into account the administrative and enforcement aspects of our planning laws .

With regard to the sample study of Dhanmondi Residential Area it was not possible to consider all the aspects of zoning within this limited scope of study. As a result the use of the lands and buildings and the height of the buildings have only been considered here leaving aside the 'area' of the buildings which includes front yard, back yard, side yard, lot coverage, floor space of the buildings etc, for future investigation.

3.3. METHODOLOGY OF THE STUDY.

The present study is based on descriptive approach as against the normative survey type approach which involves surveying of a given population through appropriate samples. Although this study is descriptive and purely theoretical in nature, it requires collection of a considerable number of facts and information on the problem from various secondary sources. However, the following methodology has been adopted to achieve the objectives of this research work.

At the first step of the research procedure a wide range of literature survey has been undertaken for a better understanding of the problem. This literature survey consists mainly of the collection of various rules, regulations and ordinances related to town planning. Special emphasis has been given to the land use and building control in the urban centres of our country to cover the scope of the present study. Since the study is limited to the city of Dacca, regulations concerned mainly with the construction and use of land and structures within the Dacca city were collected. However, these informations were collected from different organizations, engaged in the act of planning for our towns and cities. These organizations are Urban Development Directorate, Housing and Settlement Directorate, Municipality, Dacca Improvement Trust etc. This survey work was performed mainly through the personal contact with the Town planners of these organizations. In fact, most of the informations required for this study were gathered from the Dacca Improvement Trust which is the only competent authority for the planning and controlling of the development of the Dacca city. Besides, the Master Plan Report containing the Zoning plan of the Dacca city was especially considered for the work. The main purpose behind this survey work is to ascertain the existing conditions of the present problem .

At the second step a case study of Dhanmondi Residential Area has been undertaken through a direct field survey. The base map used for this survey was the lay-out map (Appendix VI) of 20 inches to a mile which was obtained from D.I.T. The survey covered 100% of the buildings of the area. A questionnaire was prepared in a simple form containing the different categories of land use pattern of the area. Land uses have been

classified mainly into three groups viz: Residential, Commercial and Official. The survey also includes the building types according to height. As such the buildings have been classified according to the number of stories and floor-wise use of these buildings has also been surveyed including the use of the garages.

The next step of the methodology involves collection of court cases with the Judgements related to the planning of our cities. These court cases have been gathered as they relate to disputes over the use of land and structures, and over the construction of buildings within the Dacca city. In addition some court cases dealing with the health, safety and general welfare of the community are also collected for this study. However, in order to resolve the present problem these court cases have been categorized in to three classes :

- (1) Disputes over the use of land and structures.
- (2) Disputes over the spacing and bulk of the building.
- (3) Disputes over the height of the building .

These cases are again classified under three heads viz :

- (1) cases of demolition.
- (2) Cases of conviction without demolition.
- (3) Cases of acquittal or withdrawal.

The main sources of these court cases are the Dacca Law Reports and the Bangladesh Law Reports. But actually very few cases considered here have been collected from these Law Reports. Hence most of these cases have been collected from the Lower Courts. These court cases have been collected

with a view to assess the problems regarding implementation of the Master Plan of the Dacca city.

The fourth step consists of discussion and analysis. At this stage all the court cases were critically analysed and discussed to evaluate the present problem. This also involves critical appreciation of the regulations from the town planning point of view. In this context, the adaptability of these regulations by the people has also been assessed.

At the final stage, all the above mentioned facts and informations are synthesized and compiled to achieve the objectives of the research work. Accordingly based on these investigations and analysis, a comprehensive guide-line of future zoning regulations for the planning of Dacca city has been suggested.

3.4. LIMITATION OF THE STUDY :

It is to be accepted that the scope of the present study in relation to the numerous problems of our towns and cities is very much limited. Nevertheless, the findings of this study will, it is hoped, make useful contribution to the knowledge of planning and development of the Dacca metropolitan city. It is expected that the study will create some amount of incentives among future researchers to improve the present situation. However, the scope and objectives of the study have been limited due to the following facts :

Firstly, there is hardly any published or unpublished materials on the zoning regulations in our country.

Secondly, studies on the use pattern and other characteristic features of different zones of Dacca city are also rare.

Thirdly, it is often very much difficult to get reliable informations from different planning organizations about the present problem.

Fourthly, to get appropriate court cases for this study is a formidable task. This is because there is no systematic records of the cases that are instituted and adjudicated in the courts. Besides all cases are not reported in the law reports of our country. The reason is that the cases arising out of the breach of special enactments within the limited area of the Dacca city only have no importance for the citizens of Bangladesh in general. The parties in these cases are limited by the residents of the Dacca city only and the authority concerned with its development. The publishers of Law Reports, therefore, do not find it profitable to publish these cases having no appeal to the general masses. It may be pointed out here that a few cases involving some material issues of Law go to the Supreme Court or the High Court Division of the Supreme Court and out of them a fewer still is published in the Law Reports. But the cases decided by the courts below are never reported at all and it is hardly possible to take up those cases for the study. Sometimes the judgments of many cases are not available due to the heavy costs involved.

Inspite of all these constraints the study will provide at least an opportunity to examine the problem in its real perspective leading to some degree of right kind of solution.

4. PRESENT ASPECTS OF ZONING

4.1. GROWTH OF DACCA CITY :

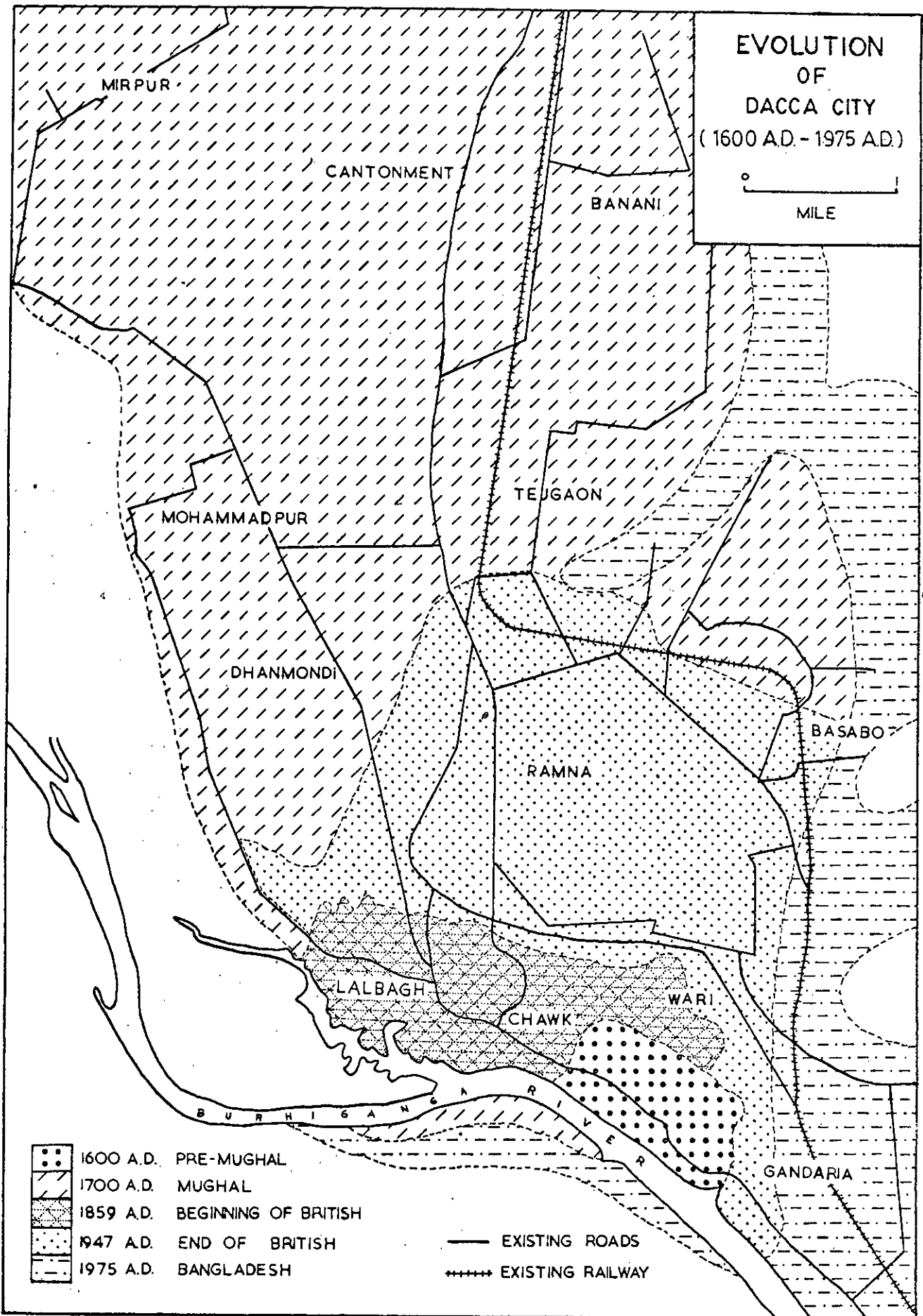
Cities grow either naturally or in a planned way. The modern cities that are growing today are mostly planned whereas the ancient cities originated in a natural way. But whatever may be their origin the towns grow in a particular place to discharge certain necessary functions for their inhabitants. Dacca is a historical city and as such it originated naturally as an administrative centre.

Dacca city, the present capital of Bangladesh, has a long historical background through which it has achieved its present form and stature. The most eventful periods in its history are those of the Mughals and of the British.

Pre-Mughal Dacca was under the Buddhist kingdom of Kamrup during the 7th and 8th centuries.¹ But many historians are of opinion that the city had been in existence even in the 3rd or the 4th century A. D. From about the 9th century A.D. it was governed by the Sena kings of Bikrampur. Dacca, at that time, was a small market town lying between the Dulai Khal filled up recently and the Burihganga river (Fig: 2) It was not more than one square mile in area (Table 1). " After the Hindu rulers, Dacca was under the Musliams for a long time (1299 - 1608) before the arrival of Mughals. The city, however, was at its peak during the Afghan rule of Emperor, Sher Shah in the 16th century. The Afghan fort in Dacca was located at the present central jail. After the Pathans, Dacca went under the rulers of Sonargaon from whom the sovereignty of the area was acquired by the Mughals ."²

The city, however, started to take its present shape from the Mughal period (1608 - 1764). Islam Khan, the first Mughal Viceroy laid the foundation of Dacca City as Jahangir

1. F.K. Khan & N. Islam, "High Class Residential Areas in Dacca city, Oriental Geographer, Bangladesh Geographical Society, Vol. VIII, No. 1, 1964, P. 4.
2. Ibid., P. 5 ."



Source: Centre For Urban Studies, Department of Geography, Dacca University.

Fig. 2

Nagar as the Capital of Bengal. During the rule of Ibrahim Khan Dacca attained great commercial importance and became a trading centre for the whole of south-east Asia. However, the greatest development of the city took place under Shaista Khan. At that time it had over a million people and it stretched twelve miles in length and eight miles in breadth.¹ In 1700 A.D. " it stretched from Demra Khal on the East to Mirpur on the West beyond Satmasjid and from the Burihganga on the South to Tongi on the North"². In the late 17th century the European settlers came in larger numbers. They were mostly the Portuguese, the Dutch, the English and the French traders.

With the advent of British power around 1765, Dacca began to decline in importance and to contract in size. The city came into the grips of several major calamities such as famines, floods and fires and suffered heavy casualties of life. In 1800, the population of the Dacca city was about 200,000 (Table 1) ; and it fell to 68,038 and to 51,636 in 1867.³ By the end of the 19th century the city was hemmed in between the Burihganga river and the old railway line. The extension of the city to the east went upto the Eastern fringes of Gandaria and to the West upto Nawabganj. The Dacca city, however, started to grow more rapidly with the transfer of power^e from the East India company to the Crown in 1858. The city was, for the first time, provided with electricity and water supply after the establishment of the Municipality in 1864.⁴ During this period Dacca shrank to a few miles as Calcutta became the capital city of Bengal and Assam. But it again gained its prominence in 1905 when it became the capital of the new province of Eastern Bengal and Assam on the partition of

1. Khan & Islam; op. cit., P. 5

2. A. H. Dani, Dacca : A Record of Its Changing Fortune, 2nd Edition, 1962, P. 47.

3. Khan & Islam, op. cit. p. 14

4. Dani, op. cit., pp. 116 - 118.

Bengal. But this development was short lived as the partition of Bengal was annulled in 1912. But the city of Dacca regained its present status and importance with the creation of Pakistan in 1947 when it was made the capital of the province of former East Pakistan.

Dacca is , now the capital city of the sovereign state of Bangladesh since early 1972. It has started to grow and develop rapidly as a metropolitan city with numerous problems - the most critical of them being the population problem. According to the 1974 census report the total population of the Dacca city was 17,30,253 with an area of approximately 31 square miles.¹

TABLE I

POPULATION ESTIMATES OF DACCA CITY (1600-1971)

Year	Area in Sq. Mi. (Approx.)	Population.
1600	1	Unknown.
1700	50	900,000
1800	8	200,000
1867	8	51,636
1947	12	250,000
1971	40	1,500,000

Source : Nazrul Islam, "Dacca city", CUS PUBLICATION,
Monograph No. 5, Sept. 1974, P.-3.

1. Govt. of Bangladesh : Census Bulletin No. 2, 1974, D.G.
Press, 1976.

4.2. LAND USE ZONES OF DACCA CITY :

The land use pattern of Dacca city has undergone long transformation in different periods under different rulers due to political, economic and social changes. Diverse activities in the city led to the development of different functional areas or zones within the city. Among these, the residential area, commercial area and the industrial area which are the main concern here are the three major land use zones. Moreover, the development pattern and the characteristics of these zones are quite different from one another .

4.2.1. RESIDENTIAL AREA :

During the Pre-Mughal period Dacca has been indentified with a city of "fifty two bazars with fifty three lanes". At that time there was no separate residential areas because the residences were mixed up with the marketing centres. So, it can be said that there was a mixed land use pattern in that small town. However, a few areas used for residential purposes can be traced such as Patuatuli, Kumartuli, Bania Nagar, Goal Nagar, Jalua Nagar, Kamar. Nagar and Sutar Nagar¹. The Tantis (weavers) and the Sankharis (the conch-shell cutters) are believed to be the oldest inhabitants of Dacca. Separate residential zones began to take shape gradually from the Mughal period. At present residential area occupies 54% (Table II) of the total developed area of the city.

The upper crust of the society during the Mughal period comprised of the ministers, high civil and military officials, land lords and wealthy merchants. They preferred to live in a

1. Dani, op. cit. P. 26.

different area from that of the low class people. The old fort formed the nucleus around which the high officials lived (Fig. 2). Bakshi Bazar housed the residences of provincial ministers and secretaries. Other upper class residential areas were Becharam Dewri, Aga Sadeq Dewri, Ali Naqi Dewri and Amanat Khan Dewri.¹ " The most prized residential area was the river front. The princes, the Nawabs and the Aneers all coveted to have a house near the riverside and had built places along the river front for about six miles westward from Chotakatra".² Then there was the Jinjira palace built on the southern bank of the Burhiganga River opposite the Bara Katra. There was probably a wooden bridge across the Burhiganga at this point.³ Other than the palaces the Mughal nobles also maintained garden houses beyond the heavily populated part of the city. Among such gardens were those of Hazaribagh, Qazirbagh, Lalbagh, Bagh Chand Khan, Bagh Hosainuddin, Bagh Musa Khan, Arambagh, Mominbagh, Rajarbagh, Malibagh, and finally the Bagh-i-Badshahi. At that time the city was divided into a number of Mahallas (neighbourhood) which were a cluster of houses webbed with intricate narrow lanes. Mahalla Sujatpur and Mahalla Christian in the present Ramna area had a number of two or three storied mansions. The European aristocrats used to live in Tejgaon. However, the charm of the river front continued upto the beginning of the present century.

During the British period the high class residential areas stretched along the bank of the Burhiganga river for half a mile from Northbrook Hall to the Ahsan Manjil. British

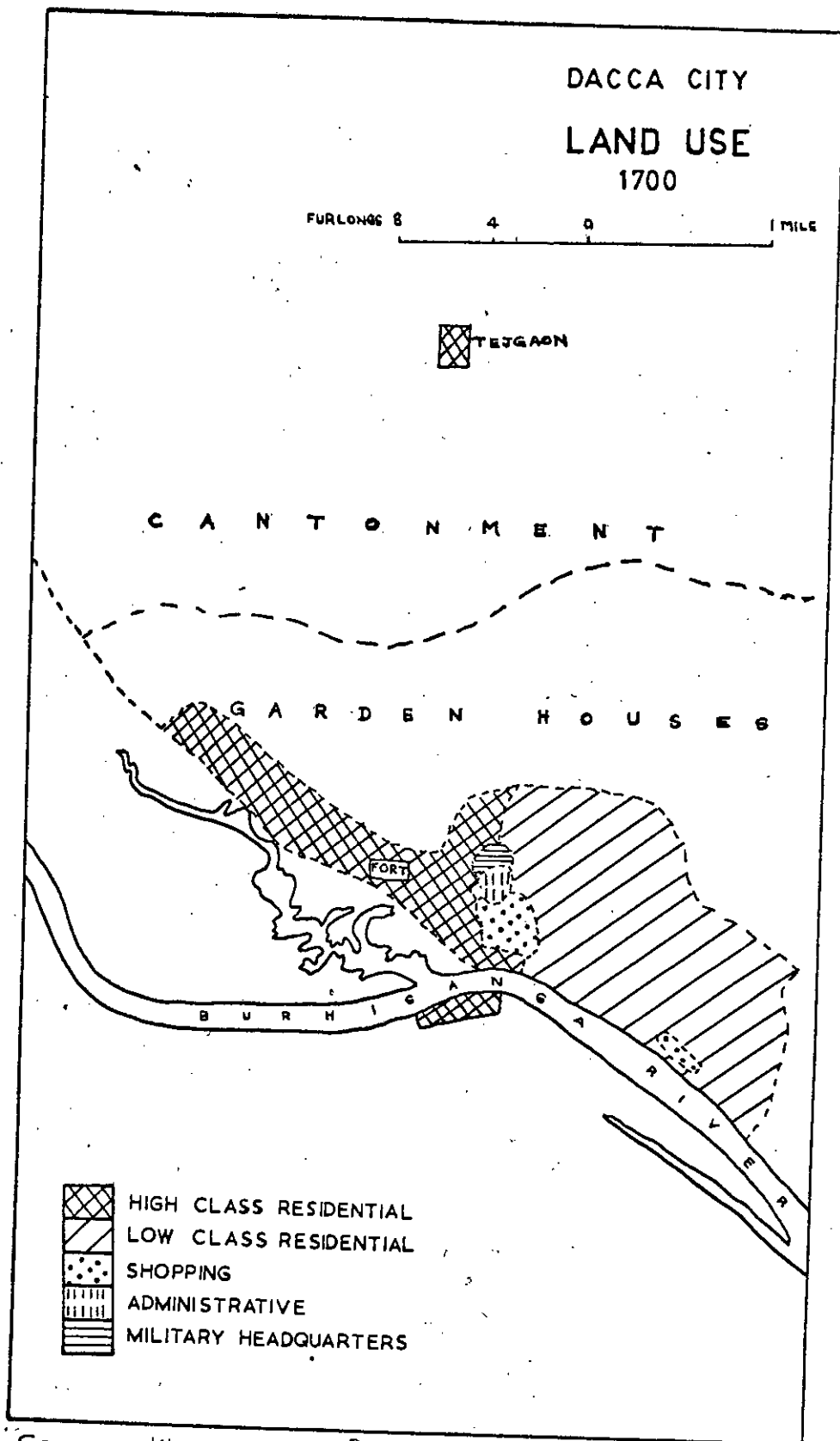
1. Khan & Islam ; op. cit., p.9.

2. Ibid.

3. Dani, op.cit., p.26 .

high officials used to live there. In 1905, when Dacca became the capital of Eastern Bengal and Assam, the Europeans moved from the river side to the new residential areas in Ramna. This was mainly due to the shifting of the administrative centre from Victoria park to Ramna area (Fig. 3). As a result by 1930, the river front lost its residential character and was changed into a commercial area. Thereafter, three upper class residential zones viz: Gandaria, Wari and Purana Paltan were developed by the local people. Since the creation of Pakistan in 1947 the landscape of Dacca city has undergone a rapid change. The city began to expand towards North and the high class residential areas also moved Northwards leaving behind the former high class areas to deteriorate and to lose status. As a result Gandaria began to lose its status and was most adversely affected by the encroaching industries of Postagola. Wari and Purana Paltan have been the next victims. On account of their proximity to the Central business district. Wari is being invaded by small industries, workshops and commercial firms and Purana paltan by business offices. At present there are four high class residential areas : Dhanmondi, Gulshan, Banani and Ramna (Figs. 6 & 7). It was at the North of Bayley Road where the extension of high class residential district of Ramna took place.

The emergence of a middle class social stratum with that of middle class residential areas was a 19th century phenomenon. As a result during the British period areas with middle class characteristics were developed mainly at Bakshi Bazar, Dewan Bazar, Nawab Katra, Aga Sadeq Road, Begum Bazar, Armanitola, Bangla Bazar and Lakshmi Bazar (Fig. 4 & 5). Later on, the Gopibagh area was also added to the list of middle class area. These



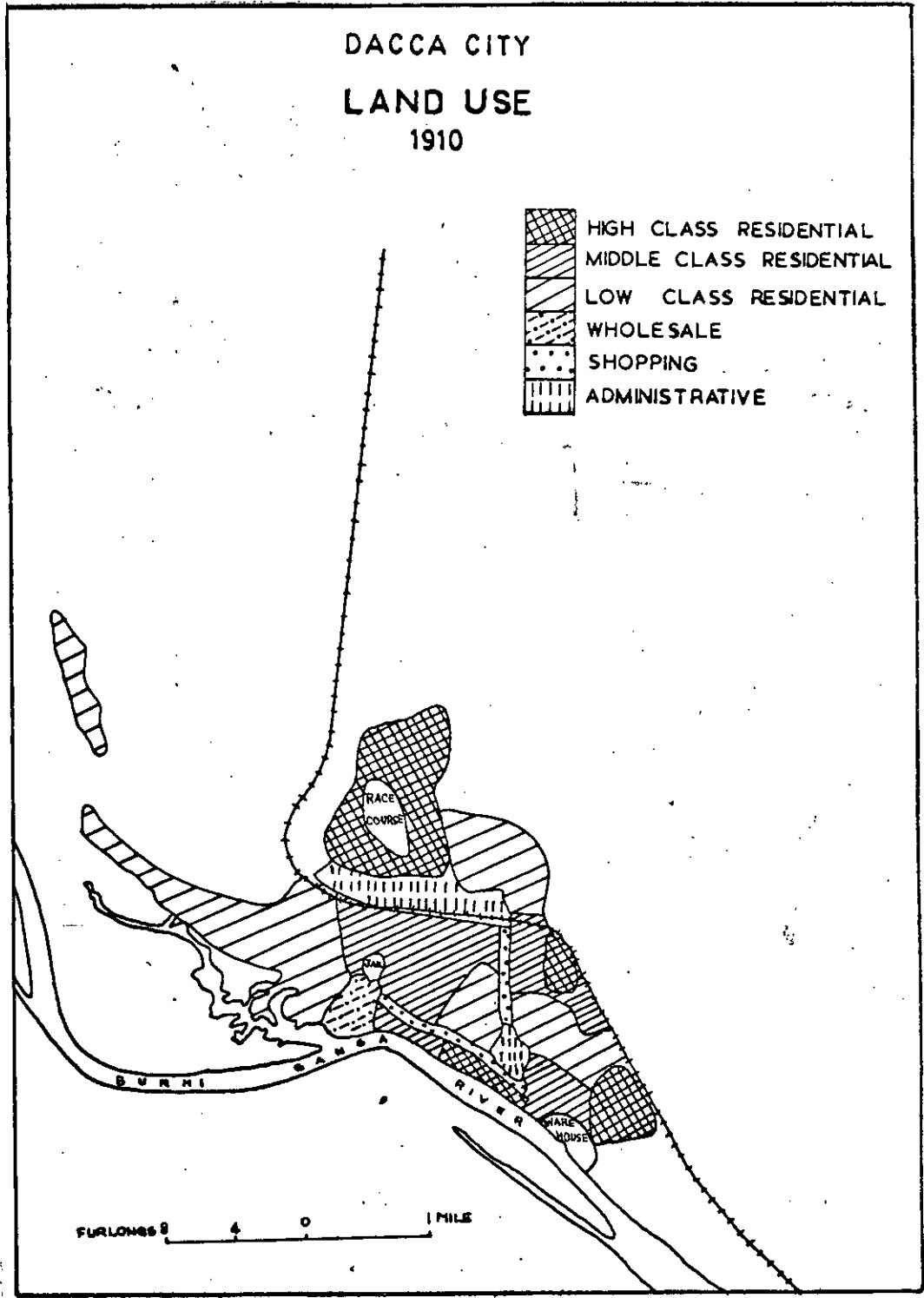
Source: Khan & Islam: "High Class Residential Areas in Dacca City." The Oriental Geographer, Vol. VIII, No. 1, 1964, P. 6.

Fig. 3

areas were primarily inhabited by local people of respectable means. The middle class houses varied from plain small building standing shoulder to shoulder along a long street to considerably large houses with gardens and open spaces. After 1947 only a few areas of the old city continued to remain as middle class residential neighbourhoods. Bakshi Bazar was one such important locality which retains its middle class standard till today. On the other hand, some first class areas have become middle class neighbourhoods such as Gandaria, Vari and Purana Paltan. Some developing areas near Dhanmondi may be put in the category of middle class area. To this category belongs the Mohammadpur Housing Estate located North of Dhanmondi.

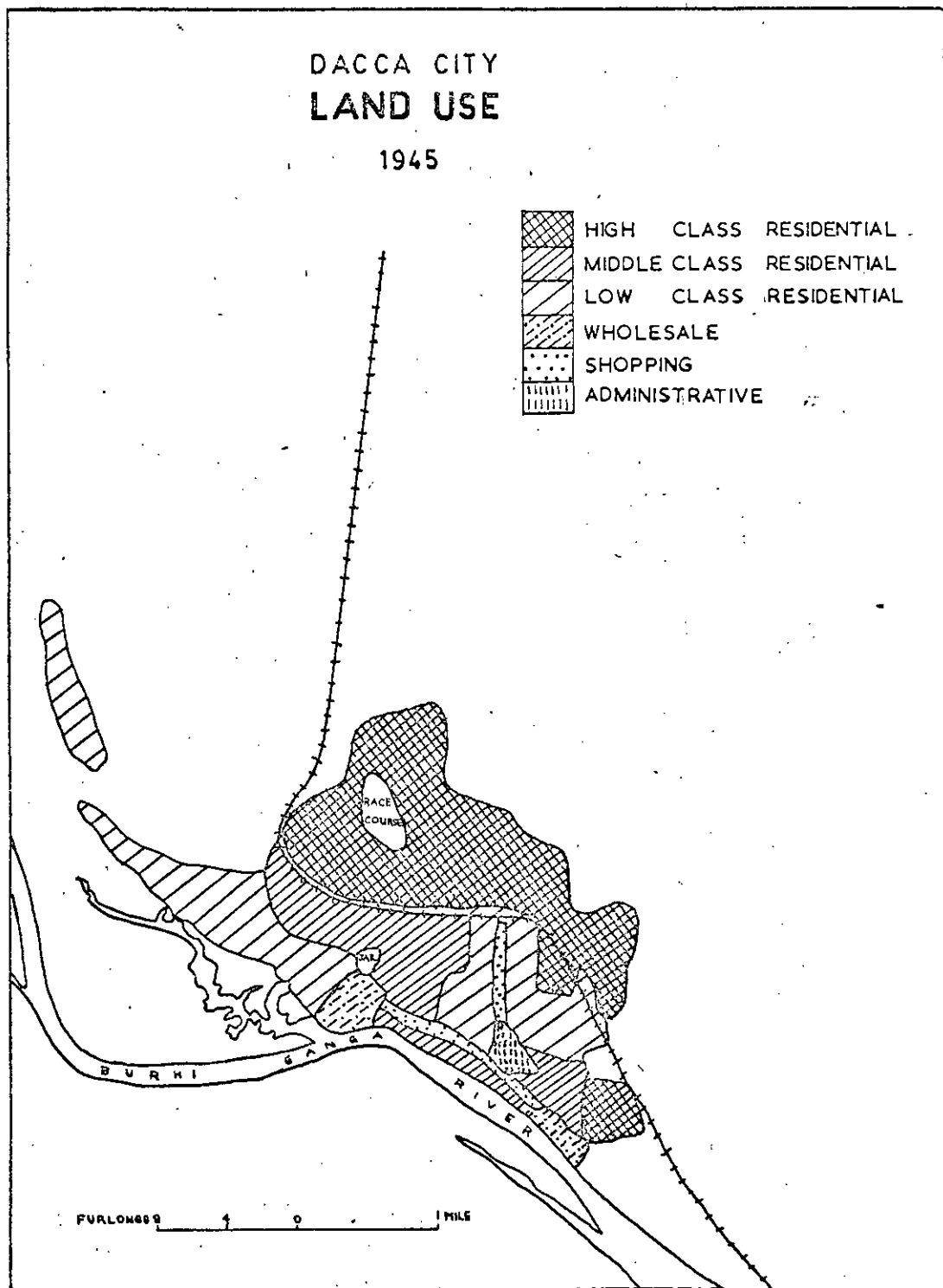
The low class residential areas in the Dacca city first originated near the industrial and trading areas. During the Mughal era some localities surrounded by the Dulai Khal and the Burhiganga River used to house the major part of the city's low class population consisting of artisans, labourers and petty traders. Those localities were almost segregated from the high class residential areas. Peel Khana and Mahut Tuli used to be the other low class areas at that time. The low class residences of the Mughal times continued to be the same and expanded to swallow some parts of the surrounding areas. During the British periods some high class areas like Nawabganj deteriorated to low class because of the shifting of the river southward.¹ However, with the gradual expansion of the city towards the North, the low class areas absorbed more areas. At present the major low class residential areas lie in old Dacca. In new Dacca the low class residences are located at Rayer Bazar and Kaoran Bazar (Fig. 6 & 7). The fringes of the city are also occupied by the low class dwellings where the labourers live.

1. Khan & Islam, op. cit., p. 18 .



Source: Khan & Islam: "High Class Residential Areas in Dacca City." O. G. Vol. VIII, No. 1, 1964, P. 8.

Fig. 4.



Source: Khan & Islam: "High Class Residential Areas in Dacca City," O.G. Vol. VIII, No. 1, 1964, P. 10 .

Fig. 5

TABLE - II

LAND USE OF DACCA CITY (1975)

Land Use	Percentage of the Total Developed Area
Residential	54.2
Commercial	5.9
Industrial	5.3
Administrative	14.0
Education & Cultural	3.2
Transportation	2.9
Open space	2.0
Roads & Railways	12.5
Others	-
Total Developed Area	100.0

(28 sq. mls)

Source : Centre for Urban Studies, Deptt. of Geography,
University of Dacca.










4.2.2 COMMERCIAL AREA :

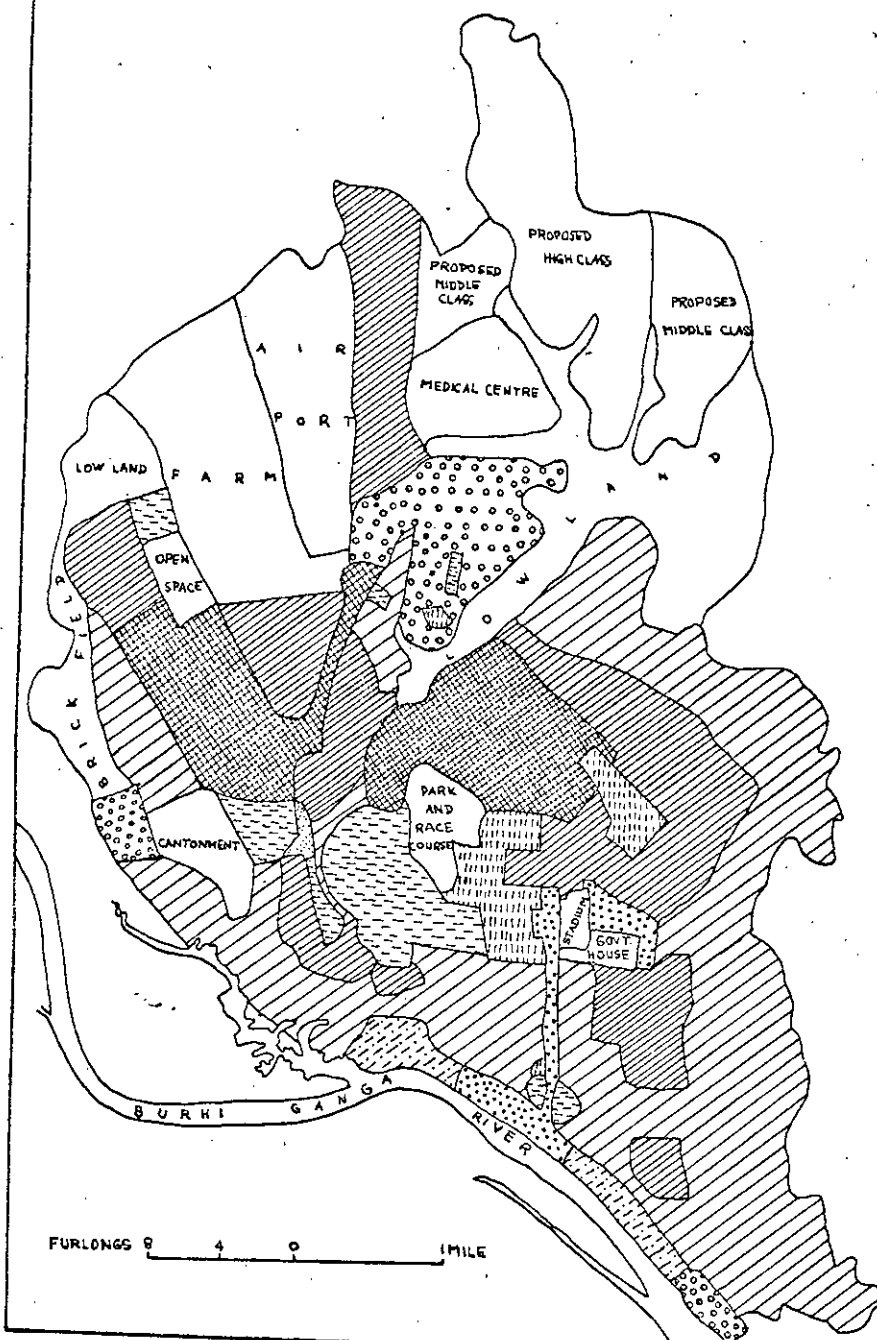
The land used for commercial purpose is 5.9%(Table II)
of the total developed area of the Dacca city.

Dacca, like all other large cities handles both whole-
sale and retail trade. The wholesale area is located at Chawk

DACCA CITY LAND USE

1962

-  CENTRAL BUSINESS DISTRICT
-  SHOPPING
-  WHOLESALE
-  INDUSTRIAL
-  ADMINISTRATIVE
-  HIGH CLASS RESIDENTIAL
-  MIDDLE CLASS RESIDENTIAL
-  LOW CLASS RESIDENTIAL
-  EDUCATIONAL



Source : Khan & Islam : High Class Residential Areas in Dacca City, O.G. Vol. VIII, No. 1, 1964, P. 13.

Fig. 6.

Bazar, Islampur, Patuatuly, Farasganj, and Sadarghat. Originally the town consisted of a few market centres like Bakshi Bazar, Bangla Bazar, Shankhari Bazar, Tanti Bazar and a few localities of other craftsmen and businessmen like Patuatuli and Kumartuli, Bania Nagar and Goal Nagar. During the Mughal period the Chawk served as the Central Business District and was called the Badshahi Bazar (Royal Market). The Chawk was well located to serve both the upper class and the lower class residential areas. It was also close to the Burhiganga River which served as the principal means of communication. Another commercial centre was located at Bangla Bazar. This was the main shopping centre before the Mughals. The Chawk gradually changed its identify from a retail trade centre to a wholesale one. By 1930 it had completely become a wholesale area.

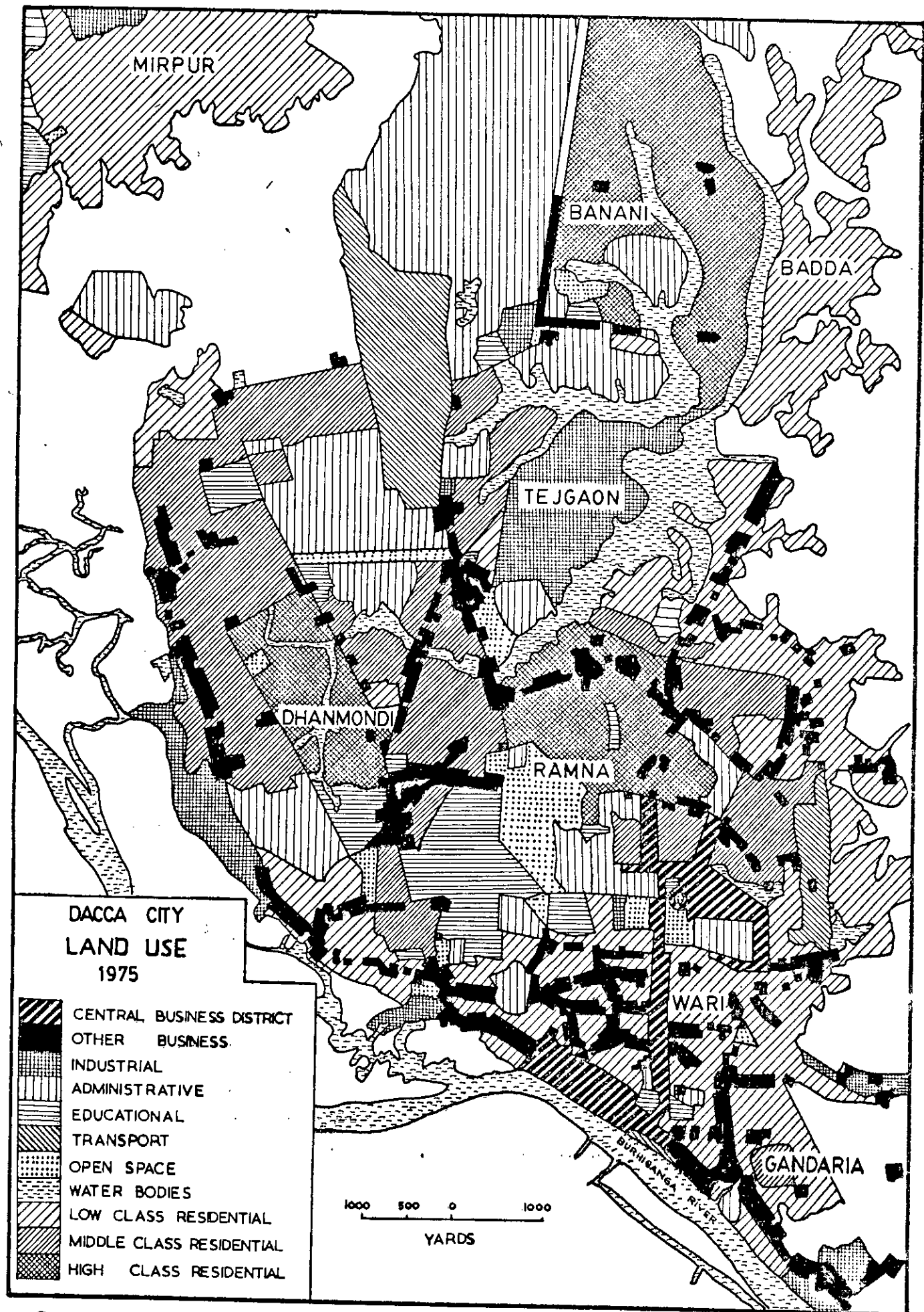
The retail trade area, on the other hand, had originally developed eastward along the Islampur Road and then northward along the Nawabpur Road. They have retained their character till today. Bangla Bazar also redeveloped as a retail trading centre in the later part of the British Rule. During the Mughals it rivalled with the Chawk as a business centre, but it lost its commercial importance during the early British period. However, the retail trade area now stretches from Islampur, Patuatuli, Bangla Bazar, Nawabpur, Bangabandhu Avenue to Daitul Makarram and the Motijheel Commercial Area. Sadarghat is also a retail trade area. Retail trade at Daitul Mukarram and Stadium started after 1960. Further-more, a large cluster of commercial firms have developed at Motijheel. Accordingly the Central Business District of the Dacca city now includes Motijheel Commercial Area, Bangabandhu Avenue, Nawabpur, Bangla Bazar, Chawk and Patuatuli¹. Thus,

1. R. Mojid, " The C B D of Dacca," The Oriental Geographer, Bangladesh Geographical Society, Vol. XII, No. 1., 1970. P -

The Central Business District of the city is an elongated area and it has the shape of an inverted 'z'. The Northern or the newest part can be indentified as the retail district where the major administrative, commercial and business offices of the city are located. This area also houses the most modern fashionable retail shops of the city whereas the southern old part may be marked as the wholesale business district. The North-South running Nawabpur Road joins the two portions of the Central Business District.

Besides the Central Business District, the retail type of commercial activities are scattered throughout the city. They are either in the form of street oriented shopping ribbons or shopping centres. Almost all the major streets of the city have some kind of shopping. The most important modern shopping streets, for example, are the New Elephant Road, the Airport Road, the Outer Circular Road, the Green Road etc. The shopping centres may be of various types like food markets and retail markets for manufactured goods. Some of the important shopping centres are the New Market at Azimpur, Mauchak Market at Malibagh, D.I.T. Market at Gulshan, Kaoran Bazar, Yusuf Market at Naya Bazar etc. (Map 7) .

The different types of uses that are found in the Central Business District are retail stores, personal services and financial and commercial offices. The retail business includes stores of cloth, shoe, jewellery, crockery, electric equipments,



Source: Centre For Urban Studies, Department of Geography, Dacca University.

Fig. 7.

watches and repairing, fancy goods, opticians, music, photography etc. There is a vertical zonation. Retail stores being customers oriented claim the choice of ground floor sites. Apart from Motijheel, Jhonson Road and Chawk more than 60%¹ of the CBD ground floor area is occupied by the retail stores. Financial and commercial offices which include establishments like banks, hotels, restaurants, cinemas, insurance companies etc. dominate the upper floors. Personal services like tailoring, motor and cycle repairing, photography, hair dressing, laundry, physicians, lawyers etc. compete with the retail for a ground floor occupation but also find themselves in the upper floors. Motijheel, being placedⁿⁿ as a commercial area, is almost devoid of retail stores.

The neighbourhood shopping centres which also deal with the retail business differ to a certain extent from the central Business District. These shopping centres mainly serve the daily and periodic necessities of the neighbouring residents. Thus, stores of grocery, shoe, cloth, tailor, dispensary, bank, cheap restaurant, books, stationery, small electric goods etc. are found in these shopping centres. The shopping ribbons also contain the same types of retail establishments found in the shopping centres. However, it should be mentioned here that the food markets or 'Bazars' found in the neighbourhood shopping centres are quite absent in the Central Business District.

1. Mojid, op. cit. , P.

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4.2.3. INDUSTRIAL AREA :

At present there are three industrial districts within the city limits of Dacca, occupying 5.3% (Table II) of the total developed area. These are the Postagola Faridabad Area, the Hazaribag - Tannery area and the Tejgaon Industrial Area (Map 7). In Dacca the principal industries are brick and pottery making, glass, leather, tanning, textiles, soap and match manufacturing, boat building, printing, woodworking, light engineering and food stuffs. But during the Mughal period an important aspect of the city's economic life was the cottage industries. They were located largely in the area falling between the two shopping centres of Bangla Bazar and Chawk. In most cases the same house is used for the factory and the residence. Within the industrial area different localities specialized in different crafts. Some of these localities are Shankhari Bazar, Kumartuli, Patuatuli, Sutrapur, Tanti Bazar, Bania Nagar, Jalua Nagar, Churi Hatta and Sanchi Pander¹. During the British period, the industrial district, as in the Mughal period, was associated with the low class residential areas. Shell cutting was carried on at the Shankhari Bazar, brass metal work at Thateri Bazar, gold and silver work and weaving in Tanti Bazar. In the early 20th Century a small number of large scale industries developed. One of them is a glass factory established in 1929 at Hatkhola. A pharmaceutical industry was also established in this period in Gandaria. However, after 1947, Dacca has witnessed a phenomenal growth in industries.

From the beginning of city development scale of a city was

1. Dani, op. cit. , p. 26.

determined primarily by the mode of transportation. In Dacca for industries head load and carts were main means of movement of goods. This determined the location of various industries. Today with the introduction of automobiles and other mechanized means of transportation of goods, industries may really be isolated from other functional areas.

Among the three industrial zones, Tejgaon in the North central part, is a planned modern industrial area. It is a light industrial district with wide variety of industries. Hazaribagh in the West is an old industrial area. All the tannery industries of the city are concentrated here. Heavy industries are located in Tongi.

Besides these major industrial zones, there is a large amount of small - scale workshops and service industries intermixed with commercial premises and houses. Again the manufacture of bricks is an important indigenous industry in Dacca area. Mostly this industry is carried on in small scattered units and are concentrated along the Buriganga River and other waterways.

The physical growth of the city during the last two decades concentrated mainly around Purana Paltan, Santinagar, Rajarbagh, Eskaton, Moghbazar, Malibagh, Motijheel, Fakirapole, Shahazahanpur, Khilgaon and Basabo areas in one direction ; and Azimpur, Dhanmondi, Green Road, Mohammadpur, Tejgaon in other. Being dispersed from the centre, four model towns viz: Gulshan, Banani, Uttara and Shamaly have been developed at the outskirts of the city with the initiative of the Dacca Improvement Trust. The New Capital took its seat for prestigious construction in 1962. The areas of Mirpur and Mohakhali have also been raised to the status of satellite towns. Mohammadpur and Mirpur were rather a deliberate creation of the then government for non-Bengalees — the rich and the poor.

Growth along the Mymensingh Road has been halted for the presence of the Cantonment. This resulted in sprawling and unplanned

nned growth : the development of Savar in the north-west and Kurmitola airport to the north-east. Thus sectorial growth pattern can be identified with the Dacca city.

4.3. EXISTING ZONING REGULATIONS :

To improve the existing physical conditions and to guide the future developments of a city an overall planning control is necessary. The planning control is based on a sound Master Plan for each town and city. The Master Plan for the Dacca city has also been prepared with those objectives in view.

Generally, the Master Plan consists not only of a comprehensive "land use plan" but also of a "zoning plan" which shows the detail layout plan of each land use zones. The zoning plan with a zoning ordinance is mainly adopted for regulating use, density of population, coverage of lots, bulk of structures and so on. Besides, zoning is one of the several legal devices for implementing the Master Plan. The zoning plan of the Dacca city Master Plan is, in broad outline, only showing the location of proposed zones without any specific zoning Ordinance. But there are some piecemeal regulatory ordinances through which the Master Plan of the city is implemented. These are the Bangladesh Building Construction Act of 1952 and the Town Improvement Act of 1953. It is the Town Improvement Act of 1953 on which the Dacca Improvement Trust was established in 1956 for the development, improvement, and expansion of the town of Dacca. And accordingly in 1958 the Master Plan for the city has been prepared following Section 73 of the Town Improvement Act which also includes provisions for preparing the Zoning Plan.

Now, the existing different rules used for land use and building control for the various zones of the Master plan are as follows herein.

4.3.1. USE REGULATIONS :

Use regulations which vary in different zones, are mainly adopted for the purpose of controlling the use of lands and structures within a city. For the present time there is no specific rule permitting or prohibiting different use types in each functional zones of the city. However, the uses that are generally permitted in the Residential Zones include, except residence, all the necessary ancillary services such as, schools, parks and playgrounds, neighbourhood shops, clubs, mosques etc. Among the professional services only the doctors are permitted to use part of their residence as an office. Industrial, business and commercial uses are strictly prohibited in residential zones.

In the commercial districts the permitted uses are commercial and business offices ; administrative and professional offices ; hotels ; entertainment establishments such as cinema hall playground, theater ; financial institution ; retail and wholesale business. Generally, residence and industries are prohibited in the commercial zones. Still certain light industrial activities e.g. watch repairing, shoe repairing shops, tailor shops, bakery stores and other like uses which do not constitute a nuisance or produce injurious effects, are permitted.

Industrial districts are the least restricted of all zones. In the light industrial zones any use is permitted except industries which are injurious, noxious, offensive or hazardous by emitting, odours, dust, fumes, smoke, noise or vibrations. In heavy industrial districts there are usually no exclusions except residential and commercial uses.

4.3.2. HEIGHT REGULATIONS :

Height regulations are usually laid out with reference to use districts and area districts to ensure an adequate supply of light and air. At present there is no height limitations for the commercial and industrial districts in the city, but for the residential districts certain rules under the Bangladesh Building Construction Act are followed. The maximum height of the residential buildings is limited by the width of the road facing the building plus the open space in between the road and the proposed building. This rule is applicable only in the areas where the width of the road or lane is less than forty feet. However, the Authorized Officer may change this condition in case of blind private passage of less than 300' ft. in length and 10' ft. in width. Garages and ancillary structures can be constructed upto eight feet in residential districts. Recently height limitations has been adopted for Karwan Bazar commercial area and other areas adjoining the airport to keep the sky-line free for smooth landing and take-off of the aircrafts.

4.3.3. AREA OR BULK REGULATIONS :

Usually the bulk of the building is controlled by regulating the front, back and side space of a building including lot coverage. Till now the commercial and industrial zones of the city are free from any bulk limitation which has been obtained only for the residential districts. The existing rules for controlling the bulk of the residential buildings, formulated under the Bangladesh Building Construction Act, are as follows.

1. Buildings can not be constructed within 20' ft. from the centre of the road where the width of the road is less than 40' ft. There must be 10' ft front space from the road boundary in the case of Dhanmondi and Mohammadpur areas, and 15' ft. for the areas abutting the Master Plan roads.
2. The area covered by the building must not exceed two - thirds of the area of the plot.
3. Every proposed building must have 10 feet back space and 4 feet side space, and for plots of irregular back boundary line 10 feet back space on average is accepted. For the planned residential areas with the plots of regular sizes and shapes of less than 5 Kathas along with the roads of 20 feet in width laid out in conformity with the Master Plan, the space to be left out shall be as follows : -

Size of plot (in Katha)	Front space from the road edge.	Back Space	Side Space
Less than 2	3'	3'	2'
2-less than 3	6'	5'	3'
3-less than 5	6'	6'	4'

4. Construction of garage and ancillary structures upto 8' height may be allowed within 10' feet back space and 4 feet side space provided the covered area does not exceed two-thirds of the lot ; no opening is provided overlooking the adjoining plots and no access to the garage is provided direct from the road in which case garage can not be build within 6 feet from the edge of the road. Garages with these provisions may be built up to the road side boundary of the plots in Dhanmondi Residential Area where the width of the road is 40 feet or more.

5. (i) Rooms may be constructed over the garages with 10 feet backyard and 4 feet sideyard if no access is provided to the roof of the garage except where a blind screen wall of 6 feet in height is raised along the terrace.
- (ii) In Dhanmondi Residential Area servant quarters can be allowed over the road side garages with 10 feet frontyard from the edge of the road in case of the plots abutting the Mirpur Road and the Satmasjid Road and with 6 feet front yard in case of plots abutting internal roads along with the 4 feet side space and 10 feet back space.
- (iii) Garages and rooms can also be built with 20 feet set-back from the centre of the private roads or lanes and a further set-back is required for the roads or lanes having future provision for being widened. Again if there is direct entrance to the garage from such road or lane, still further set-back of 6 feet should be provided.

All the above mentioned rules and regulations are controlled and maintained by Sec. 74 to Sec. 77 of the Town Improvement Act. The Town Improvement Act is followed mainly for the purposes of regulating use of the lands and buildings whereas the Bangladesh Building Construction Act is confined only for regulating the Construction of Buildings for the Master Plan implementation.

5. OBSERVATION AND ANALYSIS

5.1. CASE STUDY : DHANMONDI RESIDENTIAL AREA :

To examine the present problem- Dhanmondi Residential Area a segment of New Dacca has been taken as a test case. Dhanmondi Residential Area was developed in the early fifties by the Public Works Department in close proximity to the North West of Central Business District of Dacca. Its total area is 472.64 acres¹. It was developed primarily as a zone of better residence. The total number of plot of this area is 1007 of which only three plots remain vacant. The sizes of these plots varies from three katha to one bigha and above .

The total number of buildings in this area is 1004 the height of which varies from one storey to five stories. The highest percentage belongs to two storied buildings i.e. 49% of the total while that of single storied buildings is 45.12%, three storied buildings 5.33% and four storied building is only 0.50% (Table III).

TABLE III
TYPES OF BUILDINGS

Building Type	Number	Percentage
Single storied	453	45.12
Two storied	492	49.00
Three storied	54	5.38
Four storied	5	0.50
Total	1004	100.00

1. "Home ownership : A Factual study of New Dacca", A Study Report of the Department of Urban and Regional Planning, B.U.E.T., Dacca, 1978, P.15.

From the above observation violation of the rules made under the Building Construction Act is not found generally. The rules that have been formulated for the construction of buildings for Dhanmondi Residential Area are as follows :

"No proposed construction should be within 20' feet from the centre of road, lane or passage where the width of the road or lane is less than 40' feet. In Dhanmondi Residential Area the main building shall not come within 10' feet of the road boundary, and the height of the building shall not exceed the width of the road facing the building plus the open space in between the road and the proposed building."

So far as the use of the buildings is concerned, all these buildings were permitted to build only for residential purposes. But it has been observed that some of these buildings are used for other than residences and these other non-residential uses include commerce, offices and educational institutions. The percentage of these uses in this residential area is discussed below .

RESIDENTIONAL USE :

Residential use comprises of 82.77% of the total buildings in Dhanmondi Residential Area. The percentage of single storied buildings that are used purely for residences is 40.14 of the total number of buildings ; While that of two storied buildings is 38.15 ; three storied building 3.98 and four storied building is 0.5 (Table IV) .

TABLE IV

RESIDENTIAL USE OF BUILDINGS

Types of Building	Number	Percentage
Single Storied	403	40.14
Two storied	383	38.15
Three storied	40	3.98
Four storied	5	0.5
Total	831	82.77

Variation of the use of the floors mostly occurs in case of two storied and three storied buildings. Thus Out of the total number of two storied buildings about 77.84% of the total ground floors and 80.89% of the total first floors are used for residential purposes (Table V) and in the case of three storied buildings 74.07% of the total ground floors, 77.78% of total first floors and 77.78% of the total 2nd floors are used for residences (Table V).

43647

TABLE V

RESIDENTIAL USE OF FLOORS

Building Types	Floors	No of floors used for Residences	Percentage of total Floors
Single Storied	Ground Floor	403	88.96
Two Storied	Ground Floor	383	77.84
	Ist. Floor	398	80.89
Three storied	Ground Floor	40	74.07
	Ist Floor	42	77.78
	2nd Floor	42	77.78

COMMERCIAL USE :

The commercial uses of Dhanmendi Residential Area mainly consists of offices of private business firm such as construction firms, consultancy firms etc., and shops of various nature such as, tailoring, electronic repairing, handicrafts, grocery, confectionery, clinics, banks, snack bars, variety stores etc. The percentage of the buildings that are used for commercial purpose is 2.39 (Table VI). The ground floors of the buildings

TABLE VI

COMMERCIAL USE OF BUILDINGS

Building Types	No.	Percentage
Single storied	14	1.39
Two storied	10	1.00
Total	24	2.39

are mostly used for this purpose (Table VII) .

T A B L E VII

COMMERCIAL USE OF FLOORS

Building Types	Floor	No.	Percentage
Single storied	Ground Floor	14	3.09
Two storied	Ground Floor	15	3.05
	1st Floor	10	2.03
Three storied	Ground Floor	2	3.70
	1st Floor	-	-
	2nd Floor	-	-

OFFICE :

The offices that are found in this area consist of Government offices , Foreign embassies and other Private offices. The percentage of buildings that are used for official purpose consists of 13.14 with the greatest percentage i.e., 8.36 (Table VIII) for two storied buildings.

T A B L E VIII

OFFICIAL USE OF BUILDINGS

Building Types	No.	%
Single storied	36	3.58
Two Storied	84	8.36
Three storied	12	1.19
Total	132	13.14

So far as the use of the floors is concerned highest percentage of 22.22 (Table IX) has been found both for the ground, first and the second floors of the three storied buildings.

T A B L E I X

OFFICIAL USE OF THE FLOORS

Building Types	Floors	No.	%
Single storied	Ground Floor	36	7.95
Two storied	Ground Floor	94	19.10
	Ist Floor	84	17.07
Three storied	Ground Floor	12	22.22
	Ist Floor	12	22.22
	2nd Floor	12	22.22

MIXED USE :

In Dhanmondi Residential Area Mixed type of use has been found remarkably. Mixed type of uses occur where the floors of the buildings are variously used. They may be either in combination with residential and commercial or residential and official. The percentage of the buildings occupied by mixed

residential and commercial uses is about 0.7 and that of mixed residential and official is 1.00 (Table X). Most of the two storied and three storied buildings are used for these purposes.

TABLE X

MIXED USE OF BUILDINGS

Building Types	Residence-cum-commerce		Residence-cum-Office	
	No	%	No	%
Two storied	5	0.5	10	1.00
Three storied	2	0.2	-	-
Total	7	0.7	10	1.00

However, among other uses educational uses of this area comprise of two colleges, one secondary school and eight kindergarten schools.

It is evident from the above observation that infiltration of incompatible uses in the form of commerce and offices have occurred in this planned residential area. Commercial uses mainly occupy the ground floors of the residential buildings while official uses which are about 13.14% of the total buildings are found in the upper floors. Besides, garages are frequently found to be used for commercial purposes. About twenty eight garages are used as corner shops. Moreover, residential buildings are

also found to be used for education purposes. Again the use of open spaces has changed considerably. Out of total eight open spaces one of them is used for residential purpose and two of them for official purpose.

Besides residences, other uses that are found in this zone may be regarded as incompatible. For this zone most incompatible use is offices. It may be mentioned here that some of the community facilities that are required to maintain the neighbourhood should be allowed but offices of the CBD characteristics cannot be allowed in residential zone because of the various problems of noise, traffic etc. Another most important point is that there is no defined boundary for this zone and as a result invasion of these incompatible uses occurs.

From all through this analysis it is assumed that this residential zone may be converted into an outlying business district in the near future if proper measures for controlling the invasion of all these non-conforming uses are not adopted at this very moment.

As there is no zoning regulation to maintain the land use character of different zones of the city, all these non-conforming uses are increasing day by day in different zones. However, to save these zones and to preserve their value and to prohibit further encroachment of non-conforming uses Zoning Ordinance should be enacted. Zoning Ordinance clearly defines the different types of uses that should be permitted in different zones for the purpose of controlling and directing the use and development of the city according to the Master Plan.

5.2. STUDY OF THE COURT CASES :

At present the two major legislative enactments namely the Town Improvement Act, 1953 and the East Bengal (Now Bangladesh) Building Construction Act, 1952 of our country contain the necessary provisions for controlling the developments regarding the constructions and uses of land and structures within the planned urban centres. The urban centres, particularly with the Master Plan, need such legislative measures to regulate the private developments conforming to the Master Plan. And as such the Town Improvement Act has been promulgated specifically for the planning of the city of Dacca.

5.2.1 TOWN IMPROVEMENT ACT :

It may be observed that the main object of the Town Improvement Act is to develop, improve and expand the city of Dacca by opening up congested areas, laying out of altering streets, providing for opening spaces for the purpose of ventilation or recreations, demolishing or constructing buildings, acquiring land for the said purposes and for the rehousing of persons displaced by the execution of improvement schemes. For carrying out these objectives the Town Improvement Act has provided for constituting a Board of Trustees. The different sections of this Act deal with the different aspects for the preparation and implementation of the Master Plan such as Constitution of the Board, improvement and rehousing schemes, acquisition and disposal of lands, finance, legal proceeding etc.

The preparation of the Master Plan by the Board and its approval by the Government are provided for in section 73(1) of ^{the} Town Improvement Act and that of the Zoning Plan in Section 73(2) of this Act which runs as follows :

"The Master Plan Shall include such maps and such descriptive

matters as may be necessary to illustrate the proposals with such degree of particularity as may be appropriate between different parts of the area; and any such plan may, in particular, define the sites of proposed roads, public and other buildings and works, or fields, parks, pleasure - grounds and other open spaces or allocate areas of land for use of agricultural, residential, industrial or other purposes of any class specified in the Master Plan."

Accordingly the existing Master Plan and Zoning plan for the Dacca city have been prepared under the law. It has been further stated in Section 74(1) of the Act that it is illegal for anyone to use any land for any purposes other than that laid down in the Master Plan unless he has been permitted to do so under section 75 of the Act. This point has been discussed in the case of Authorized Officer Vs. Mr. A.W.Mallik in which permission was granted to use the land contrary to the Master Plan. The fact of this case in short is that Mr. Mallik applied to the chairman, Dacca Improvement Trust for permission to build a cinema hall on a plot of land reserved by the Master Plan for residential and ancillary purposes. The chairman rejected the application on the ground that the proposed use of land contravenes the Master Plan. But on appeal under Section 75(2) to the Board against such refusal, the Board of Trustees permitted the proposed construction. In fact permission in this case was granted under section 74(2) of the Act in which there is provision to amend or alter any specified use of land reserved under the Master Plan. It is further provided in Section 74(3) that all the future developments shall be in conformity with the Master Plan, or with the amendment thereof.

But a controversy arose when the petitioner, Mr. Mallik wanted to obtain the permission from the Authorized officer as required under section 3(1) of the Building Construction Act for the I. Civil Appeal No. 18-D of 1968 : Dacca Law Report, Vol. XX, No. 1, 1968, P. 229.

erection of the cinema hall on the said plot. According to this Act the Authorized Officer may accord sanction subject to such terms and conditions as he may think fit to impose. The arguments raised by the Authorized officer in this case were that "the proposed site is situated in a residential area surrounded by dwelling houses and this cinema hall would constitute nuisance to the surrounding area. As such, a residential zone cannot be converted into a commercial or industrial zone at will. Besides, there is a mosque near the proposed cinema which would cause inconvenience and disturbance to the people saying their prayers and also injure their religious sentiments. Furthermore, its permission would constitute ^{an} infringement of the specific provisions and purposes of the Master Plan. "On these grounds the Authorized Officer refused to sanction the plan for the cinema hall. But his refusal was called in question by a petition presented to the High Court which was pleased to hold that "Sanction of the competent authority having been obtained under section 75(2) of the Town Improvement Act, it was not for the Authorized Officer to object and the objections raised by him are beyond his jurisdiction under the Construction Act."

Section 76 of the Town Improvement Act provides that no compensations shall be payable to any person owing to the restricted uses to which his land may be put.

The development control of buildings, on the other hand, are dealt with in Section 77 of the Town Improvement Act under which permission for the erection and use of a building is to be obtained from the chairman. The Chairman may refuse to sanction, if the proposed use or elevation of the building is unsuitable for the locality or is likely to deteriorate the value of the adjoining land or on any other reasonable grounds. But the decision of the Board shall be final when an appeal is preferred to it against such order of refusal by the Chairman. Moreover, there is a provision

of penalty in section 186 of the Act for the use of lands in zone plan in contravention of the Master plan.

Section 93(A) of the Town Improvement Act provides that the Board may acquire any land for carrying out any of the purposes of this Act. Accordingly land was acquired in the case of D.I.T. Vs. Waliullah¹ for the construction of the North-South Road laid out in the Master Plan. In this case Mr. Waliullah, the owner of the land used the same for residential purposes. The North-South Road on portions of plot Nos. 16, 17 & 19 has already been constructed and the remaining portions of plot Nos. 16, 17 and 19 and the entire plot No. 18 have to be developed for commercial purposes.

✓ 5.2.2. BANGLADESH BUILDING CONSTRUCTION ACT :

The Building Construction Act has been promulgated only for the purpose of controlling the haphazard construction of buildings and excavation of tanks which are likely to interfere with the planning of certain urban centres of the country. Section 3 of this Act has empowered the Authorized Officer to accord permission for erection, re-erection, addition or alteration of any building. He is also empowered to refuse any proposal contravening the Master Plan. It has further been provided that the violation of any of the rules made under this Act is a criminal offence for which penalties either in the form of a fine or imprisonment is to be inflicted along with an order for the demolition of the building, if applied for.²

The provisions of this Act have been applied to many cases for the effective implementation of the Master Plan of the Dacca city. Generally, cases with the order of demolition are found to be most effective for this purpose.

1. Civil Appeal No. 6-B of 1969 : Supreme Court of Bangladesh.
2. Section 12(1)(a) & (b), Bangladesh Building Construction Act (Bangladesh Act II of 1953)

The most important case illustrating the fact of demolition is the case of Authorized Officer, Dacca Improvement Trust Vs. Khairun-Nessa¹. In this case the accused, Khairun-Nessa constructed a building on holding No. 90, at South Maisundi of Mouza Sahar Dacca without having a plan sanctioned by the Authorized Officer under section 3 of the Act. Mr. M. Roy Magistrate, Ist class, Dacca, tried the case, found the accused Khairun-Nessa guilty and convicted her under section 12(a)(1) of the Act and sentenced her to pay a fine of TK. 1000/- and in default of payment of fine to suffer a simple imprisonment for three months. He also ordered for the demolition of the structure in question. This order of the Magistrate was carried out by the authority concerned of Dacca Improvement Trust in co-operation with the police force.

Similarly in the case, Authorized Officer, Dacca Improvement Trust Vs Rafiqul Islam², Mr. Anisur Rahman, Magistrate Ist class, Dacca convicted the accused Rafiqul Islam under section 12(a)(1) of the Act and sentenced him to pay a fine of TK. 200/- and in default of payment of fine to suffer a simple imprisonment for one month as he constructed a wall in violation of the Master Plan and without the required sanction under section 3 of the Act. In this case too an order for demolition was passed but the accused in compliance with the order of the Magistrate voluntarily demolished the wall in dispute.

Some cases of conviction without any order of demolition are also found frequently. Thus the case of Jobed Ali Vs. Authorized Officer, Dacca Improvement Trust³ may be cited with authority.

In this case the accused, Jobed Ali, committed an offence punishable under section 12 of the Act by constructing a semi-pucca hut on c.s. plot No. 1971 of Mouza Joar Sahara, P.S. Tejgaon, without obtaining the necessary permission from the Authorized Officer,

1. Case No. 822a/70, Court of Mr. M. Roy, Magistrate, Ist Class, Dacca.

2. Case No. 1020 a/74, Court of Mr. Anisur Rahman, Magistrate, Ist class, Dacca.

3. Criminal Case No. 1774 a/69 and Criminal Revision No. 318 of 1970.

D.I.T. and was on conviction by a Magistrate 1st class, Dacca sentenced to pay a fine of TK. 50/- and in default to suffer a simple imprisonment for 20 days. The defence against this conviction was that the hut in question had been in existence from long before the Act came into force and was constructed by the father of the accused. The sentence passed against the said accused Jobed Ali was not appealable under section 413 of the criminal Procedure code. Accordingly he applied to Session Judge, Dacca under section 435 read with section 438 for referring the case to the High Court for setting aside his conviction and sentence in Criminal Revision No. 318 of 1970. The learned Session Judge refused to refer the case to the High Court on the ground that the violation of the provision of section 3(1) of the Building construction Act was proved beyond reasonable doubt and that the petitioner was not materially prejudiced as no order for demolition was given.

A similar problem regarding the space about the building arose in Authorized Officer Vs Dilbar Bibi¹. In this case, it was alleged that the accused, Dilbar Bibi had constructed one pucca two storied building at 64, Sikkatuly, Dacca adjacent to the complainant's house without leaving any space and this resulted in the almost closure of one of the North-eastern windows of the old building of the complaint. There is only 6" space on this window. It has been found that the accused made construction without proper sanction for which she was sentenced to pay a penalty of TK. 50/- and in default to suffer a simple imprisonment for one month as per the provision of section 12(1)(b) of the Building Construction Act. Further, the accused have failed to prove that the construction was actually old. In this case too the revisional application was rejected by the sessions Judge as there was no irregularity or illegality in the order of the Magistrate convicting the accused.

1. Criminal Case No. 1073a/70 and Criminal Revision No. 40 of 1972.

Violation of the sanctioned plan, approved by the Authorized Officer, during the construction of a building is also regarded as an offence. This has happened in Sheikh Kamaluddin Vs Authorized Officer D.I.T.¹ In short, the fact of this case was that one Kamaluddin had constructed a house in ward No. 1 within P.S. Sutrapur in Sheet No. 56 of Mouza Sahar Dacca on plot No. 700 in June, 1968 violating the building plan approved by the Authorized Officer. (On spot enquiry the Building Inspector found that there was certain deviations from the approved plan by the North side without keeping the requisite 4' ft space and also by the rear East side without keeping the required 10' ft open space according to the Rules made under the Building Construction Act. Again the length of the building was shown in the map from North to South while the accused actually constructed the house from East to West length-wise. This violation naturally was not in keeping with the approved plan and there was no doubt that the construction as such was wholly unauthorized. Finding him guilty under section 12(1)(b) of the Building Construction Act the learned Magistrate sentenced him to pay a fine of TK. 500/- only and in default to a simple imprisonment for three months. The convicted accused preferred an appeal in the case. But the appeal was dismissed as the violation of the approved plan was proved to the satisfaction of the courts.

In regard to the deviation of the approved plan, yet, another case, M.H.Khandakar Vs. Authorized Officer, D.I.T.² may be referred to here. Briefly the fact of the case is that Mr. Khandakar has his residential building on plot No. 587, Dhanmondi Residential Area, Road No. 17 and the respondent No. 2, Khan Shaheb Ali Hafez has his residential building, on plot No. 586 adjoining plot No. 587 and abutted on the south by

1. Criminal Appeal No. 102 of 1972.
2. Case No. 470 of 1967 : High Court of Dacca. Bangladesh (Special original jurisdiction).

Road No. 17 and on the west by Road No. 15-both the roads being 40' or more in width. Mr. Hafez had constructed his main building in utter violation of the rules made under the Building Construction Act as the main building on the west is not at a distance of 10' feet from the said Road No. 15 but is within less than 4' feet of the road boundary of Road No. 15 and on the eastern side i.e., on the side of the petitioner's house on plot No. 587 the eastern most wall of the main building may be at a distance of 4' feet but the sunshed on the window have been built by encroaching 2' feet upon the side space. Whereas, the Main Rules for permission for construction of buildings provide that "In Dhanmondi Residential Area the main building shall not come within 10 feet of the Road boundary and every proposed building must have 10 feet back space and 4' feet side space exclusive of the sweper passage, if any. "Thus it is apparent that the main building was constructed in violation of the building rules. It may be said that the respondent No. 2 either violated the building proposal sanctioned by the Authorized Officer or by suppressing the road position. The High Court, in this writ petition, held that there was violation of the Building Rules but as it did not constitute a serious nuisance for the petitioner, Mr. Khandakar, the Rule was discharged.

In the same case it has also alleged that Ali Hafez had constructed two garages with the doors open on Road No. 17 in utter-violation of the rules made under the Building Construction Act. And by so placing the doors of the garages on the road side near the petitioner's gate to the house great obstruction was caused to the entrance into the house of the petitioner and the approach to his house was blocked. This amounted to a nuisance at the approach and in front of his house as the petitioner would be obstructed while going out of and coming into his house with car and otherwise. With regard to these allegations in the writ petition the High Court also recognized this violation as a nuisance not only for the petitioner but also for the users of the Road No. 17 .

Finally the court discharged the Rule in this writ case on the undertaking being given by the Dacca Improvement Trust, Respondent No. 1, and Mr. Hafez, Respondent No. 2 to remedy this wrong caused by violation by removing the doors of the garages. Hence it was definitely established that there was violation.

On a careful consideration of most of the cases it may be observed that the provisions of the Building construction Act have been ineffective in the matter of implementation of the Master Plan of the Metropolitan City. Some of the cases are with-drawn and others end in the acquittal of the accused. One such case of acquittal is that of Abu Saleh Chowdhury Vs. the State and another¹. In this case it has been alleged that Mr. Chowdhury has unauthorizedly constructed a building without having any plan sanctioned under section 3 of the Building Construction Act. Consequently he was convicted to pay a fine of TK. 1000/- or in default to undergo a simple imprisonment for three months under Section 12(1)(b) of the Act. He was also directed to remove the building by a specific date. The defence of the accused was that the land on which the Building was constructed belonged to his father and it was his father who constructed the building and that no notice was served upon the appellant by the Dacca Improvement Trust. The Court of appeal Viz: the Sessions Judge and the High Court in its revisional jurisdiction affirmed the conviction and sentence passed by the trial Court. The supreme Court on appeal filed by the appellant, Mr. Chowdhury, set aside the conviction and sentence. In this appeal Sayem, C.J. Observed :

"There is absolutely no evidence on record to the effect that the building was constructed at the expense of the accused. The only circumstances established in the evidence, namely, (1) that the appellant was associated with his father, in whose name the land stood, in looking after the construction, and (2)

1. Criminal Revision No. 580 of 1967. High Court of Bangladesh, Dacca.

that together with his father he resided in the building after its completion cannot inevitably lead to the inference that it was the appellant who constructed the building in terms of section 3(1) of the Act."

Sometimes controversy arises regarding the power of the Authorized Officer under the Building Construction Act. This controversy is clearly discussed in the case of Hafizuddin Ahmed Vs. Authorized Officer, D.I.T.¹ in which the accused was also acquitted of the charge framed against him. Here the accused constructed three C.I. sheet sheds at Palpara, Kaoran Bazar in 1958 without a plan approved by the Authorized Officer, D.I.T. as required under the provisions of section 3 of the Act. The Inspector of Building, on the verbal instructions of the Authorized Officer, complained against the ^{pe}ttioner for his prosecution for contravening the provisions of section 3 of the Building Construction Act. Consequently he was prosecuted for the violation of section 3 of the Act and on trial was convicted and sentenced under section 12 by a Magistrate, 1st class, Dacca to pay a fine of TK. 300/- and in default to suffer a simple imprisonment for two months. The accused having failed in his appeal in the court of sessions moved the High Court in its revisional jurisdiction praying for setting aside the order of conviction and sentence, and his Lordship Mr. Justice Idris was pleased to set aside the order of conviction and sentence on the following grounds : -

Firstly, the provisions of section 13 of the Act was not complied with in as much as the court did not take cognizance of the case upon a complaint by the Authorized Officer. Section 13 of the Act provides as follows :

1. Criminal Revision No. 712 of 1963.

"No court other than that of a Magistrate of the first class shall take cognizance of any offence punishable under this Act except with the previous sanction of the Government and upon a complaint by the Authorized Officer or by a servant of the Govt. authorized by the authorized Officer or by the Government in this behalf."

In this case cognizance was taken by the Magistrate upon the complaint of the Inspector of Building. He was neither the Authorized Officer nor he was authorized as required by the section 13 of the Act.

Secondly, "order" amounts to "authorizing" can not be accepted. There is a difference between authorizing and ordering. The term "order" refers to the action or an act of ordering regulation, direction and mandate¹. While the term "authorizing", on the other hand, refers to empower, the giving of authority and sanctioning.² The High Court, therefore, held that the cognizance of the case was illegally taken by the Magistrate in contravention of the section 13 of the Act.

5.2.3. OTHER ACTS :

Besides the Town Improvement Act and the Bangladesh Building Construction Act there are also provisions of building control in the Municipal Administration Ordinance, 1960³, As section 77 of this Ordinance deals with the erection and re-erection of buildings for which the sanction of the Municipal Committee is required and section 78 of the Ordinance provides that the Municipal Committee may take action by demolishing the building which has violated or contravened the Master Plan. Again section 79 of the ordinance provides for

Regulations of Buildings. This section runs as follows : -

1. The Oxford English Dictionary, Vol. VII, P.183.
2. Ibid., Vol. I, P. 573
3. Ordinance X of 1960, repealed as Paurashava Ordinance, Ordinance No. XXVI of 1977, Government of Bangladesh.

"(1) If any building, or anything fixed thereon be deemed by the Municipal Committee to be in a ruinous state or likely to fall or in any way dangerous to any inhabitant of such building or of any neighbouring building or to any occupier thereof or to passersby, the Municipal Committee may by notice require the owner or occupier of such building to take such action in regard to the building as may be specified in the notice, and if there is default, the Municipal Committee may take the necessary steps itself, and the cost incurred thereon by the Municipal Committee shall be deemed to be a tax levied on the owner or occupier of the building under this ordinance.

(2) If a building is in a dangerous condition, or otherwise unfit for human habitation, the Municipal Committee may prohibit the occupation of such building till it has been suitably repaired to the satisfaction of the Municipal Committee."

The prohibitions in section 79 relating to buildings have been applied in several cases to control the condition of buildings within the Municipal limit for the safety of the life and properties of the inhabitants. Thus in the case of Abdur Rashid Vs. the Dacca Municipal Committee¹ notice under section 79 of the Municipal Administration Ordinance was served upon the owner of the holding No. 2/1 of Chawk Circular Road to repair the building which was in a ruinous state and might collapse at any time causing loss of life and property. The notice was served upon the owner after the Executive Engineer on inspection found that some portion of the building from Northern side had collapsed and the remaining portions measuring 7' feet from North to South and 25' feet from East to West were in a dangerous condition.

The acquisition of the right of easement enjoyed by the adjoining owner of a holding also controls the construction of

1. Title Suit No. 304 of 1973 ; Court of 3rd Munsif, Dacca.

buildings to a certain extent. This right has, of course, to be exercised within a period of twenty years as is provided for in section 26(1) of the Limitation Act ¹ which runs as follows : -

" Where the access and use of light or air to and for any building have been peaceably enjoyed there with as an easement, and as of right, without interruption and for twenty years, and where any way or water course, or the use of any water, or any other easement has been peaceably and openly enjoyed by any person claiming title thereto as an easement and as of right without interruption, and for twenty years, the right to such access and use of light or air, way, watercourse, use of water, or other easement shall be absolute and indefeasible. Each of the twenty years shall be taken to be a period ending within two years next before the institution of the suit wherein the claim to which such period relates is contested."

The provisions of this section has been rightly applied in the case of Allarakha Vs. Dr. Md. Mobarak Ali ². The fact of the case was that Mr. Allarakha, the defendant, constructed a three storied building at holding No. 31. S.K. Das Road blocking the light and air of the adjoining house of Dr. Mobarak Ali, the plaintiff who filed a Title suit praying for permanent injunction for restraining the defendant from constructing the second floor of the building in question. The First floor was constructed so long ago that its construction did not constitute a cause of action for the injunction suit. When however, the suit was pending the plaintiff by an amendment of the plaint prayed for a mandatory injunction to in respect of both the floors - the 1st floor and the 2nd floor under construction. The prayer for the 1st floor was hit by sec-

1. Act IX of 1908.

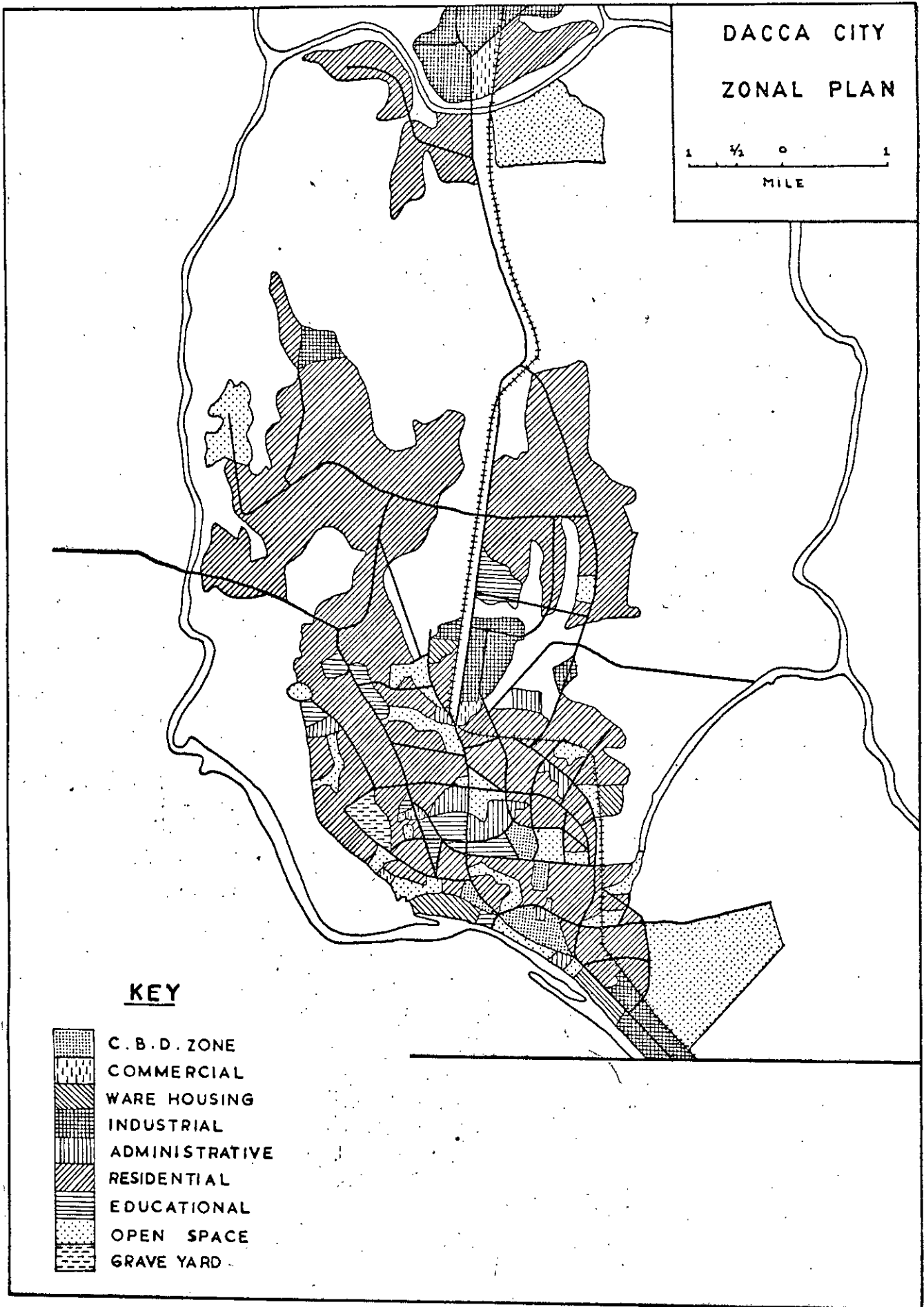
2. Civil Rule No. 1099 of 1970 : Dacca Law Report, Vol. 25, 1973 p.438.

tion 26(1) of the Limitation Act and it was therefore, refused whereas the prayer for a mandatory injunction i.e for the demolition of the 2nd floor under construction was granted as this prayer for injunction was not barred by limitation under section 26(1) of the Act.

5.3. ANALYSES OF THE ZONING PLAN.

The Master Plan of the Dacca city has been prepared in the year 1958 by the authority concerned of the Dacca Improvement Trust based on section 73 of the Town Improvement Act. The Jurisdiction of the Trust extends from the south of Narayangong to the North of Tongi with the Sitalkhaya and the Balu River in the East and the Turag River on the West, covering an area of about 220 square miles. The Master Plan consists of proposals both for the land use plan and transportation plan. The land use plan consists of different types of land uses and their space requirements (Appendix I) and the location of these land use proposals is shown in the Zonal plan of the Master Plan. The different types of land uses of the zonal plan (Fig. 8) are : housing and ancillary uses ; industry ; central business zone ; commerce ; warehousing ; government buildings ; public buildings ; hospitals ; mainroads ; railways and railway lands ; Steamer stations and bus stations ; education ; open space ; cemeteries ; cantonments ; water works and wireless stations ; major reclamation ; and water areas. All these lands may be divided into two categories i.e. (1) publicly developed land and (2) Privately developed land. The privately developed lands consist mainly of residential, commercial and industrial uses while the other uses are mostly publicly developed. Since most of the lands are privately developed, they need control over its development mainly to follow the Master Plan.

It is apparent from the court cases cited above that the exis-



Source: D.I.T., Master Plan For Dacca, 1960.

Fig. 8

ting laws and the rules made thereunder are not sufficient enough for the effective implementation of the Master plan of the Dacca City. As a result various non-conforming uses of land and structures have developed within the Master Plan area contravening the Master plan and the zonal plan. As a consequent, there have been many problems within the community, the most serious of which are (1) Uncontrolled density of population and houses ; (2) danger to the health, safety and welfare of the community ; (3) inadequate supply of light and air for the dwellings ; (4) loss of property value ; (5) growth of slums, blight and obsolescence ; (6) unbalanced man-land ratio and ; (7) haphazard and uncontrolled development of the city. There may be various causes of these problems but the main causes that have been derived from the Court cases are mentioned below .

So for as the use of the land in each zone is concerned it is necessary to consider the internal layout plan of each zone before any building plan. It was the duty of the planning authority to prepare the zoning plan immediately after the Master Plan. But no such plan has been prepared for the Dacca City Master Plan. However, there is only the locational proposals of each land use zone.

Again, the present Town Improvement Act that controls the use of the land according to the Master Plan of the city is inadequate and limited in its scope. There is no provision regarding the use types in different zones of the Master Plan . As a result controversy arises on the use types in the zones ¹ for which courts are required to decide the use types in different zones. As such several court cases arising out of these problems establish the importance of use zoning regulations for the Master Plan of the Metropolitan City.

1. Authorized Officer, D.I.T. Vs. A.W.Mallik., op.cit.

It may also be mentioned here that the Master Plan of the Dacca City was prepared when population was 10,25,000 and it was estimated that the population would be approximately 14,40,000 by 1978¹. But the total population of Dacca city has been estimated at 17,30,253² by the Census Report of 1974 with a density of 41,196 persons per square mile. Thus the position has materially changed due to the rapid development of the city but the provisions of the Master Plan still remain the same without any amendment or alteration. As a result the competent authority is sometimes obliged to grant permission contrary to the Master Plan considering the changing situation³. Thus it is conceived from the above fact that the land use pattern of different zones is gradually changing resulting in incompatible uses of land.

This problem is more conspicuous in the old part of the city where the mixed type of land use is prevailing from the very inception of the city. Here shops, commercial premises, ware-houses, workshops, and small factories are often inter-mixed with the dwelling houses. There are proposals in the Master Plan to improve the working and living conditions by separating the residential zones from other incompatible uses of land.⁴ It is important to note that, till now, i.e. even after nineteen years of the adoption of the Master Plan it has not been possible to change the land uses according to the Zonal Plan. Certain zones earmarked in the Master Plan as ware-housing are still used for residential purposes. Again commercial and business activities are carried on for more than 200 years in some areas zoned for residential purposes in the Master Plan. Some areas in the Master Plan zoned as residential are still used for commercial purposes because residences are quite impossible there. These purposeful deviation from the Master Plan have become a practice due to the conflict of zonal arrangements.

1. Minoprio, et. al., Master Plan for Dacca, 1958, Final Report, P. 19.

2. 1974 census Bulletin No. 2: Govt. of Bangladesh, 1976, P.-

3. Authorized officer, D.E.T. Vs. A.W. Mallik, op. cit.

4. Minoprio, et. al., op. cit., p. 20.

In addition, there is no appropriate boundary between different zones of the city, hence it is very much difficult to demarcate any definite zone. This also causes invasion of incompatible uses in zones changing their character. The most adversely affected zones are the residential areas. In most of the residential areas invasion of commercial and business uses are the common features. Industries and residences - the most incompatible uses - are also found frequently in some parts of the Dacca city creating an environment dangerous to the health and safety of the nearby residents.

On the other hand, from the point of view of construction of buildings in different zones, non-conforming structures that do not comply with the regulations develop due to various shortcomings of the present Building Construction Act. It has been found from the court cases that almost all the non-conforming buildings are unauthorized which develop due to lack of organization and enforcement of the Building Construction Act.

One of the causes of the development of these non-conforming structures is the structural deviation from the approved plan¹. The reason behind this may be the lack of proper inspection during the period of construction of the building. These deviations mostly occur in the old part of city where existing constructions are attached to one another without having requisite side, back and front spaces. When the owners of these buildings submit plans for any additional structure, they are ordered to keep the requisite spaces as per Building Construction Rule. But in actual practice they do not follow the approved plans, giving rise to cases of deviations.

1. Sheikh Kamaluddin Vs. Authorized Officer, D.I.T. op.cit.

Besides the old part, deviations also occur in the planned residential area of the new part of the city.¹ It may also be mentioned here that there is no control over the floor area of the building within different zones. This has resulted in uncontrolled density of population and houses.

The Building Construction Act does not provide that the Building Inspector may be empowered by the Authorized Officer to work on his behalf.²

The Building Construction Act also does not empower the Authorized Officer to stop the unauthorized constructions. The procedure for demolition of unauthorized construction is lengthy and complicated. As a result constructions continue and are ultimately completed before their detection or when after detection a case is instituted, before such case is disposed of. The procedure involves service of a second notice to the offender if the first notice is not responded to, obtaining permission from the Government for prosecution and filing a petition of complaint thereafter in the court of a competent Magistrate for trial. When the trial is completed and the accused is found guilty, the court may pass an order directing him to demolish the structures within a specified time and if he does not comply with the order of the court, the Authorized Officer again prays to the court for empowering him to cause the demolition with the help of the police force.

Some of the cases are disposed of by the court with an order of demolition but it can not be carried out due to the lack of co-operation from the police force. And yet some cases are disposed of by the court with a simple order of fine only without any direction for demolition.³ As a result the

1, M.H.Khandakar Vs. Authorized Officer, D.I.T. op.cit.

2, Hafizuddin Ahmed Vs. Authorized Officer, D.I.T., op.cit.

3, Jobed Ali Vs. A.O., D.I.T., op. cit. ; A.O., D.I.T. Vs. Dilbar Bibi, op.cit. ; Kamaluddin Vs. A.O., D.I.T. op. cit. ; Khandakar Vs. A.O., D.I. T., op. cit.

construction remains non-conforming creating various problems for the neighbouring people. Moreover, some of the ^{ses}cases end in acquittal or withdrawal due to various technical difficulties, most common of which is the want of corroborating evidence. It has also been found that due to the lack of proper evidence it becomes difficult to trace out the accused who constructed the unauthorized building and consequently the charges fail ¹. And sometimes in the absence of the owner, the occupier takes the plea that he is not the owner and as such is not liable for the offence committed.² With regard to these cases it may be concluded that these unauthorized constructions not only affect the whole community but also impede the proper implementation of the Master Plan of the Dacca city.

As a matter of fact the Master Plan of Dacca that has been prepared by the foreign experts in western model is quite inappropriate for a developing Country like ours. A proper model is yet to be found. Thorough investigation and study might give rise to an understanding that will lead to a proper solution. Chances of infringement of zonal restrictions become much reduced, where the Master Plan evolves out of genuine understanding of the forces that govern the movement of people .

1. Abu Saleh Chowdhury Vs. The State, op. cit.

2. Ibid.

From time to time towns and cities have adopted Zoning Plan for the effective implementation of their Master Plan. But zoning and planning are not the same thing. Zoning is one of the planning controls or planning tools. It is an extremely important one for planning but it is not planning. The execution and implementation of the Master Plan of a city is essentially performed through an integrated, positive and comprehensive zoning control which helps to administer effectively the development of the city.

The Master Plan of the Dacca city, as stated earlier, consists of broad zones only. There are only locational proposals for the different types of land use zones in the Master Plan. Unfortunately, the Master Plan lacks any zoning plan or zoning ordinance which are adjunct to the Master Plan. As a result the numerous illustrated problems that are confronted with by the planning authority in the implementation of the Master Plan is mainly due to the lack of any well organized regulations controlling the urban land use, otherwise known as zoning ordinance which has become indispensable for this Metropolitan city. Consequently, Courts are frequently called upon to deal with the problems that arise in the effective implementation of the Master Plan and the decisions of the courts, as found, acknowledge the establishment of zoning districts and regulate the use of property in each district or zone.

It has been found that the existing Building Construction Act and the Town Improvement Act, in view of the increasing pace of urbanization, are not adequate enough to stop non-conforming constructions and use of land and structures in the urban

area of the Dacca city. The acts need be amended by providing for immediate action which is only possible by a Comprehensive Zoning Ordinance for dealing with these Problems.

Hence, in consideration of the above situation, a comprehensive Zoning Ordinance should be enacted and adopted immediately to control the present deteriorating condition and future developments of the growing metropolitan city. It has been suggested to enact this Zoning Ordinance by amending the Building Construction Act and the Section 74, 75, 76, and 77 of the Town Improvement Act incorporating in this amendments such of their provisions as may be thought necessary. However, the Court has also recognized that the Town Improvement Act and the Building Construction Act can stand together as the final shape of the Master Plan is provided by the Improvement Act while the constructional details of a proposed building and its conformity to the Master Plan is provided by the Construction Act.¹ Besides these two Acts, the Zoning Ordinance should also take into consideration other ordinances, such as, the Section 77, Section 78, and Section 79 of the Municipal Administration Ordinance which controls and regulates the erection and re-erection of buildings within the Municipality area ; Section-26(1) of the Limitation Act which provides for an injunction against the construction of a building when a right of easement is violated; Metropolitan police Ordinance of 1976² which empowers the police force to provide safety and order within the Metropolitan area ; and all or parts of other

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1. Authorized officer, DIT, Vs. Mallick : Dacca Law Report, Vol. XX, 1968, p.230.
 2. Ordinance No. III of 1976 : Govt. of the People's Republic of Bangladesh.

ordinances which may come into conflict with the provisions of the zoning ordinance in order to give this ordinance full force and effect.

A comprehensive zoning ordinance usually contains three basic divisions : (1) enactment and interpretation, (2) district regulation, and (3) administrative provisions. The first of these relates to the purpose of the ordinance, its enactment into law, definition of terms used, and similar items. The second includes in actual regulation pertaining to each of the districts and additional provisions affecting all districts. And the third part is composed of administrative details covering such matters as enforcement, the issuing of building permits, certificates of occupancy and provisions for appeals and amendments.

Usually the preface or preamble of any ordinance contains the purpose of enacting the ordinance. As such the purpose of enacting a Zoning Ordinance for the city of Dacca ought to promote health, safety and general welfare of the community by preventing haphazard construction of buildings and the use of lands and buildings in a manner that might constitute a nuisance to the neighbourhood and are likely to interfere with the planning or development of the city of Dacca . Some of these objectives have been described in the present Building Construction Act and the Town Improvement Act. Moreover, the Zoning Ordinance for Dacca city should aim at lessening congestion in the streets ; to secure safety from fire, panic and other dangers ; to provide adequate light and air ; to prevent the overcrowding of land ; to facilitate the adequate provisions for transportation, water supply, sewerage, schools, parks, and other public requirements.

Fundamentally it should seek to preserve the value of lands by preserving the character of each district.

A zoning ordinance, generally, contains certain terms which may be difficult for the general people to follow . To make the ordinance easily understandable to the people in general certain words and terms deemed to be technical and used in the ordinance should be clearly defined. At the same time, it is unnecessary to define the terms not used in the ordinance. The definitions should clear up the ambiguities of terms. However, some diagrams can be obtained along with the definitions to have a more clear view of the terms. It is because diagrams sometimes tell more than definitions do .

Definitions of terms used in the Zoning Ordinance vary in different communities. Yet, there are some terms, the definitions of which are found to be the same in all communities. Thus, the term "Lot" is generally defined in a Zoning Ordinance as a parcel of land of at least sufficient size to meet minimum zoning requirements for use, coverage and area, and to provide such yards and other open spaces as required. Planners often come across with different types of lots within an urban area. As for example there may be a corner lot, an interior lot, a through lot and a reverse frontage lot. These four types of lots are commonly found in every community. A "corner lot" is located at the intersection of two or more streets whereas an "interior lot" has only one frontage on a street (Fig. 9). A "through Lot" adjoins two street lines and thus have frontage on two streets while a " reverse frontage Lot" is defined as a

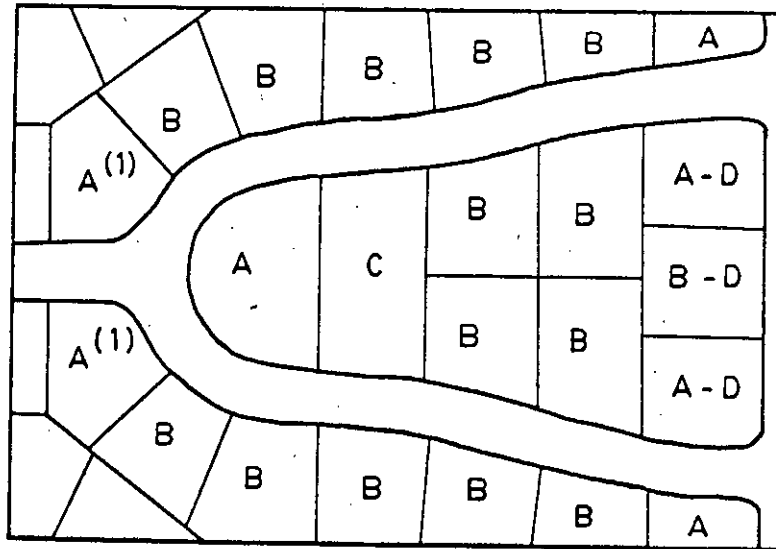
lot in which the frontage is at right angles to the normal pattern in the area involved (Fig. 9). A reversed frontage lot may be a corner lot or an interior lot.

Again, the term "Yard" is also used in every zoning ordinance and commonly defined as that portion of a lot which remains open and unobstructed. Three types of yard requirements are generally established in a Zoning Ordinance. "Front yard" is a yard extending along the full length of a front lot line (Fig. 9). This front yard is termed as the "set back line" under the Building Construction Act. This frontyard requirement varies in different districts. But special problems arise in case of a corner lot for which the administrative official will determine the front yard. The "side yard" is defined as a yard extending from the rear line of the required front yard to the rear lot line. In case of a corner lot any yard which is not a front yard, shall be considered a side yard and the "rear or back yard" is defined as the yard extending for the full length of a rear lot line (Fig.10).

In a Zoning Ordinance, the term "Accessory Use or Structure" is frequently found and this is defined as a use or structure on the same lot with, and of a nature customarily incidental and subordinate to the principal use or structure.

Besides, other words such as dwellings, family, street line, parking space, sign etc. need to be defined in the ordinance according to the local situation. Among the existing statutes the Municipal Administration Ordinance contains some of these terms defined locally. Thus, the term "Building" has been defined as any shop, house, hut, out house, shed, stable or enclosure built of any material and used for any purpose and

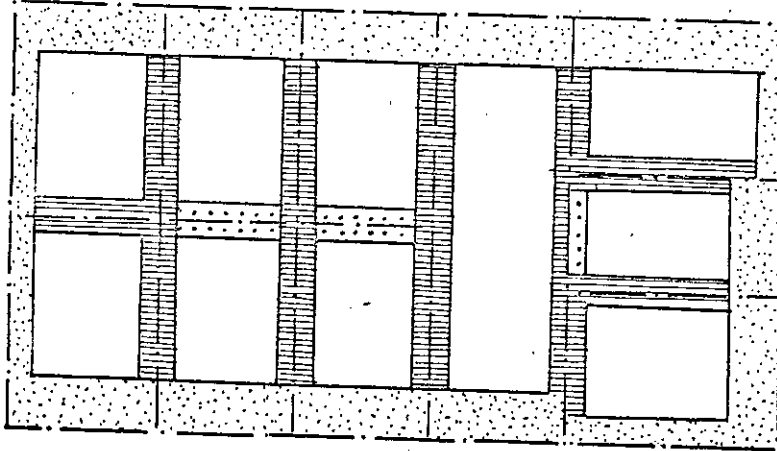
TYPES OF LOTS




- A, A⁽¹⁾ : CORNER LOTS.
- B : INTERIOR LOTS.
- C : THROUGH LOTS.
- D : REVERSED FRONTAGE LOTS.

Fig. 9

YARDS ON LOTS



 FRONT YARD

 SIDE YARD

 REAR YARD

Fig. 10

also includes a wall, verandah, platform, plinth, and steps. And a "Building Line" refers to a line beyond which the outer face or any part of an external wall of a building may not project in the direction of any street existing or proposed.¹ Building line as defined by the Town Improvement Act also contains the same meaning. The Municipal Administration Ordinance also refers to the term "dwelling house" as any building used or adapted to be used wholly or principally for human habitation, and "erect or re-erect" of a building as the construction of a new building and includes such material alterations of a building as may be prescribed.²

Definitions of terms are important not only for general public but also for the courts when a dispute arises. Courts look to the definition section in order to settle a dispute and it is for this that much weight is normally given to this section.

6.1. DISTRICT REGULATION :

The most important feature of a Zoning Ordinance is the district regulations, as the main objective of the zoning is to divide the community into zones, for the purpose of controlling and directing the use and development of the city according to the Master Plan. A city can be divided into various zones according to various criteria such as population characteristics, physical characteristics, activity pattern, building types, land use etc. But the zoning plan is concerned only with the use of the lands and buildings and the height and bulk of the building. Accordingly the Zoning

1. Municipal Administration Ordinance : Ordinance X of 1960, Section 3, P. 2.

2. Ibid.

Ordinance divides the city according to the land use pattern, height of the buildings, and bulk of the building.

The principal use districts that a Zoning Ordinance normally establishes are the residential, commercial and industrial districts mainly the privately developed land in urban area. Each major classification may contain several Sub-classifications of higher or lower uses. Such as residential districts may be sub-divided into single family, two family and multifamily districts. The commercial districts are also generally classified into the wholesale and the retail districts and the industrial districts into the light and the heavy. However, to save these zones and to preserve their value, encroachment of other incompatible use must be prohibited through appropriate boundaries for each zone. Generally, streets serve boundary between different zones. But it is usually more desirable to establish the boundary line between two zones in the interior of the block along the rear lot lines rather than dividing the zones by the centre of the street. It is because of the difficulties which arise in the latter case in maintaining the character of the zones. The boundary line should be, as far as possible a straight line parallel to the street. Sometimes parking areas, walls, shrubs, water bodies or trees can be established along the edges of the districts. The Zoning Ordinance should restrict the use of these edges.

RESIDENTIAL ZONE :

Nevertheless, the residential zones should include those uses which are required for the proper functioning of the residential areas. It is upon the authority to decide the types of the residences permitted in the areas due to the fact that a

considerable variety of dwelling types can be applied for but they are not desirable everywhere. In addition to the residential uses the residential districts should include all the community facilities such as mosques, primary and secondary schools, community centres, parks, playgrounds and other. It should also allow local retail business for the convenient shopping for adjacent residents ; light service industry entirely harmless to the local adjoining residential districts and establishments offering services to the public which may be combined with the residences such as doctors, lawyers etc. The Zoning Ordinance should limit restrictions on space, equipment and persons to be employed in case of home occupations. In some areas, specially allocated by the authority, residences may be combined with the work shops. Such a combination should be permissible on condition that the method and materials used for industrial processes are entirely harmless and cannot cause any damage to the people and building in and around the establishments. Small cottage industries may be incorporated in residential areas to generate employment for the woman.

BUSINESS ZONE :

The business or commercial districts of the Dacca city are mainly of two types : Central Business District and Neighbourhood Business District. In the neighbourhood business district uses that may be permitted consist of processing, cleaning, servicing, testing, repairing storing and sale of goods, materials and products. Among other uses entertainment and relative establishment such as cinemas, clubs, restaurants etc. may also be permitted and in the central business

district all the uses of the neighbourhood business district should be permitted. In addition all uses designed to accommodate basic retail, wholesale and office functioning must be there. Other uses that are most desirable may be listed as below :

Apartment hotels, lodging houses, rest houses, clubs and the same.

public and community buildings designed to cater for the needs of the whole city such as banks, large libraries, exhibition halls etc.

Large transport and communication facilities to serve the whole city such as bus terminal, railway station, fire bigade station etc.

All types of recreations, amusements and entertainments usually found in the CBD.

Other uses which by nature are attached to the CBD but are not included in the regulations, may be allowed provided they do not cause distrurbances in the social, economic and physical planning of the area and they are duly and fully justified.

INDUSTRIAL ZONE :

Industrial zones are the least restricted of all zones. The light industrial zones of the Dacca city are mainly confined in the periphery of the city whereas the heavy industrial zones are located outside the urban area. In the light industrial zones it is customary to permit any use except trades or

industries which are injurious, noxious, offensive or hazardous by emission of odour, dust, fumes, smoke, noise or vibration. Thus the permitted uses may be the following : -

Any production process, cleaning, servicing, testing, repairing, storing or sale of goods, materials and products which comply with the requirements of the regulations.

Automobile service stations, building material sales, contractor's offices and shops, garages and parking sites etc.

public utility and public service uses such as bus terminals, electric sub-station, fire brigade station, police station, water pumping station, water reservoirs, telephone exchanges, etc.

Other uses like parks and playgrounds, banks, restaurants, dwelling unit for watchman etc.

On the otherhand, the unrestricted "heavy" industrial district should allow any type of manufacturing enterprises. Residences should be strictly prohibited in this zone. However, all precautions should be taken for the health, security and welfare of the people working within the zone and other zones around.

The Zoning Ordinance should also control the use of the water bodies, . The lake of the Dhanmondi Residential Area may be cited as an example. The lake was originally designed for recreational purpose. But today it has become harmful to

the health of the residents because surface drainage is allowed to run into the lake. Hence, the Ordinance should take into consideration the Environment Pollution Control Ordinance, 1977¹ for the maintenance of the water bodies within the city. It may be mentioned here that in the sixth session of the United Nations Environment Programme held recently in Nairobi, Bangladesh proposed to introduce a comprehensive environmental protection legislation. Among other provisions it will formulate policies to protect the environment from air pollution and water pollution in the residential, commercial and industrial areas of the urban centers of Bangladesh. Environment pollution control activities are now very much a part of our development plans and programmes.

HEIGHT AND BULK ZONE :

In addition to the use zoning the ordinance may establish zones according to the heights and bulk of the buildings. Height districts are usually laid out with reference to use districts and area districts but their boundaries may not always be identical with either. The height of the buildings vary greatly from the central part of a city to the periphery. Generally, the height of the building decreases with increasing distance from the city centre. Accordingly the higher buildings should be permitted in the central area where the principal business activities are carried on. In the residential areas, on the other hand, there is the greatest need for open space, air and sun-light and as such higher buildings should be prohibited in this zone. Usually three principal

1. Ordinance No. XIII of 1977 : Govt. of the People's Republic of Bangladesh.

methods of limiting the height of buildings are employed : (1) by the number of maximum feet, (2) by the number of stories permitted, and (3) by the multiples of street widths.¹ For the most satisfactory practice height limitation should be established in the neighbourhood business zone by stories or number of feet ; in CBD by the width of the front street, in industrial zones by $\frac{3}{4}$ h of the distance to the opposite of the street or by the number of stories and feet and in residential zones also by the number of feet or stories. But for the most effective measure zoning ordinance should permit buildings in certain districts to exceed the height limits if the upper stories are set back a certain number of feet from the street or lot line. As for example for every foot, a building extends above the height limit, there must be a set - back of one foot.

Zoning regulations also establish area districts with reference to the use and height districts. Area districts are characterized by varying front, side and rear yards. These also specify the percentage of total lot area that may be built upon, usually known as a lot coverage in different districts or zones. All these requirements vary according to the character of the districts and they may be higher for some districts than for others.

The rigid volume control of height and bulk may be relieved by the method of the Floor Area Ratio. It is the ratio between the total floor space of a building and the total area of the lot. Floor Area Ratio provides a very useful measurement as a density control in residential areas. It is considered

1. Gallion, op. cit., p. 213.

as one of the most accurate indices for adequacy of light and air. This is because floor area ratio is related to the spacing of building and their height. The regulation may also apply to and specify "Sky Exposure Plan" for the commercial zones and the "Open Space Ratio" for the multifamily residential districts as a measure of controlling the bulk and height of the buildings.¹

ZONING SCHEDULE :

However, the ordinance should specify different regulations for different districts in the form of a Schedule of District Regulations (Appendix V) . The schedule of district regulation is a summary in tabular form of the major requirements of each district, set forth under appropriate headings. Generally the following headings are laid down in the schedule : -

Name of the District or zone.

permitted principal uses and structures.

permitted accessory uses and structures.

special exceptions.

Minimum lot Requirements.

Minimum Yard Requirements.

Maximum lot coverage.

Maximum Height of Structures.

Minimum off-street parking and loading Requirements.

Limitations on signs.

Other Requirements.

1. Gallion, op. cit., P. 213.

Along with this schedule of District Regulation the ordinance should declare that lands and buildings could not be used or occupied except in conformity with the schedule and that buildings and structures could not be constructed, moved or altered except by meeting the terms of the regulations applicable to the district.

The schedule of district regulations and boundaries of the districts the vital part of the ordinance - should be drawn only after thorough analysis of pertinent materials such as land use maps, growth maps, parcel maps and similar items and all the zoning districts with the boundary lines should be clearly drawn in the zoning map. The zoning map must be easily accessible to the public and it must be kept current and no unauthorized changes should be allowed. But changes must be made in the zoning map when amendments to the basic ordinance are passed changing the boundaries of the various districts and the change should not become effective until placed on the official zoning map.

It should be mentioned here that the enactment of a zoning law always creates various problems, the most serious of which is that of "non-conformity". Non-conformities occur when a particular use or structure does not comply with the regulations. No matter how carefully the district boundaries are drawn certain lands, buildings, or structures already in existence at the time the zoning ordinance is adopted, do not meet the district requirements set out in the Schedule of the District Regulation. Thus there may be non-conforming uses of land, non-conforming uses of structures, non-conforming plots and non-conforming structures. Most zoning ordinance recognize

the existence of these non-conforming uses and permit those to remain . But the general zoning policy should be aimed at preventing the extension of non-conforming uses and eliminating them without creating any undue hardship to the people. Most ordinances place strict limitations upon the extension of non-conforming uses by requiring that the particular use may not be extended or altered and that structural alterations may not be undertaken which would enlarge the non-conforming use. For this a reasonable time must be allowed to bring them into conformity with the schedule of district regulations.

6.2. ADMINISTRATIVE PROVISIONS :

The effectiveness of zoning depends not only upon a sound zoning ordinance but also upon a sound zoning administration. The problem of development control through a proper legislation and regulation is quite complicated and requires the skill of the specialists who have a complete knowledge and full experience of the local conditions and legislation. An outstanding ordinance can be spoiled by poor administration and enforcement whereas a poor ordinance may be effective with good administration and enforcement.

For the efficient administration and enforcement of the ordinance a single person i.e. the enforcement officer should be given power and authority to accomplish this task. The enforcement officer, as the building inspector, should perform the following duties :

To receive applications for building permits.

To make inspection and issue certificates of occupancy for completed buildings.

To issue certificates of occupancy to non-conforming uses.

To make periodic inspection for violation of the ordinance.

To initiate such court action as may be necessary to prevent violations.

To keep adequate records of all activities. Thus it is apparent that the zoning enforcement officer has a great deal of responsibilities in preserving the zoning plan and achieving the purposes of the zoning ordinance. Usually he should have two major task i.e. issuing building permission and certificates of occupancy.

One of the prime tools of zoning administration is the building permit. At present this permission for the Dacca city is given by the Authorized officer under the Bangladesh Building Construction Act. The ordinance should control the construction of buildings by declaring that no buildings or other structures should be erected, added to or altered without the permission of the enforcement officer. All applications for building permits should be accompanied by plans drawn to scale, showing the actual dimensions and shape of the lot to be built upon ; the exact sizes and location of the buildings already existing on the lot ; and the locations and dimensions of the proposed building or alteration. The applications should also include other informations such as existing or proposed building or alteration ; existing or proposed uses of the building and the land ; the number of families, house keeping units or rental units the building is designed to accommodate

etc. It is important that the building permission should be granted in co-ordination with the building code. But unfortunately there is no such building code for the urban areas of our country.

Zoning policy is concerned not only with the structures but also with the uses of the structures. It has been found that in some zones people start business and industries in residential areas without bothering about permits. To control this unauthorized use, it is necessary to issue certificates of occupancy to the owners of the buildings. After the building is completed the building inspector should inspect the completed building to determine if it conforms to the requirements of the regulations. He should thereupon issue a certificate of occupancy, if the proposed use is authorized under the zoning ordinance and if the proposed use does not conform to the requirements of the ordinance, the certificate should be denied. So certificates of occupancy of the new, altered, or non-conforming uses should be issued to the owners of the buildings. In this regard the ordinance should provide that it will be unlawful to use or occupy any building or premises contravening the use, permitted in the certificate. The ordinance should also provide for a time limit within which the construction of the building must be completed and fresh permission is to be obtained on the ~~ex~~^{ir}piring of that time limit.

It is obvious, that the strict application of the provisions of the zoning ordinance may cause undue hardship to certain property owners. To grant relief from this strictness to these property owners, there is a need of forming a Board of Adjustment or Appeals. Without such a Board, the strict enforcement of the ordinance may not be possible. The members of this

Board should be appointed from different organizations engaged in the planning of the Dacca city. This Board should consist of five members.¹ The main duties and the functions that the Board should perform are : (1) to supervise the administration of the enforcement officer, (2) to consider and permit certain special exceptions and, (3) to grant relief or variances where hardship results from strict application of the ordinance. The terms "special exception" and "Variances" often become confusing and they need be clearly defined. In the Zoning Ordinance provision should be made in the schedule of the District Regulation for some special types of uses allowed as special exceptions in each district and the requirements under which this may be allowed, for example electric power substation, telephone exchange, fire stations, mosque etc. Variances, on the other hand, should be granted by the Board of Adjustment to allow relief from the requirements of the ordinance because of unnecessary hardships. As for example a lot may be so shaped that the owner would have great difficulty in complying with the yard requirements of the ordinance. In this case Variance should be granted to build a house on the lot.

However, the Ordinance should specifically mention about the process of appeal when a person is aggrieved by any of the decisions either of the Enforcement officer or of the Board. It is suggested that appeal from the decisions of the enforcement officer should lie only with the Board of Adjustment and appeal from the Board of Adjustment should lie to the court. The actual procedure involved will be governed by the state law.

1. F. M. Bair & E.R. Bartley, Model Zoning Ordinance, American Society of planning officials, Second Edition, 1960, p. 47.

Furthermore, there must be the provisions for penalty in the ordinance in the form of fine, imprisonment or both for the violation of any of the provisions of the zoning Ordinance. But the most difficult task is the detection of violation in our society. Violations of the provisions of the zoning ordinance may be detected in many different ways and one of such ways is an active administrative machinery. Citizens can also be the sources of information concerning deviations from the zoning ordinance. In case where a violation of structural changes occur, it could easily be detected when application is made for the building permit or when the building is inspected prior to occupancy. Other violations may occur as a change of use or an intensification of use e.g., home occupations in residential districts may easily be converted into commercial operations. The detection of violations should not be the responsibility of the building inspector only but also of the police department, public health department, fire department and of other charged with the protective functions. Besides, the ordinance should allow any person to file a written complaint against the violation of any of provisions of the ordinance. Moreover, penalties should also be applied to all who participate in them e.g. architect, builder, contractor, agent and others. It is also suggested that the effectiveness of the ordinance can be enhanced by the co-operation of the organizations which have authority to issue licences or permits affecting the use of property such as electricity, water, gas, sewerage, telephone etc. These departments should not grant any licence or permit which would violate the provisions of the zoning ordinance.

It is obvious that changes and amendments in the zoning ordinance will be necessary from time to time because planning is a continuous process. It should meet the requirements of our growing community. These changes should also occur in the schedule of District Regulations and the Zoning Map. But it should be remembered here that too great and frequent amendment or change will destroy the aims and objectives of the planning. The process of amendment or change should be used cautiously and only after a careful consideration of the numerous factors involved. In fact no change should occur without public notice and hearing and the notice must be published by the Govt.

The formulation and diligent enforcement of a Zoning Ordinance rest not only on the government authority but also on citizens' participation. People need know what is happening to their community, what is causing blight and what is being done to fight deterioration. They must have every opportunity to take constructive action. Sound public opinion is developed through an intelligent understanding of public problems. Planning agencies will usually find it easier to get public support for the planning programme if they first enlist the interest and secure the backing of established civic, business and professional organizations including societies consisting of intellectuals like lawyers, engineers, architects etc. Such groups can greatly assist in informing the public of the planning objectives and of the procedures and methods to be used for accomplishing them. They can provide organized support for particular programs and can help to disseminate information with respect to the need for, and effect of, proposed courses of action and the dangers to the public interests

if particular action is not taken or if controls are not instituted.

Proper liaison between the planning agencies and the public may also be maintained by establishing special citizens' advisory committees. Their functions should be to provide the planning authority with valuable advice and information and to help the public by informing them about zoning program. The principal aim of direct public participation is to develop a mass feeling of responsibility for the Plan. Frequently, the attitude of a citizen towards planning may be influenced more by the manner in which the laws are carried out than by the effect of the law itself.

The regulations of the zoning ordinance should be adopted to conform to the requirements of the legislation of the country as well as to the administrative pattern.

7. SUMMARY AND CONCLUSION

This study has especially been undertaken to investigate into and critically analyse the problems of implementing the Master Plan of Dacca - the capital of Bangladesh. For this a brief historical background of the growth and development pattern of the city has been considered. The city developed on the bank of the river Burhiganga with mixed type of land uses. Planned development of land use pattern started from 1950's and since then the physical growth of the city has taken place sectorially towards the North.

At present, Dacca city has been experiencing serious land use problems. It is because of the various non-conforming uses that are gradually invading the planned areas changing their character and identity. The study reveals that in the planned Dhanmondi Residential Area about 13.14% of the total buildings are being used for official purposes. The highest percentage i.e. 8.36%, of this use belongs to two storied buildings while the percentage of the floors used for this purpose is great for three storied buildings. Mixed type of uses, like the old part of the city has also invaded remarkably this zone. Buildings are used either as residential-cum-commercial or residential-cum-office, the percentage of the latter is greater than that of the former. It is expected that this residential zone may be converted into a business zone in the near future if proper controlling measure against this invasion is not adopted immediately.

Besides the residential areas, encroachment of incompatible uses has also occurred in the commercial and industrial zones of the city.

The causes of this problem may be traced to the lack of any regulatory measures for controlling the uses within different zones of the city. At present the two major legislative enactments, namely the Town Improvement Act, 1953 and the Building Construction Act, 1952 contain necessary provisions for controlling development of the city. The Town Improvement Act controls the use of land and buildings while the Building Construction Act regulates the construction of buildings. Actually these are not planning laws and at the same time they are inadequate and limited in scope for the planning of our cities as violations of the rules made under these Acts occur frequently.

Few of the court cases under these Acts are found to be effective but most of the cases are either withdrawn or acquitted of the charges due to various technical difficulties. Some cases are disposed of on imposing fine only without any order for structural changes. All the non-conforming buildings are unauthorized which develop due to lack of organization and enforcement of the Building Construction Act. People also use these buildings without obtaining any permission from the local Planning authority which should introduce certificate of occupancy as a remedial measure. Constructional deviations from the approved Plan also occur frequently which can also be prevented by proper inspection during the period of construction.

It is quite apparent from this study that the Master Plan of Dacca City, prepared in 1958, is not followed strictly. The reason behind this is the lack of any Zoning Ordinance which is

generally promulgated along with the Master Plan for its effective implementation. In this regard the Metropolitan City should adopt a Zoning Ordinance that will contain all the provisions of controlling the development pattern of the city according to the Master Plan. The Zoning Ordinance specifies use types in different zones. It should also control the height and bulk of the buildings in each zone for the general welfare of the community.

Zoning and planning will achieve compatibility only when the zoning ordinance restricts uses in each zone to those for which the zone is designated. This is why zoning regulations are most urgently needed for the Dacca City. It has been suggested here that this Ordinance should be Promulgated by repealing and combining all or parts of the provisions of the Town Improvement Act, the Building Construction Act, the Municipal Administrative Ordinance, the Limitation Act and the Metropolitan Police Ordinance that contain the provisions of controlling the development pattern of the city. It is desirable to make provisions for changes or amendments in this ordinance with the growing requirements of the community. The citizens should also be made to co-operate with the local planning Authority in maintaining the identity of the zones of the city. Zoning must allow adequate space for dynamic growth but at the same time it must also avoid the excesses which nourish economic and physical blight.

As a matter of fact, in the absence of any well defined zones it is difficult to draw any concrete conclusion with respect to the zoning regulations for the Dacca city. Hence, there remains ample scope for further studies on this specific

problem with respect to individual zones for which the present study may helpfully, be used, Furthermore , it is quite obvious that in our country Government Officials and citizens are not always certain as to how to proceed with a zoning ordinance. In this regard this study will give some idea about the zoning ordinances of our cities to project the future course of action.

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APPENDIX - I

D A C C A C I T Y
L A N D U S E P L A N

Land Use	Percentage of Total Area	Acreage
Housing and Ancillary Use	25.9	6,757
Industry	3.3	865
Central Business Zone	1.0	262
Commerce	0.9	223
Warehousing	1.3	346
Govt. House	0.6	144
Public Buildings	0.8	212
Hospitals	1.4	377
Main Roads	3.0	790
Railways and Railway land	1.2	325
Steamer and Bus Stations	0.1	26
Education	1.8	464
Open space	4.6	1,184
Cemeteries	0.5	130
Cantonments	3.7	971
Water works and Wireless Stations	0.8	209
Major Reclamation	14.5	3,766
Water Areas	34.6	9,007
Total Area	100.0	26,058

Source : Minoprio, et. al. : Master Plan for Dacca, 1958,
London, Minoprio & Spencely and P.W.
Macfarlane.

APPENDIX II

QUESTIONNAIRE

ROAD NO.

PLOT NO. OLD

NEW

PRESENT USE	RESIDENCE	COMMERCIAL	OFFICE
Ground Floor			
1st Floor			
2nd Floor			
3rd Floor			
Garage			

A P P E N D I X -- III

USE OF BUILDINGS IN DHANMONDI RESIDENTIAL AREA .

USE OF BUILDINGS TYPE OF BUILDINGS	RESIDENCE		COMMERCE		OFFICE		RESIDENCE - CUM -COMMERCIAL		RESIDENCE- CUM - OFFICE		TOTAL	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
SINGLE STOREY	403	40.14	14	1.39	36	3.58	-	-	-	-	453	45.12
TWO STOREY	383	38.15	10	1.00	84	8.36	5	0.5	10	1.00	492	49.00
THREE STOREY	40	3.98	-	-	12	1.19	2	0.2	-	-	54	5.38
FOUR STOREY	5	0.5	-	-	-	-	-	-	-	-	5	0.50
TOTAL	831	82.77	24	(2.39)	132	13.14	7	0.69	10	1.00	1004	100.00

A P P E N D I X - I V

USE OF FLOORS OF BUILDINGS IN DHANMONDI RESIDENTIAL AREA

USE OF BUILDINGS	ONE STOREY		TWO STOREY				THREE STOREY						FOUR STOREY							
	GR. FLOOR		GR. FLOOR		1ST. FLOOR		GR. FLOOR		1ST FLOOR		2ND FLOOR		GR. FLOOR		1ST FLOOR		2ND FLOOR		3RD FLOOR	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
RESIDENTIAL	403	88.96	383	77.84	398	80.89	40	74.07	42	77.78	42	77.78	5	100	5	100	5	100	5	100
COMMERCIAL	14	3.09	15	3.05	10	2.03	2	3.70	-	-	-	-	-	-	-	-	-	-	-	-
OFFICE	36	7.95	94	19.10	84	17.07	12	22.22	12	22.22	12	22.22	-	-	-	-	-	-	-	-
TOTAL	453	100	492	100	492	100	54	100	54	100	54	100	5	100	5	100	5	100	5	100

APPENDIX - V
ZONING SCHEDULE

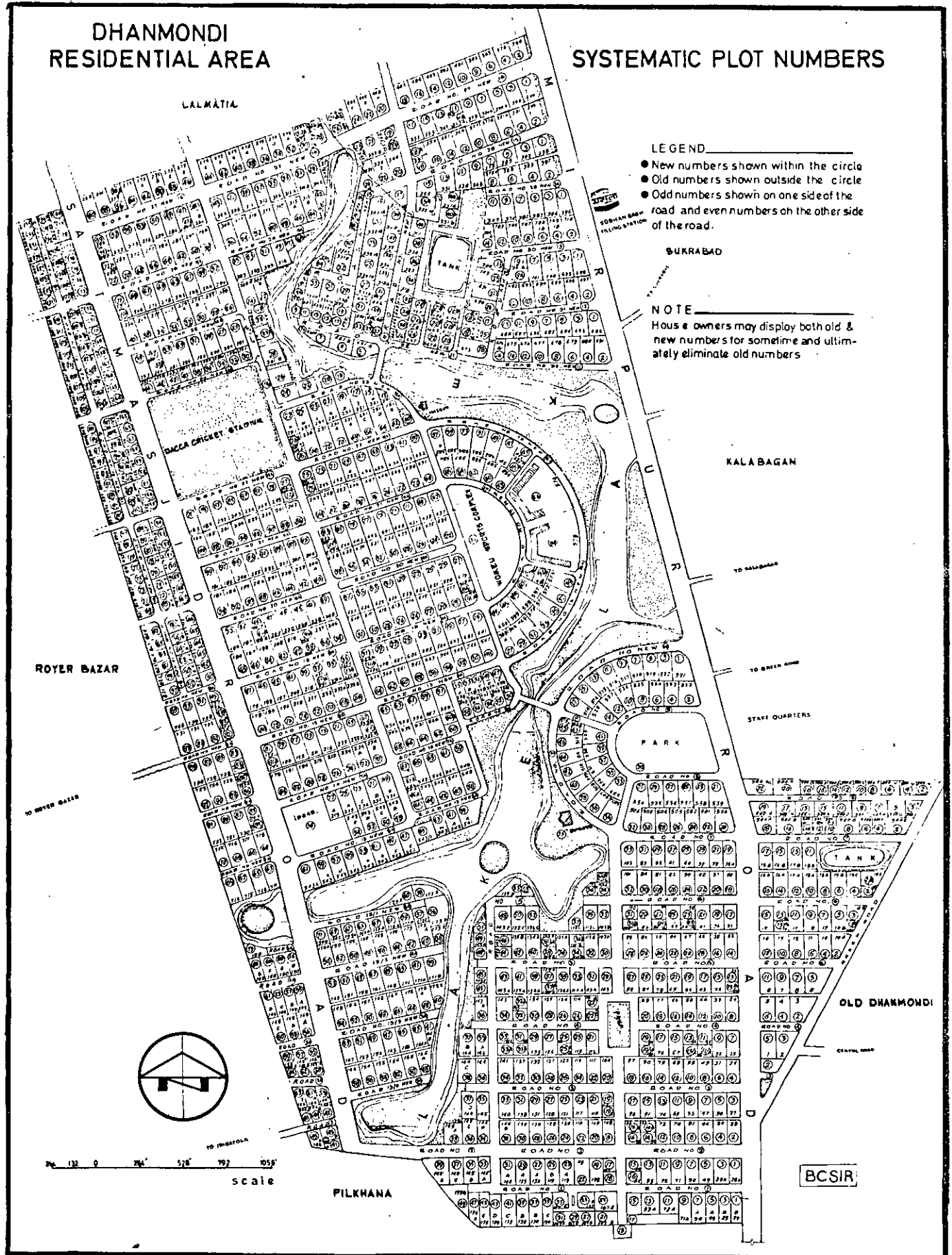
Name of Zones	Principal uses	Accessory Uses	Lot size		Percentage of lot Coverage		Floor Area	Yard dimension			Max. Height of				Off street Loading space	Signs Permitted	Other Provisions
			Area in ft.	Width in Feet	Principal Building	Accessory Building		Front	Side	Rear	Principal Building in St-ories	in Feet	Accessory Building in ins-tories	in Feet			
Zone I																	
Zone II																	
Zone III																	
Zone IV																	
Zone V																	
Zone VI																	
Zone VII																	
Zone VIII																	

7.83



APPENDIX-VI

LAY-OUT MAP OF DHANMONDI



Source: Dacca Improvement Trust.