AN APPROACH
TO
URBAN RENEWAL FOR FAKIRAPOOL-ARAMBAGH AREA

BY
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AN APPROACH TO URBAN RENEWAL FOR
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S.A. SIKDER.
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CHAPTER I

INTRODUCTION
CHAPTER I
INTRODUCTION

URBAN RENEWAL:

Urban renewal is one of the most widely discussed and perhaps the most controversial programme. It is a programme which raises so many of the questions which intellectuals find relevant about the cities. Urban renewal, like selective service, physically takes things and turns them, before our eyes, to new uses. Homes are destroyed or rehabilitated; new structures rise or uses of old structures are changed; streets and community facilities are re-arranged. It is often forgotten in the midst of all these that urban renewal is not a goal, but a tool.

The needs of urban renewal arises from congestion, construction and obsolescence of any area. Congestion occurs in town which have natural growth and ultimately cannot cope up with the present day condition, that is present day requirement of roads for traffic. The physical determination of structures and properties, lack of standard of facilities and amenities, the outdated and outworned buildings and obsolete path system, all these combine together to make certain areas in towns and cities obsolete to the present day standard and use. When any one and all together occurs in any area of a town then the area requires immediate renewal.
The renewal of cities mean all the process whereby cities are maintained or rebuilt; the replacement of old houses by new houses, of older streets by newer streets, the transformation of commercial areas, the relocation of industrial facilities, the rebuilding of public utilities; is referred to rehabilitation as well as demolition and rebuilding; it means too the laws and the administrative and financial mechanism by which those rebuilding and rehabilitation are accomplished. The only way to discuss such an enormous subject is to consider all the elements of change in a city: its changing economic role, its changing population, decisions to buy or sell, stay or move rehabilitate or demolish, and larger market and political forces that affect all these.

Obviously one can say that renewal has just begun to scratch the surface of the need. It is also being said, however, that urban renewal has hardly gone too far, or at least too far in the wrong direction. Social critics allege that although the volume of building under urban renewal programme has been slight, its impact on certain part of the population has been devastating. The urban renewal agency does in fact represent a current threat to many; destroying small businessmen, evicting older people from their homes, forcing families from their tenements then failing to relocate them in decent, safe, sanitary and reasonably priced housing as required by law and threatening buildings of historic or architectural value.
Now the question arises, how well does the renewal programme make it possible to achieve them. The answer is usually stated in terms of tradition or economics. The centre must remain, if, a metropolitan area is to thrive. It must have good commercial and cultural facilities and a significant proportion of middle and upper income residents. Its private guided investment must redress balance. Only in this way can the central city retain the middle and upper income people whose tax revenues enable it to provide services.

DESCRIPTION OF THE PROBLEM:

Fakirapool-Arambagh area covering approximately 70 acres of land lies just on the north of the Motijheel Commercial Area. Location of the area is significant being adjacent to the commercial core of Dacca City. The Commercial core has great influence on the land use of the area and the prosperity of it greatly depends on the character, status and condition of surrounding land use. Fakirapool-Arambagh though not a very old area has grown to be a blight. It is suffering from the loss of its function and losing its vitality. The area is mainly residential in character mixed with some commercial and other structures. Most of the structures are temporary and sub-standard and to conform with the present day standard of health, comfort and convenience. The presence of belighted structures and inadequate transport facilities coupled with the uncontrolled and
unguided developments creating congestion and deteriorating the area further that is sure to have adverse affect on the commercial heart of city. In view of the above situation, it has been felt that a renewal programme for Fakirapool-Arambagh area should be taken up in order to revitalize the area and to create a better environment therein.

SELECTION OF THE TOPIC:

Urban renewal has become a very important field of study because most of our cities developed without any scientific planning. Due to the natural and unplanned growth our cities in most of the cases have become unsuitable to cope up with the present day standard of living requirements. Therefore, the time has come to replan them which will deal with the obsolescence and decays as well as slum clearance. The idea does not only mean the replacement of blight structures but also the readjustment of the pattern of land use. The blight in our cities caused not only by deteriorating buildings but by mixture of unsuitable uses of land, by inadequacies of space standards, by the compression of uses in areas which are not adequate in size for so many different purposes, by inadequate cities of circulation pattern -- the roads and foot-paths -- for present day multiple use, together with the inadequate service facilities.
Nothing less than renewal of these areas is needed. Thus urban renewal will imply the gradual reordering of uses of land and building to meet present day requirements and estimated future needs; it will also imply a continuous process of planning and rebuilding of our towns and cities, sorting out of uses that have become mixed in unsatisfactory ways and will recombine them in new ways.

Urban renewal can imply gigantic efforts to change our mode of living to new needs and to keep on changing so that our environment remains suitable for current needs. Our slums are an outcome of the failure of society to keep pace with technological change; "even though it may have come to be universally accepted that every family has a right to decent housing conditions," our nation has so far failed in practice to make this.

"The deterioration of buildings, which typifies slums, also has social and community effects. Deterioration has all the symptoms of disease; urban blight vividly descriptive of the way such condition can spread from the slums into healthy neighbourhoods and living conditions."  

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The residential areas of our cities becoming 'Slums' in the sense of dwellings that are inadequate as up-to-date homes for families. The official 'Slums' are mere skimmings off the surface of these much greater problem. The real problem of blight is of a magnitude many times greater.

This type of detailed and careful treatment of these complex problems is now receiving close study and a number of schemes for revitalization is need to be undertaken immediately, because "physical decay bites deep into the urban environment and the blight, congesting are burden to the healthy sections of a city and the social and psychosomatic effects of blight in the depressed areas are disease, crime, broken houses and numerous other evidences of social deterioration. Any attempt to live constructive life weakens in this atmosphere. Furthermore, these areas have been proven to be a financial drain on the public purse."¹

OBJECTIVES:

The following are the main objectives of the present research work:

(i) To identify and to estimate the physical, social, economical and environmental forces which are operating to determine the land use of the area.

(ii) To study and to analyse the existing land use and the character of development within this area and also the surrounding areas.

(iii) To study the existing relationship of Fakirapool-Arambagh area with the surrounding areas including the Motijheel Commercial area.

(iv) To suggest appropriate land use and the type of development for the area and finally to propose an urban renewal plan for the study area.

GOALS:

The proposed study and the investigation will help to determine the most appropriate land use for Fakirapool-Arambagh Area and to prepare an urban renewal plan creating long-term satisfying urban environment in the study area. It may also be possible to develop an urban renewal policy that may be applicable to the areas of similar characteristics in urban centres of Bangladesh.

SCOPE OF STUDY:

The present research mainly includes, the literature survey, land use survey, socio-economic survey and the attitude survey of the residents of Fakirapool-Arambagh. The problem of the present research can be identified by using following methods:

(i) The land use analysis of the study area will help to determine the dominating land use.
(ii) The socio-economic data analysis will provide us the social status, economic conditions and the attitude of the people about the problem of the area.

(iii) The land use analysis of the Central Core will help to determine the type of land use absent, if, there is any.

(iv) The analysis of surrounding land use will help to determine the nature of development and land use demand from the Motijheel Commercial Area.

To solve the problem the study will also include the following reviews and analysis:

(i) The review and analysis of some renewal programme of selected towns and cities and identification of problems and prospects of such renewal projects.

(ii) The review and analysis of central area land use of some selected towns and cities of other countries.

(iii) The examination of ideal type of land use for such central areas.

(iv) The comparison of that ideal type of land use with that of the central area of Dacca.

(v) The determination of ideal type of land use absent in the central core of Dacca.

(vi) The examination of that type of land use whether demands from the study area.

(vii) The problems and prospects of providing that type of land use in the study area.
CHAPTER II
INVESTIGATION AND ANALYSIS
CHAPTER II
INVESTIGATION AND ANALYSIS

HISTORICAL BACKGROUND:

The history of Dacca goes back to the early centuries of the Christian Era. But Dacca for the first time, came into limelight under the Mughals, who established here their provincial seat in 1608 A.D.

The oldest part of the city is confined within the circuit of Dulai Khal (1600 A.D.). The focus of this old city was Sadar Ghat. The second city consisted of the Mughal Dacca, extending upto Dacca High Court. The third important stage in the development of the city came during the first partition of Bengal (1859) when Dacca was made the headquarter of the province of East Bengal and Assam. The houses and offices were built around the Ramna Race Course. But sometime earlier the Top Khana, the Purana Paltan and Naya Paltan associated with the British solidarity, had been given over for the public residence.¹ The central area was developed after 1952. Therefore, the history of settlement in Fakirapool-Arambagh goes back to only about fifty years (Please see Map-1).

HISTORICAL DEVELOPMENT
OF DACCA

LEGEND
•• Up to 1600 A.D. (DACCA MAP NO. 1, DANJ A.H. AND HISTORICAL DESCRIPTION, TELOR & OTHERS. BICHITTRA VOL. III. 1972)
•• Up to 1705 A.D. (AFTER RENNEL, DACCA MAP NO. 2, DANJ A.H. & BICHITTRA VOL. III. 1972)
•• Up to 1852 A.D. (SURVEYED IN 1850, PRINTED, THE SURVEY OF BANGLADESH, DACCA)
•• Up to 1952 A.D. (CITY OF DACCA 1952 PRINTED DC)
•• Up to 1973 A.D. (DACCA GUIDE MAP PRINTED DC)
PHYSICAL CHARACTERISTICS:

Fakirapool-Arambagh is bounded from the north and north-east by Toyenbe Circular Road, from the west by Fakirapool Road and from the south by the Motijheel Commercial Area. The distance of Baitul Mokarram Shopping centre is about 1/5th of a mile and lies on the south-west of the area. The Dacca Railway Station is about 3rd of a mile on the east. The Bangladesh Bank stands just on the south-east of the area.

Geologically, the unconsolidated sediments underlie the area and these are of two main ages; Tertiary (or Pleistocene), and Holocene (Recent). Generally high-ridge should not be constructed on the land that formed during Pleistocene age. The soil of the area developed over unconsolidated alluvial sediments deposited by floods. These alluvial soils are suitable for landscaping by plantation and creating open space for recreation.

Fakirapool-Arambagh has almost a flat land level having average height about 13 feet from the mean sea-level. The slope of the land is towards the south and the south-east and meets at the Fakirapool lake. So, care should be


3 Water Development Map (Restricted), Survey of Bangladesh, 1968. Scale 8 inches to a mile.
taken in providing utility facilities in area.

The study area enjoys a tropical monsoon type of climate where mean annual rainfall is 74 inches. The annual mean temperature is about 73°F. Therefore, development plan for the area should be considered in the light of climatic phenomenon and should have provision for efficient drainage and landscaping by plantation.

**LAND USE ANALYSIS OF FAMIRAPOOL-ARAMBAGH AREA:**

The area of Fakirapool-Arambagh is 66 acres. Residential land covers 49 acres, accounting for 74.20 percent of the total area. Shopping covers 3.70 acres. The commercial and professional offices, the entertainment and service industries together use 2.10 acres. The area does not have any land under wholesale, warehouse, administrative, recreational and parking use. The educational land use (excluding Notredame College) occupies only 0.44 acres. Roads and streets use 5 acres occupying 7.57 percent of land. Vacant land is absent and water body covers 5.74 acres. Though the residential land use dominates the area yet the area is devoid of community facilities. The utility facilities are not upto the requirement (Please see the Table-1 and Map-2).

---

1 Master Plan, Supplement A, Climate and Hydrology, WAPDA, 1964.
TABLE 1

LAND USE ANALYSIS OF FAKIRAPOOL-ARAMBAGH AREA, 1977

<table>
<thead>
<tr>
<th>TYPES OF LAND USE</th>
<th>ACRES</th>
<th>PERCENT</th>
<th>STRUCTURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>49.00</td>
<td>74.20</td>
<td>1010</td>
</tr>
<tr>
<td>2. Shopping</td>
<td>3.70</td>
<td>5.60</td>
<td>404</td>
</tr>
<tr>
<td>3. Commercial and Professional</td>
<td>0.30</td>
<td>0.40</td>
<td>5</td>
</tr>
<tr>
<td>4. Wholesale and Warehouses</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Administrative</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6. Social, Cultural and Entertainment</td>
<td>0.40</td>
<td>0.60</td>
<td>12</td>
</tr>
<tr>
<td>7. Service Industries</td>
<td>1.40</td>
<td>2.10</td>
<td>75</td>
</tr>
<tr>
<td>8. Religious</td>
<td>0.20</td>
<td>0.30</td>
<td>3</td>
</tr>
<tr>
<td>9. Educational</td>
<td>0.04</td>
<td>0.06</td>
<td>1</td>
</tr>
<tr>
<td>10. Recreational</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>11. Water Bodies</td>
<td>5.74</td>
<td>8.60</td>
<td>-</td>
</tr>
<tr>
<td>12. Vacant Land</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>13. Parking Space</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14. Roads and Streets</td>
<td>5.00</td>
<td>7.60</td>
<td>-</td>
</tr>
</tbody>
</table>

| TOTAL CONDITION                        | 66.00 | 100.00 | 1510       |

Source: Physical Survey.
There are 1510 structures in the area. The building density of the area is 23 per acre. These structures include pucca, semi-pucca, katcha and temporary structures. Now, a question arises, what are the factors responsible for this type of land use? The answer can be summed up as follows:

(i) The natural and unplanned growth of the area.
(ii) The bye-passing of the arterial roads due to the existence of the lake.
(iii) The lake acts as a barrier to the direct influence of the Motijheel Commercial Area.
(iv) The origin of settlement reveals that the area developed before the central core.

BUILDING STATUS OF FAKIRAPOOL-ARAMBAGH:

The structures cover 18.50 acres, accounting 33.24% of the total land. The number of katcha structures is 261 and cover 3.40 acres. There are 446 semi-pucca structures. The number of pucca structure is 803 and covers 11.60 acres, accounting 62.70 percent in the building coverage. (Please see Table-2). Most of the structures of the area are substandard (Please see Map-3).

VERTICAL USE (BUILDING HEIGHT) OF FAKIRAPOOL-ARAMBAGH:

There are 526 one storied buildings which cover 5.30 acres and occupies 28.50 percent in the building coverage. The floor area of 207 two storied buildings are 4.10 acres.
TABLE-2
BUILDING STATUS OF FAKIRAPOOL-ARAMBAKH, 1977

<table>
<thead>
<tr>
<th>STATUS</th>
<th>ACRES</th>
<th>PERCENTAGE IN COVERAGE</th>
<th>NUMBER OF BUILDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Katcha</td>
<td>3.40</td>
<td>18.38</td>
<td>261</td>
</tr>
<tr>
<td>Semi-pucca</td>
<td>3.50</td>
<td>18.92</td>
<td>446</td>
</tr>
<tr>
<td>Pucca</td>
<td>11.60</td>
<td>62.70</td>
<td>803</td>
</tr>
<tr>
<td><strong>TOTAL CONDITION</strong></td>
<td><strong>18.50</strong></td>
<td><strong>100.00</strong></td>
<td><strong>1510</strong></td>
</tr>
</tbody>
</table>

Source: Physical Survey.

and occupies 22.00 percent. There are 62 three-storied buildings which cover 1.25 acres. The number of four and five storied buildings are eight only. Although the area of Fakirapool-Arambagh lies just near the commercial heart yet has a very few multi-storied buildings. (Please see Table-3 and Map-4).

The land use analysis shows that 50 percent of land can be cleared up easily. If all substandard and deteriorating buildings are demolished and the lake is filled up, about 85 percent of land would be available for redevelopment (Please see Map-5).
TABLE-3

VERTICAL LAND USE ANALYSIS (BUILDING HEIGHT) OF FAKIRAPOOL-ARAMBAGH, 1977.

<table>
<thead>
<tr>
<th>BUILDINGS</th>
<th>ACRES</th>
<th>PERCENT IN COVERAGE</th>
<th>NUMBER OF BUILDINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Storied</td>
<td>5.30</td>
<td>28.50</td>
<td>526</td>
</tr>
<tr>
<td>Two Storied</td>
<td>4.10</td>
<td>22.00</td>
<td>207</td>
</tr>
<tr>
<td>Three Storied</td>
<td>1.25</td>
<td>6.60</td>
<td>62</td>
</tr>
<tr>
<td>Four Storied</td>
<td>0.70</td>
<td>5.40</td>
<td>6</td>
</tr>
<tr>
<td>Five Storied</td>
<td>0.25</td>
<td>5.40</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11.60</td>
<td>62.50</td>
<td>803</td>
</tr>
</tbody>
</table>

Source: Physical Survey.

DEMOGRAPHIC CHARACTERISTICS OF FAKIRAPOOL-ARAMBAGH:

Population:

The total population of Fakirapool-Arambagh area is 12,000 of which 7,010 persons are male and 5,190 are female. The number of people above 15 years is 7,610 of which 5,130 persons are married and 2,480 persons are unmarried. That is about 67.40 percent of the population are married. The cause of low percentage of married population can be cited as economic, educational and people's tendency of late marriage.
Density and Distribution:

The density of population per acre is 185 persons. In respect of distribution of population, the slums near the lake are more crowded.

Age and Sex Group:

The maximum population is in the age group 16-20 where male population are 1280 and female population are 850 (Please see the Table). The female is outnumbered by 430 persons. The causes are, in this age group males come from rural areas for jobs and education and they live either with their relatives or in a mess. That is why in age group 21-30 the males are more than the females. It should be noted here that 0-35 years, the population is much more than 36-66perhaps due to high birth-rate and early death. The age group 46-50, 56-60 and 66 and above shows that the female is much less than that of the male, there is no valid reason for that and it can be said that it is an exception in the rule. Generally, in this age group female must be greater than the male and causes are males work hard, smoke much, take irritative drinks and die earlier than the female (Please see age and sex pyramid).

Literacy:

The number of literate persons in the area is 8490.

The population above five years is 10,900. The percentage of literacy is 77.88. Number of persons educated upto primary
AGE AND SEX PYRAMID
OF
FAKIRPOOL-ARAMBAGH AREA
1977

YEARS

MALE

56-60
51-55
46-50
41-45
36-40
31-35
26-30
21-25
16-20
11-15
6-10
0-5

FLMALE

65+ABOVE
61-65
56-60
51-55
46-50
41-45
36-40
31-35
26-30
21-25
16-20
11-15
6-10
0-5

PREPARED BY:
S.A. SIKDER.
school are 2960, secondary school are 3,300, college are 1930 and University are 300 only. So, the educational status of the area is not much high.

**Profession:**

The population of the area above 10 years is 9,250 of which 4,080 persons are student of different levels and 180 persons are retired. So, the number of persons employed in different professions are 4,990. Among them 2120 persons are housewife, that is only 2870 persons constitute earning population. The ratio of earning and non-earning population is 1:4.25 which is discouraging and indicates low status of any area. The number of skilled and unskilled labour are 320 and 760 respectively and labour occupies 37.60 percent in the employment. Number of service holder is 1,760 and accounts 62.32 percent, 1320 persons are engaged in business.

**SOCIO-ECONOMIC CONDITION OF FAKIRAPPOOL-ARAMBAGH:**

**Income-Expenditure:**

There live 1500 families in Fakirapool-Arambagh area whose monthly income together is Tk. 2,71,185 and similarly their expenditure is Tk. 2,36,130 which results in a saving of Tk. 29,050. This amounts to 10.71 percent saving of their income.

The number of families whose income upto Tk. 500 are 190. Among them only 10 families can save 9% of their income. Rest 180 families can not save. There are 390 families whose income are in between Tk. 501-1000. In this income group only 70 families can save 13% of their income and 320 families
can not save. Taka 1001-1500 is the income of 260 families. Among these 260 families, 150 families can save 18% of their income and the remaining 110 families do not have any savings. Therefore, these three income groups discussed above reveal that when income increases, the number of families in the saving group increases and the rate of savings also increases.

The income of 250 families are in between Tk. 1501-2000. In this group 230 families can save 16% of their income and rest 20 families can not save anything. There are 11 families whose income are in between Tk. 2001-2500. Out of these 110 families, 90 families can save 15% of their income and 20 families do not have any savings. The analysis of above two groups showed that families save in both the groups and the percentage saved are also not different.

TABLE-4

INCOME, EXPENDITURE AND SAVINGS GROUPS.

<table>
<thead>
<tr>
<th>INCOME IN TAKA.</th>
<th>NUMBER OF FAMILIES</th>
<th>NUMBER OF FAMILIES WITH SAVINGS</th>
<th>NUMBER OF FAMILIES WITH NO SAVINGS</th>
<th>% OF FAMILIES THAT CAN SAVE</th>
<th>PERCENTAGE OF INCOME SAVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 500</td>
<td>190</td>
<td>10</td>
<td>180</td>
<td>5.26</td>
<td>9%</td>
</tr>
<tr>
<td>501-1000</td>
<td>390</td>
<td>10</td>
<td>320</td>
<td>2.56</td>
<td>13%</td>
</tr>
<tr>
<td>1001-1500</td>
<td>260</td>
<td>150</td>
<td>110</td>
<td>57.70</td>
<td>18%</td>
</tr>
<tr>
<td>1501-2000</td>
<td>250</td>
<td>230</td>
<td>20</td>
<td>92.00</td>
<td>16%</td>
</tr>
<tr>
<td>2001-2500</td>
<td>110</td>
<td>90</td>
<td>20</td>
<td>81.81</td>
<td>15%</td>
</tr>
<tr>
<td>2501-3000</td>
<td>90</td>
<td>90</td>
<td>-</td>
<td>100.00</td>
<td>18%</td>
</tr>
<tr>
<td>3001 and above.</td>
<td>210</td>
<td>210</td>
<td>-</td>
<td>100.00</td>
<td>18%</td>
</tr>
</tbody>
</table>

TOTAL 1500 850 650 - -

Source: Socio-economic Survey.
The income of 90 families are in between Tk.2500-3000. In this group all of the families can save 18% of their income. There are 210 families whose income are more than Tk. 3001 and all of the families can save 18% of their income. It is notable here that the maximum rate of savings is 18%. Even when the income increases then the rate of savings remains static.

The above analysis as whole shows that out of 1500 families, 850 families of different income group can save and that of 650 families can not save anything, that is only 56% of families can save 9% to 18% of their income. It also reveals that the rate of savings does not vary directly with the increase of income.

**Drinking Water:**

The drinking water is available from Municipal water supply (tap water) for 1440 families. Rest 60 families are to take water from road side supply.

**Electricity:**

Supply of electricity is worse than that of water and 1230 families have their electricity in their house. Rest 270 families use lantern due to their economic non-capability.

**Fuel:**

Gas is supplied for 550 families and 750 families use fire wood. Due to their little income 63.30 percent of families can not afford the expenses of gas connection.
Inside Drainage:

The drainage condition in the area is much worse and only 800 families have pucca drainage inside their houses. There are 200 families who have both pucca and katcha drainage in their houses. Rest 500 families have only katcha drainage inside their houses.

Waste Disposal:

The municipal service for the disposal of waste is poor in the area. Only 300 families can use municipal drum. Waste is disposed on the road side by 840 families. There is no arrangement for 360 families, either they dispose their waste in the lake or they dispose inside their home, which spoils the health of the area.

Primary School:

The average distance of primary school from home is 302 yards which is desirable walking distance for children. It should be noted here that the location of the primary school is same as that of high school. As the distance increases from the schools the number of house within this distance decreases. (Please see Table-5).

Bazar:

The average distance of the daily marketing place (Bazar) is 387 yards. The bazar is located at one edge of the area and the rate of decrease of house falls within a certain
distance a little less than that of the primary schools.

Rickshaw Stand:

The average distance from the rickshaw stand is 265 yards. The average distance in this case is lowest, because there are many rickshaw stands inside and outside the area. Within 100 yards of distance there are 620 houses. As it rains every now and then, the rickshaw stand must be more nearer. But due to the narrowness of streets, there are 190 houses whose distance is more than quarter mile from any rickshaw stand. (Please see Table-6).
RICKSHAW STAND AND THE HOUSE DISTANCE, 1977

<table>
<thead>
<tr>
<th>DISTANCE WITHIN</th>
<th>NUMBER OF HOUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-100 Yards</td>
<td>620</td>
</tr>
<tr>
<td>101-200 &quot;</td>
<td>290</td>
</tr>
<tr>
<td>201-300 &quot;</td>
<td>230</td>
</tr>
<tr>
<td>301-400 &quot;</td>
<td>120</td>
</tr>
<tr>
<td>401 and above</td>
<td>190</td>
</tr>
</tbody>
</table>

Source: Socio-Economic Survey.

Main Road:

The average distance of main road is 277 yards. Generally, when the distance increases, the number of houses decreases. Here the above principle does not hold good due to irregularities of data. The data is irregular, due to the existence of the lake and Notre Dame College and many streets do not have any direct access to the main roads. (Please see Table-9).

Bus Stop:

The average distance of the bus stop from houses is 495 yards. The table below shows that 690 houses fall within 200 yards of the bus stopage. There is a little irregularities due to the causes discussed above (Please see Table-9).
### TABLE - 7

**DISTANCE OF MAIN ROADS FROM HOUSES, 1977**

<table>
<thead>
<tr>
<th>DISTANCE WITHIN</th>
<th>NUMBER OF HOUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-100 Yards</td>
<td>580</td>
</tr>
<tr>
<td>101-200 *</td>
<td>230</td>
</tr>
<tr>
<td>201-300 *</td>
<td>180</td>
</tr>
<tr>
<td>301-400 *</td>
<td>80</td>
</tr>
<tr>
<td>401-500 *</td>
<td>40</td>
</tr>
<tr>
<td>501 and above</td>
<td>190</td>
</tr>
</tbody>
</table>

*Source: Socio-Economic Survey.*

---

### TABLE - 8

**DISTANCE OF BUS STOPAGE FROM RESIDENCES, 1977**

<table>
<thead>
<tr>
<th>DISTANCE WITHIN</th>
<th>NUMBER OF HOUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-200 Yards</td>
<td>690</td>
</tr>
<tr>
<td>201-400 *</td>
<td>270</td>
</tr>
<tr>
<td>401-600 *</td>
<td>210</td>
</tr>
<tr>
<td>601-800 *</td>
<td>110</td>
</tr>
<tr>
<td>801-1000 *</td>
<td>60</td>
</tr>
<tr>
<td>1001 and above</td>
<td>160</td>
</tr>
</tbody>
</table>

*Source: Socio-Economic Survey.*
Work Place:

The average distances from the home and working place is 1613 yards, because there is a very limited scope of working facilities within the area. There are 250 homes within zero distance. It is because some of the houses has a part of it used as shops etc. Within one mile there are 880 houses. That is most of the people work in the central area. As the distance increases the work place decreases (please see the Table-9). The distance is indefinite for 110 daily labours.

<table>
<thead>
<tr>
<th>DISTANCE WITHIN</th>
<th>NUMBER OF HOUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-0 Mile</td>
<td>250</td>
</tr>
<tr>
<td>0-1 &quot;</td>
<td>880</td>
</tr>
<tr>
<td>1-2 Miles</td>
<td>160</td>
</tr>
<tr>
<td>Above 2 Miles</td>
<td>120</td>
</tr>
<tr>
<td>Indefinite</td>
<td>110</td>
</tr>
</tbody>
</table>

Source: Socio-Economic Survey.

House Ownership:

Out of 1500 families, 980 live in their own home and rest 520 live in rented houses. The average rent of the houses is Tk. 275/- It can be assumed that people of low-income live there.
Room Occupancy and House Rent:

The average rent of an one room house is Tk. 120/- and that of four room is Tk. 900/-. The house having two rooms has rent Tk. 165/- which is lowest. The rent of three room houses is Tk. 575/-.

Room Occupancy:

There are 4,960/- liveable rooms in the area. The average of the room occupancy by a family is 3.30. The density per room is 2.46 persons. The number of families use 1-2 room houses are 570. Three to four room houses are used by 620 families and five to six room houses are used by 240 families. Rest 70 families use 7 room houses.

Area of Plots:

There are 790 plots whose area are below 3 khata. The number of plots having area upto 5 khata are 340. The number of plots having area 5, 7, 8 and 9 are 200. There are 130 plots having area 10 khata and above.

Age Group:

The average age of the houses in the area is 17 years. In age group 0-10 years there are 600 houses. The age of 450 houses are in between 11-20 years (Please see Table-12). Most of the houses of the area are new. The number of houses above twenty are 380 and the age of 70 houses are not known.
TABLE - 10

HOUSE AGE GROUP OF FAKIRAPOOL-ARAMBAGH, 1977

<table>
<thead>
<tr>
<th>AGE</th>
<th>NUMBER OF HOUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10 Years</td>
<td>600</td>
</tr>
<tr>
<td>11-20</td>
<td>450</td>
</tr>
<tr>
<td>21-30</td>
<td>230</td>
</tr>
<tr>
<td>31-40</td>
<td>80</td>
</tr>
<tr>
<td>41-50</td>
<td>70</td>
</tr>
<tr>
<td>Not known</td>
<td>70</td>
</tr>
</tbody>
</table>

Source: Socio-Economic Survey.

House and Land Value:

The average construction cost of each house is Tk. 17,615 and the average present value is Tk. 74,720. The present value of one bigha of land is Tk. 4,72,000. The construction cost of 470 houses are between Tk. 1,000 to 10,000 only. (Please see Table-13). This group does not only include old structures but also the Katcha and temporary structures of the area. The construction cost of 120 houses are Tk. 10,000-50,000 which are the present cost of 450 houses, and 430 plots. There is no such house whose construction cost is more than one lakh but there are 180 houses and 480 plots whose value are more than
TABLE - 11


<table>
<thead>
<tr>
<th>CONSTRUCTION COST, VALUE IN TAKA.</th>
<th>NO. OF HOUSE (PRESENT VALUE)</th>
<th>NO. OF PLOTS (VALUE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-10,000</td>
<td>470</td>
<td>310</td>
</tr>
<tr>
<td>10,000-50,000</td>
<td>120</td>
<td>450</td>
</tr>
<tr>
<td>50,000- 1 lakh</td>
<td>60</td>
<td>240</td>
</tr>
<tr>
<td>1 lakh to 3 lakhs</td>
<td>-</td>
<td>120</td>
</tr>
<tr>
<td>3-5 lakhs and above</td>
<td>-</td>
<td>60</td>
</tr>
<tr>
<td>Not known</td>
<td>50</td>
<td>320</td>
</tr>
</tbody>
</table>

Source: Socio-Economic Survey.

It is clear from the analysis that the present value of houses are much higher than the construction cost.

OPINION SURVEY OF THE RESIDENTS OF FAKIRAPOOL-ARAMBAGH AREA.

Relocation:

Relocation is agreed by 54 percent of population. Most of the people who agreed are living in rented houses. Rest 46 percent does not like to be relocated from the area.
Economic Capability (to build up houses):

Only 27% of families have economic capability to build up new houses according to the development plan and to make necessary change. If they get any financial assurance 90% of the people agrees to redevelop their houses according to the redevelopment plan.

Loans:

About 78% of people likes to take housing loans in long term and will pay the loan from the income of house rent. Only 14% of people thinks that they would be able to pay loans from their income by considerable instalment and 29% of people wants to pay loans from both of their income and house rent.

Co-operative Housing:

Only 37% of people likes to live in co-operative houses. Almost none of house owner likes to live in co-operative houses.

Environmental Development:

About 95 percent of people thinks that it is the responsibility of government to develop the area's environment. They think, they cannot do anything without the help of government due to lack of co-operation among themselves. Then it can be thought that if any development scheme is taken for the area and and provision for existing residents is considered, the people will be agreed to go accordingly.
Necessary Facilities:

In respect of facilities people differ from each other. Practically there is a very limited facility in the area. Even then the people are happy by enjoying some facilities from the adjoining areas. So, to make the area liveable, the lacking facilities must be provided. According to the people, the water supply and electricity supply are satisfactory. Facilities like business, communication, education are not satisfactory. They want facilities like primary school, health recreation and other community facilities.

NON-RESIDENTIAL LAND USE OF FAKIRAPOOL-ARAMBAGH:

In Fakirapool-Arambagh area there are 500 units used for non-residential purposes. Most of them are small shops. The average floor area of each unit is 265 square feet. The average income of each shop is Tk. 1568. There are 1,060 employees in these units, and the average employees in each of these units is 2. The average shop rent is Tk. 231, that is the monthly rent of one square feet is Tk. 1. The average monthly pay of an employee is Tk. 227 that is Tk. 7.56 per day.

From the above analysis it can be said that though the area is just adjacent to the central core and bounded by main roads, even then the commercial activities have not been flourished.
Classification of the Units:

Among the 500 units, there are 260 shops, 170 service and repairing houses, entertainment occupies 20 units, number of medicine shops are 30 and the rest 20 units used for official purposes (non-government).

Floor-Area Classification:

The area of most of units are within 100 square feet and the number of units decrease rapidly with the increase in floor area. There are 100 units, the area of each unit is more than 400 square feet. These includes restaurants, service and repairing and offices, the shops are very small.

Rent Group:

70% of the shop has rent within Tk. 200. Maximum number of shops have rent within Tk. 101-200. There are only 70 shops whose rent are above Tk. 400.

Generalized Land Use of the Central Core:

The Central Business District (C.B.D.) is the heart of the city around which the entire city is functioning. A study of this area enables us to understand various growth and activities of the city.

Dacca like many other developing cities, it has an intensive development of non-industrial function, limited development of industry and a poor economy. The pattern of the commercial area in the eastern developing cities markedly
different from that of the modern western cities. The lack of adequate communication system limits the mobility of goods. As a result instead of falling in one large compact central core, they fall broadly into two categories, one the food market (bazar) another the shopping centres largely dealing in foreign and locally manufactured goods.\(^1\)

The delimitation of the C.B.D. of Dacca presents a difficult problem, because it is not traceable in Dacca in western sense. The definition of C.B.D. ranges from a broad indifferenitized concept of "Down Town" to a 'Retail Core'. The concept differs from place to place depending on the socio-economic background. Basically C.B.D. means an area of any shape or character controlling the main part of the city's business, where the assemblage serves major part of the city rather than a section of it.

Hans Carlo believes that the term C.B.D. does not apply to a specific order of central function, it may occur on all levels.\(^2\) Hence it can freely be said that the city of Dacca does not have a C.B.D. even if with a different shape and structure.

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The first step in delimiting C.B.D. of Dacca was to make a detail land use survey of the central core and the land use analysis has proved it. The greatest concentration of buildings of commerce and retail stores of the city of Dacca are found in its C.B.D. It is also the chief focus of pedestrian and vehicular movement. But the nature and intensity of the commercial activities are far from homogeneous. The higher land value and building heights are found here. The department stores so important in western C.B.D. are totally absent here. Theatres, night clubs etc. are nil in the Motijheel Commercial Area. In Dacca the C.B.D. functions are visible in different areas e.g. Islampur, Patuatuly, Bangla Bazar, Chawkbazar. A new C.B.D. is under construction at Kawran Bazar. In the case of Motijheel Commercial Area further expansion had not been considered and that is why it had been located at Motijheel Commercial Area.

Let us now make a comparative study of the functions that are commonly found in the C.B.D. of any city, with that of the C.B.D. of Dacca. The following are the common functions found more or less in any C.B.D.

A. Civic Group

1. Administrative offices,
2. Social, cultural and entertainment,
3. Recreational.
B. Business Group
1. Shopping Centre,
2. Commercial and Professional Offices,
3. Wholesale and Warehouses.

C. Light Industries Group
1. Garages,
2. Petrol Filling Stations,
3. Workshop.

Of the civic group of functions, the administrative and recreational spaces are present in the C.B.D. of Dacca. But one of the very important function which is vital to the C.B.D. that is, the function of social, cultural and entertainment is almost absent here.

Of the business group of function the commercial and professional offices have concentrated in the C.B.D. of Dacca. Shopping has been separated from Motijheel Commercial Area and located at Baitul Mokarram, Stadium and Ramna Bhaban. One of the important function that is the function of wholesale and warehouses is absent in the C.B.D. of Dacca. It may be argued that they require quite different sitting condition and are better planned as separate zone.

One of the major function the light industry group is almost absent in the central core of Dacca. In the opinion of some other planners an industrial zone is better placed outside the centre proper.
Now-a-days, residential land use is commonly found in a city centre. The city centre can be in many ways an attractive place to live in. It adds to the vitality of the centre. It gives the centre some life and light in the evening. But residential development in the central core of Dacca is totally absent.

The foregoing land use analysis and comparative studies with central area of other cities will throw more light on the land use characteristics of the central core of the city of Dacca.

**Land Use Analysis of Central Core (Dacca):**

The area of central core is 213 acres (excluding Bangabhaban). The residential land use is absent in the area. Shopping covers 14.40 acres and occupies 6.76 percent. The commercial and professional offices use 25.45 acres. Only 1.40 percent land is under social, cultural and entertainment and 2.33 acres are used by service industries. For religious purposes 1.52 acre is used. Recreational use is 27.80 acres which accounts to 13.05 percent. There are 56.29 acres of useable vacant land. Parking is an important element of central cores but organized parking space is absent in the area. Roads cover 70.55 acres and occupy 33.12 percent of land. (Please see Table-16 and Map-11).
The Vertical Land Use Analysis of the Core Area (Dacca):

The building height of core area of Dacca varies from two to fourteen stories. Most of the buildings of the core area are four storied. There are many ten storied buildings in the area.

The analysis of vertical land use, was aimed not to analyze the vertical use in respect of floor space but only to find out the type and character of the use. With this aim, the vertical land use of the central core of Dacca was examined and found out that the type and character of use of upper floors are somewhat similar to that of ground floors. Almost all the upper floors are either occupied by commerce, shopping or by professional offices. Generally, ground floors should be occupied by commerce and shopping for their efficient functioning. When such uses occupy the upper floors they cannot function efficiently because the customers do not like to go upper floors and it is difficult to load and unload the goods. The vertical land use analysis also reveals that there is no residential use in the central core of Dacca which is undesirable.

Now, question arises what are the causes of such a type of land use? The answer can be summed up as follows:

1) The want of land in the central core for expansion.
2) The land value is much high in the central core.
Therefore, there is a great demand of land for the central core of Dacca. (Please see Map-6).

**Land Use Analysis of Surrounding Areas:**

Now-a-days, the residential land use in the central area is a common characteristic of cities. Generally, commercial functions use ground floors and road frontages and the residences occupy the upper floors. But the central area land use of Dacca does not exhibit such a character. In this circumstances, it has become a need to analyse the surrounding area land use.

The high-priced and high-rent residential area of Segunbagicha and Bijoynagar proceeded from the central core toward the north and extends upto New Eskaton. The arterial roads and residences of community leaders have pulled its expansion. These areas also lie outside the effect of flood. The expansion has been intervened by the industrial area of Tejgaon.

The wholesale and the light industrial belt are absent in the central core of Dacca. So, the low-class residential development in sector-wise can not be expected. The low-class residential area of Fakirapool-Arambagh, Naya Paltan and Gupibagh are the outcomes of natural and unplanned growth (Please see Map-7).

The high-priced residential area around the central core is not identifiable due to the shiftment of such areas in different parts of the city. Generally, the development of
DACCA
LAND USE OF CENTRAL CORE WITH SURROUNDINGS

SCALE: 1:20,000

LEGEND
- CENTRAL CORE
- OFFICIAL
- LOW-CLASS RESIDENTIAL
- MEDIUM-CLASS RESIDENTIAL
- HIGH-CLASS RESIDENTIAL
- EDUCATIONAL
- OPEN SPACE

PREPARED BY:
S.A. SIKDER
1977
offices, banks, departmental stores in an area pulls the high-class residential areas toward them. The surrounding land use analysis of central core of Dacca shows that the high-class residential areas pulls the above mentioned functions in or toward them. The surrounding land use map also shows that the central area is surrounded, by low-class residential areas from about three sides. Beyond these low-class residential areas, there exist middle-class residential areas like Motijheel Colony, Santinagar, Rajarbagh, Shajahanpur and Rankin Street. These middle class residential areas again are bounded by low-class residential areas. On the west of the central area lies the central administrative zone extending up to Suhrawardi Uddyan and on the west of that the educational zone begins.

The detail land use examination shows that some of the central functions have entered the residential areas of Segunbagicha, Bijoynagar, Santinagar, Siddeshwary, Iskaton and other areas which has spoiled the residential environment. The people who are related with the central area functions are also taking shelters in those surrounding areas to curtail the transportation cost. As a result these areas have become neither a residential area nor a commercial area in character. They are going to be a commercial as well residential slums. Therefore, proper care should be taken in time
LAND USE MAP OF CENTRAL CORE WITH SURROUNDINGS 1977.

LEGEND

- Residential
- Shopping Centre
- Commercial & Professional
- Service Industries
- Official Use
- Social, Cultural and Entertainment
- Religious
- Educational
- Water Bodies
- Recreational

to provide commercial and residential facilities in or near the central core. If the above objectives are achieved then the central core would function efficiently. The pressure on transportation will be reduced and the surrounding area will be revitalized (please see Map-8).

**Building Height Curve and Land Use Analysis:**

How the structure of values varies spatially in the city in accordance with site use potential has been shown for the small city by Knos in his study of Topeka.¹ "In the relatively simple representation of the structure of land values to be found in the small city, the central business district towers above everything else. Since it is a focus for employment, business, transactions, and shopping, and the alternative sites for these uses have been largely confined to this location, values are high and there is more intensive use of space."²

Due to the reason mentioned above, the tallest building is a common feature in the C.B.D. of cities. Like other towns and cities, the principle holds good in the central core of

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¹ Knos, S.D., Distribution of Land Values in Topeka, Kansas, Lawrence; Centre for Research in Business, The University of Kansas, May, 1962.

Dacca. "The height of buildings in the central area depends upon the extent and the land value in the central area. The height declines from the centre toward periphery of a central core that is, a great decending curve approaches a city centre." ¹

It will be tried here to explain the land use of central core of Dacca with the help of building height curve-analysis, which ultimately will explain the land use intensity of the central core with surroundings.

The general tendency of the building height curve will be discussed here with the following diagrams. Figure 1 shows the east-west direction of the curve from the centre (tallest building of the C.B.D.). The curve falls abruptly on the Fakirapool Lake and then rises a little on the Fakirapool Area but does not maintain the desirable slope. Toward the west the curve falls on the Stadium area and then rises on G.P.O. and it attains a normal height over Bangladesh Secretariat. Finally it falls at ground level on Suhrawardi Uddyan.

Figure 2 explains the nature of the curve toward the south and the north from the centre. The curve falls abruptly at ground level on the park (in front of the Bangabhawan). The curve then rises on the Rankin Street area. Toward the north the curve again falls abruptly on the Fakirapool area.

and there is a gradual rise on the T & T colony.

The above curve analysis not only shows the distortion of the nature of the curve but also proves that the area Fakirapool-Arambagh is a depressed one, in respect of its vertical developments. 'In a town centre the curve, generally has its peak point and gradually slopes down toward periphery.'

CHAPTER III
URBAN STRUCTURES AND LAND USE ORGANIZATION IN THE CENTRAL AREAS OF CITIES
CHAPTER III

URBAN STRUCTURES AND LAND USE ORGANISATION IN THE CENTRAL AREA OF CITIES

The character of land use association in the central area of cities depends upon the local conditions and practices. The investigation in a number of cities will throw some light upon the relation between population and land use. It will help us to formulate the ideal condition of land use in the central area of cities. The amount of space devoted to central area is an adequate measure and is evident from observation of statistics of land use. The distribution of space is equally important to the welfare and service of a city than the land allocated for commercial development.

ANKARA:

The population of Ankara, the capital of Turkish Republic was 1.5 million in 1974. The central area occupies 970 acres, having two distinct central cores. The old one is at Ulus, and was renewed and redeveloped. The newer one is at Kizilay and was developed in an almost vacant land. These commercial cores are separated by a railway line and the main educational zone lies in between them.

The streets were planned fitting the topography, as a result large blocks were created. The street frontage of
these blocks are occupied by commercial use and the middle portion by multi-storied residential structures where families of small size live. Due to the presence of residences, restaurants, hotels, night-clubs, bars etc., the central area of Ankara remains lively during night. It signifies the optimum use of valuable land in the central area. The main open and recreational spaces begin from the west edge of the commercial cores and extend westward to the industrial zone of the city. The administrative zone is separated from the new commercial core by a green belt and lies north of it. The residential land occupies the hill slopes and surrounds the central cores (please see the map of central area land use map of Ankara).

The per capita land in the central area is 27.52 sft. (please see Table-14). The most dominating land use in the central cores is residential. It occupies 230.25 acres, accounting for 23.74 percent. The per capita residential land use in the central cores is 6.68 sft. Shopping occupies 124.50 acres and accounts for 12.84 percent. The per capita floor area for shopping is 3.60 sft. The roads and streets cover 89.50 acres and occupy 9.23 percent. The per capita parking space is 0.11 sft. The service industries, educational and other uses are also prominent in the central cores of Ankara (please see Table-14 and Map - 9).

### Table 12

**Land Use Analysis of Central Ankara 1971**

<table>
<thead>
<tr>
<th>Types of Land Use</th>
<th>Acres</th>
<th>Percentage</th>
<th>Per Capita in SFT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>230.25</td>
<td>23.74</td>
<td>6.68</td>
</tr>
<tr>
<td>2. Shopping</td>
<td>124.59</td>
<td>12.84</td>
<td>3.60</td>
</tr>
<tr>
<td>3. Commercial and professional</td>
<td>23.50</td>
<td>2.42</td>
<td>0.68</td>
</tr>
<tr>
<td>4. Wholesale and warehouses</td>
<td>56.60</td>
<td>5.84</td>
<td>1.64</td>
</tr>
<tr>
<td>5. Administrative</td>
<td>52.70</td>
<td>5.44</td>
<td>1.52</td>
</tr>
<tr>
<td>6. Social, cultural and entertainment</td>
<td>42.80</td>
<td>4.40</td>
<td>1.24</td>
</tr>
<tr>
<td>7. Service industries</td>
<td>82.00</td>
<td>8.45</td>
<td>2.38</td>
</tr>
<tr>
<td>8. Religious</td>
<td>5.90</td>
<td>0.60</td>
<td>0.17</td>
</tr>
<tr>
<td>9. Recreational</td>
<td>156.50</td>
<td>16.15</td>
<td>4.54</td>
</tr>
<tr>
<td>10. Educational</td>
<td>80.25</td>
<td>8.27</td>
<td>2.33</td>
</tr>
<tr>
<td>11. Water bodies</td>
<td>3.00</td>
<td>0.30</td>
<td>0.08</td>
</tr>
<tr>
<td>12. Parking</td>
<td>4.00</td>
<td>0.42</td>
<td>0.11</td>
</tr>
<tr>
<td>13. Roads and Streets</td>
<td>89.50</td>
<td>9.23</td>
<td>2.01</td>
</tr>
<tr>
<td>14. Vacant land (useable)</td>
<td>18.50</td>
<td>1.90</td>
<td>0.54</td>
</tr>
</tbody>
</table>

**Total Condition** 970.00 100.00 27.52

Source: S.A. Sikder, Urban Geography of Ankara.
ANKARA, CENTRAL AREA LAND USE

LEGEND

- Residential
- Shopping Centre
- Commercial
- Industrial
- Office (Govt.)
- Social, Cultural and Entertainment
- Maintenance
- Religious
- Recreational
- Vacant Land
- Water Bodies

SOURCE: S. A. SIKDER.
URBAN GEOGRAPHY OF ANKARA (P. 122) 1971.
RUNCORN NEW TOWN:

Runcorn is a British new town and located on the bank of the Mersey river about 14 miles from Liverpool. In Runcorn, most modern planning principle was applied by Arthur Ling. The land use principle is similar to that of Ankara. The area of Runcorn is 7,250 acres and planned for 100,000 people. The city centre is placed on the geographical centre and located on the newer part of the town. The residential area surrounds the city centre which is again surrounded by a green belt. Beyond that green belt, the industries have been located (Please see the Land Use Map).

The area of town centre is 36.50 and the per capita floor area is 16.90 sft. (Please see Table - 1B). The dominant land use is shopping which covers 9.80 acres of land. Shopping occupies 26.85 percent in the central area. The per capita floor area for shopping is 4.27 sft. The educational land use (including housing associated with it) occupies 8.35 acres accounting 22.87 percent. The per capita floor space for education is 4.27 sft. The professional and commercial land is 6.80 acres which accounts to 18.63 percent. The housing associated with the town centre population covers 0.20 acres, occupying 0.55 percent (Please see Map 10).

DACCA:

The land use characteristics of all city centres are more or less similar. But the functions and their intensities
<table>
<thead>
<tr>
<th>TYPES OF LAND USE</th>
<th>ACRES</th>
<th>PERCENTAGE</th>
<th>PER CAPITA IN SFT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>0.20</td>
<td>0.55</td>
<td>0.10</td>
</tr>
<tr>
<td>2. Shopping</td>
<td>9.80</td>
<td>26.85</td>
<td>4.27</td>
</tr>
<tr>
<td>3. Commercial and Professional</td>
<td>6.80</td>
<td>18.63</td>
<td>2.96</td>
</tr>
<tr>
<td>4. Wholesale and Warehouses</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Administrative</td>
<td>1.85</td>
<td>5.07</td>
<td>0.80</td>
</tr>
<tr>
<td>6. Social, Cultural and Entertainment</td>
<td>3.75</td>
<td>10.28</td>
<td>1.63</td>
</tr>
<tr>
<td>7. Service Industries</td>
<td>4.25</td>
<td>11.64</td>
<td>1.85</td>
</tr>
<tr>
<td>8. Religious</td>
<td>0.60</td>
<td>1.64</td>
<td>0.24</td>
</tr>
<tr>
<td>9. Educational</td>
<td>8.35</td>
<td>22.87</td>
<td>3.63</td>
</tr>
<tr>
<td>10. Recreational</td>
<td>0.80</td>
<td>2.20</td>
<td>0.35</td>
</tr>
<tr>
<td>11. Water</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12. Parking</td>
<td>0.10</td>
<td>0.27</td>
<td>0.05</td>
</tr>
<tr>
<td>13. Roads and Streets</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>14. Vacant Land (Useable)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL CONDITION</td>
<td>36.50</td>
<td>100.00</td>
<td>16.90</td>
</tr>
</tbody>
</table>

Source: Arthur Ling and Associates, Runcorn New Town (Data Calculated).
RUNCORN NEW TOWN
DIAGRAMMATIC MASTER PLAN

LEGEND

- RESIDENTIAL
- PROPOSED INDUSTRIES
- INDUSTRIES, AREA WITH SPECIAL CONTROL
- EXISTING INDUSTRIES
- T.C. (TOWN CENTRE)
- SECONDARY SCHOOLS
- EXPRESS WAY
- RAPID TRANSIT ROAD

SOURCE: RUNCORN NEW TOWN,
ARTHUR LING & ASSOCIATES
PAGE 21
1966.
differ according to the size of cities. There are controversies about the delimitation of C.B.D. of Dacca. As is known, the C.B.D. of any city performs the central functions in its regional setting. It means neither a geographical centre nor a local centre. For the present research, the central area of Dacca is supposed to be included the Motijheel Commercial Area with the shopping centre of Bangabandhu Avenue, Stadium and Baitul Mokaram.

The character of central area of Dacca is somewhat similar to those of Ankara and Runcorn. Dacca also has two commercial centres, the old one is at Sadar Ghat which includes the business streets of Potuatuji, Islampur, Bangla Bazar and Jhonson Road. The newer one is planned and located at Motijheel. "The Commercial areas of Dacca having unique characteristics differ from those of Western cities."\(^1\)

The population of Dacca as recorded in 1974 was 1.6 million. The central area covers 213 acres of land. The per capita land use in the central area is 5.35 sft. Shopping covers 14.40 acres which accounts to 6.76 percent. Motijheel being planned as a commercial area is almost devoid of retail stores and the commercial function of Dacca instead of concentrating in one organised space has been scattered in different parts of the city. The commercial and professional offices covers 11.95 percent of land (please see Table-16 and Map-11).

TABLE - 14
THE CENTRAL AREA LAND USE OF DACCA, 1977

<table>
<thead>
<tr>
<th>TYPES OF LAND USE</th>
<th>ACRES</th>
<th>PERCENT</th>
<th>PER CAPITA IN SFT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Shopping</td>
<td>14.40</td>
<td>6.76</td>
<td>0.35</td>
</tr>
<tr>
<td>3. Commercial and Professional</td>
<td>25.45</td>
<td>11.95</td>
<td>0.65</td>
</tr>
<tr>
<td>4. Wholesale and Warehouses</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Administrative</td>
<td>10.28</td>
<td>4.85</td>
<td>0.26</td>
</tr>
<tr>
<td>6. Social, Cultural and Entertainment</td>
<td>3.00</td>
<td>1.40</td>
<td>0.04</td>
</tr>
<tr>
<td>7. Service Industries</td>
<td>2.33</td>
<td>1.40</td>
<td>0.04</td>
</tr>
<tr>
<td>8. Religious</td>
<td>1.52</td>
<td>0.70</td>
<td>0.00</td>
</tr>
<tr>
<td>9. Educational</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. Recreational</td>
<td>27.80</td>
<td>13.05</td>
<td>0.72</td>
</tr>
<tr>
<td>11. Water Bodies</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12. Parking</td>
<td>1.40</td>
<td>0.65</td>
<td>0.00</td>
</tr>
<tr>
<td>13. Roads and Streets</td>
<td>70.52</td>
<td>33.10</td>
<td>1.83</td>
</tr>
<tr>
<td>14. Vacant Land (Useable)</td>
<td>56.30</td>
<td>26.45</td>
<td>1.46</td>
</tr>
</tbody>
</table>

| TOTAL CONDITION                  | 213.00 | 100.00  | 5.35              |

Source: Physical Survey.
The recreational land use is 13.05 percent which is not economic use of valuable land in a town centre. Roads use 79.52 acres of land which is equivalent to 33.10% and the per capita use is 1.85 sft. The provision of pedestrian walkways is not satisfactory in the area. Most of the roads are either free from one side or both. There is no valid reason for existence of such free road in any central core.

As the area is developing newly, there are useable vacant land in the central area of Dacca. The residential land use is absent in the central core.

To formulate an ideal land use for a town centre, a comparative study of the central area use is urgently needed. The acreage condition of land use will not be helpful to formulate the ideal condition, because acreage under different functions varies according to the size of the city. Therefore, to achieve the above objective, the percentage of land use and the per capita floor area use will be taken under consideration.

**LAND USE IN PERCENTAGE:**

The comparative study of land use in percentage wise will give us a generalised idea of requirement of land for different functions. The residential land use for town centre population is 23.74% in Ankara, 0.55 percent in Runcorn and that is absent in Dacca (Please see Table-1). Shopping is an important element of a town centre. Ankara
### TABLE - 15

**CENTRAL AREA LAND USES: PERCENTAGE-WISE**

<table>
<thead>
<tr>
<th>TYPE OF LAND USE</th>
<th>ANKARA</th>
<th>RUNCORN</th>
<th>DACCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>23.74</td>
<td>0.55</td>
<td></td>
</tr>
<tr>
<td>2. Shopping</td>
<td>12.84</td>
<td>26.85</td>
<td>6.76</td>
</tr>
<tr>
<td>3. Commercial and Professional</td>
<td>2.42</td>
<td>18.63</td>
<td>11.95</td>
</tr>
<tr>
<td>4. Wholesale and Warehouses</td>
<td>5.84</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5. Administrative</td>
<td>5.44</td>
<td>5.07</td>
<td>4.85</td>
</tr>
<tr>
<td>6. Social, Cultural and Entertainment</td>
<td>4.40</td>
<td>10.28</td>
<td>1.40</td>
</tr>
<tr>
<td>7. Service Industries</td>
<td>8.45</td>
<td>11.64</td>
<td>1.10</td>
</tr>
<tr>
<td>8. Religious</td>
<td>0.60</td>
<td>1.64</td>
<td>0.70</td>
</tr>
<tr>
<td>9. Educational</td>
<td>8.27</td>
<td>22.87</td>
<td>-</td>
</tr>
<tr>
<td>10. Recreational</td>
<td>16.15</td>
<td>2.20</td>
<td>13.05</td>
</tr>
<tr>
<td>11. Water Bodies</td>
<td>0.30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12. Parking</td>
<td>0.42</td>
<td>0.27</td>
<td>0.65</td>
</tr>
<tr>
<td>13. Roads and Streets</td>
<td>9.23</td>
<td>-</td>
<td>33.10</td>
</tr>
<tr>
<td>14. Vacant Land (Useable)</td>
<td>1.90</td>
<td>-</td>
<td>26.45</td>
</tr>
</tbody>
</table>

Source: Data calculated.
has 12.85% and Runcorn 26.85% under shopping use and Dacca has only 6.76%. The commercial and professional office land use in Dacca is normal and occupies 11.95%. The land under social, cultural, entertainment is only 1.40% in Dacca whereas those in Ankara 4.40 and in Runcorn 10.28 percent. The service industries is not satisfactory in the central area of Dacca and occupies only 1.10 percent. The land under religious use is not much remarkable. The land for car parking there is, but not organized.

From the above analysis, it can be concluded that in the central area of Dacca, residential and wholesale land use is absent and the land under shopping, social, cultural, entertainment and service industrial use is not sufficient.

PER CAPITA LAND USE:

Every community has unique characteristics which guide to formulate the basis for determining the central area land use of cities. The central area land use maintains a close relation with the population of cities. It is the restoration of balance between the open space for movement of people and enclosed space they occupy on which the health of the city development depends. Although the differences among the cities are recognized yet the per capita floor space can be calculated and shown as in the Table-18.

It is clear from the table that the land under residential use is highest in the central areas of several
<table>
<thead>
<tr>
<th>TYPE OF LAND USE</th>
<th>ANKARA</th>
<th>RUNCORN</th>
<th>DACCA</th>
<th>IDEAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Residential</td>
<td>6.68</td>
<td>0.10</td>
<td>-</td>
<td>132.00</td>
</tr>
<tr>
<td>2. Shopping</td>
<td>3.60</td>
<td>4.27</td>
<td>0.35</td>
<td>16.05</td>
</tr>
<tr>
<td>3. Commercial and Professional</td>
<td>0.68</td>
<td>2.96</td>
<td>0.65</td>
<td>0.99</td>
</tr>
<tr>
<td>4. Wholesale and Warehouses</td>
<td>1.64</td>
<td>-</td>
<td>-</td>
<td>4.04</td>
</tr>
<tr>
<td>5. Administrative</td>
<td>1.52</td>
<td>0.80</td>
<td>0.26</td>
<td>3.74</td>
</tr>
<tr>
<td>6. Social, Cultural &amp; Entertainment</td>
<td>1.24</td>
<td>1.63</td>
<td>0.04</td>
<td>-</td>
</tr>
<tr>
<td>7. Service Industries</td>
<td>2.33</td>
<td>1.85</td>
<td>0.04</td>
<td>-</td>
</tr>
<tr>
<td>8. Religious</td>
<td>0.17</td>
<td>0.26</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>9. Educational</td>
<td>2.33</td>
<td>3.63</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10. Recreational</td>
<td>4.54</td>
<td>0.35</td>
<td>0.35</td>
<td>0.99</td>
</tr>
<tr>
<td>11. Water Bodies</td>
<td>0.08</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>12. Parking</td>
<td>0.11</td>
<td>0.05</td>
<td>-</td>
<td>4.04</td>
</tr>
<tr>
<td>13. Roads and streets</td>
<td>2.01</td>
<td>-</td>
<td>1.83</td>
<td>-</td>
</tr>
<tr>
<td>14. Vacant Land (Useable)</td>
<td>0.54</td>
<td>-</td>
<td>1.46</td>
<td>-</td>
</tr>
</tbody>
</table>

| TOTAL CONDITION                  | 27.52  | 16.90   | 5.35  | -     |

Source: Data calculated. ¹

cities of the world which is absent in Dacca. The per capita floor space for shopping in Dacca is only 0.65 sft, which is 3.60 sft. in Ankara and 4.27 sft. in Runcorn.

The per capita floor space for social, cultural and entertainment is only 0.04 sft. in Dacca. The service industries also shows the same amount. Therefore, the per capita land use study reveals that the land use under residential and service industries is absent and shopping, social, cultural and entertainment are insufficient in the central core of Dacca. For the efficient functioning of the central core of Dacca, these functions should be provided either in the core area or near by. (Please see Table - 18).
CHAPTER IV

REVIEW OF URBAN RENEWAL PROGRAMMES
CHAPTER IV
REVIEW OF URBAN RENEWAL PROGRAMMES

Review of Urban Renewal Programmes of different cities has been selected to examine the nature of problems and their approach to the solution. The nature of problem cannot be the same in all cases and obviously the approach to the problems for their solution is different. In some case an urban area becomes physically distinct integral parts, where comprehensive urban renewal programme involves. Sometime the town centre becomes congested, then renewal and rehabilitation is undertaken to create a new environment. In many cases the idea of conservation is employed for slum improvement. Here illustrated example can be drawn from a study of the following towns and cities.

BOSTON:

Boston needed urban renewal of its water front C.B.D. and eight old residential neighbourhoods. Federal funds committed £ 120 million to Boston. Renewal was required because its two integral parts, became physically distinct. So, comprehensive programme became a need. The water front business area became dead due to loss of its ocean trade and existed as a market. Then the water front warehouses begun to be replaced by significant apartment houses. The West End neighbourhood occupied 41 acres of land in the central area of Boston. Its ...
population was 9,000 and lived in low rise and lowrent Italian tenament. They had been cleared completely with federal help, and high rise apartments were constructed there.

Boston had wide spread rapid transit system, but it was lacking a link with the new suburbs. The interior net work was also suffering from the lacking of links with each other. The state legislation was responsible for lacking in linkage. The Major Collins took over the charge of the Chamber of Commerce. Then a redevelopment plan was prepared at a cost of £ 200,000. New apartments were built for 2,200 families. With the help of merchants the town centre had been renewed and that removed the traffic congestion in the town centre. The problem of parking had been solved by creating a space for 6000 cars and enough garages. The neighbourhoods renewed on selective basis, replacing only the worst. The old residences has been rehabilitated. The technique of the renewal was slow and undramatic. Too many people simply refused to be rehabilitated. In that case the application of force was a dangerous weapon politically. So, out of 502 acres, only 150 acres had been cleared in Washington Park. As a result Boston took the program of garden apartment with 100 percent mortgages. Therefore, Boston favour the process of slow redevelopment by improving the transit road system and by placing the impressive structures.

RUNCORN NEW TOWN:

Replacing the town centre in a new area, the programme of renewal and rehabilitation was undertaken for old centre in Runcorn by Arthur Ling. Then a complete new environment was created by renewing the town centre. New bus stop and new market was constructed. Churches had been widened with new shops and new business premises built. The bridge approach road was cleared and used for parking and children's play space. The existing centre was reoriented, because it was the integral part of comprehensive development programme for the whole town. The old residents were rehabilitated in the newly constructed appartments around the district centre located in old part of the town which had been renewed and redeveloped (Please see Map-12 and 13).

LAHORE:

The renewal program of Lahore had based on Prof. Geddes' report. The idea of conservation employed usefully for slum improvement. To facilitate general understanding and to ensure an over all coherence of the study, illustrated example can be drawn from a case study of present day Lahore.

The area selected for this study is a portion of the walled city of Lahore including the Masjid Wazir Khan area. It is a place of pilgrimage and tourist. The area became a commercial slum mixed with outdated residences, the small shops the
RUNCORN NEW TOWN
THE PRESENT SITUATION

LAND USE IN THE EXISTING TOWN CENTRE

LEGEND

- COMMERCIAL AREA
- HOUSING
- INDUSTRY & DOCKS
- DERELICT BUILDINGS & UNUSED OPEN SPACES

SOURCE: RUNCORN NEW TOWN
ARThUR LING & ASSOCIATES
PAGE- 93. 1966
RUNCORN NEW TOWN
OUTLINE USE PLAN FOR THE RENEWAL AT EXISTING CENTRE.

LEGEND
- DISTRICT CENTRE
- COMPREHENSIVE RESI. DEV.
- INDUSTRY & DOCKS
- PUBLIC OPEN SPACE
- HOUSING REHABILITATION AREAS
- EXISTING HOUSING
- PRIMARY SCHOOLS

SOURCE: - RUNCORN NEW TOWN
ARTHUR LING & ASSOCIATES
PAGE - 95. 1966.
deteriorating structures and the congested narrow roads made the problem more acute. As a result, based on the report of Prof. Gedde, the area was renewed which involved the following process.

A new street was constructed connecting Chowk Purani Kotwali with Delhi Gate Bazar and this enabled the whole of Chowk Wazir Khan and the Bazar street along the north wall of mosque for pedestrian only. A number of trees planted in an informal arrangement to give shade during the hot summer months and various irregular overhead electric and telephone wires tidied up and re-aligned so as not to cross the chowk and disfigure the view of the mosque. This is an area ideally suited for an urban works project. The proposal envisaged and detailed on a plan which include the removal of all temporary, katcha and deteriorated structures; The restoration of all officially protected ancient monuments and the conservation of the Chowk Wazir Khan to its original form and size (Please see Map-14 and 15).

The above review shows that in the case of Boston renewal programme, the scheme was taken to clear the whole of outdated and deteriorated area and to redevelop. This programme in Boston could not come out successfully, even spending a lot of money by the Federal fund. As a result Boston took the program of gradual redevelopment and program of garden apartments.
PLAN A EXISTING CONDITIONS

- PUCCA BUILDINGS
- VACANT LAND
- TEMPORARY AND DILAPIDATED BUILDINGS
- PROTECTED MONUMENTS
- RELIGIOUS BUILDINGS

CHOWK PURANI KOTWALI


GOVT. OF PAKISTAN
PLAN B. PROPOSED IMPROVEMENTS.

- NEW BUILDING SITES
  - COMMERCIAL
  - RESIDENTIAL
- PROTECTED MONUMENTS
- RELIGIOUS BUILDINGS
- SUGGESTED NEW STREET ALIGNMENT
- TREE PLANTING
- PUCCA BUILDING RETAINED

- CHOWK PURANI KOTWALI
- BAZAR STREET
- NEW STREET
- CHOWK WAZIR KHAN
- NORTH
- WELL
- TCL
- TOMB
- BAZAAR DELHI GATE
- CHHITA GATE

SOURCE: URBAN IMPROVEMENTS
A STRATEGY FOR URBAN WORKS
GOVT. OF PAKISTAN 1965
The scheme for Runcorn New Town was different from that of Boston. The scheme for Runcorn was to rebuild the outdated area and to rehabilitate the old residents in the same area. This was a successful one.

In the case of Lahore the programme included mainly conservation and rehabilitation of the old residents. The work was done according to the report of Prof. Gedde. Without disturbing the existing ownership pattern, it was a successful programme.

The experience in the above analysis is much useful for the renewal programme of Fakirapool-Arambagh. As a result, the programme of conservation, rehabilitation and redevelopment should be considered for the renewal of the above study area. The up-to-date structures should be preserved. It should also include the conservation of religious structures. Improvement programme should be taken for some valuable building. Rehabilitation of old residents should surely to be considered. Clearance and rebuilding will include the slums and deteriorated areas. These can be replaced by multi-storied apartments.
CHAPTER V

INVESTIGATION OF DESIRABLE LAND USE FOR THE AREA OF FAKIRAPPOOL-ARAMBAGH
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INVESTIGATION OF DESIRABLE LAND USE FOR THE AREA OF FAKIRAPOOL-ARAMBAGH

The studies, reviews, investigations and the analysis reveals that in the central core or Dacca, the residential and the service industrial land use are absent & the land under shopping and the social, cultural and entertainment are insufficient. The central area land use analysis also reveals that there is 56.29 acres of useable vacant land in the said area. So, it can be thought that the land use problem of shopping, social, cultural and entertainment will be partly possible to solve within the area. But the remaining problem that is the residential problem of the people associated with the town centre population can partly be solved by redeveloping the area of Fakirapool-Arambagh and creating residential facilities and environment therein.

Now, the question arises whether the area of Fakirapool-Arambagh as residential redevelopment is physically competitive, economically feasible and socially desirable? Let it now test in the light of planning theories and concepts and to find out the appropriate land use for the said area.

The land use proposal for the area of Fakirapool-Arambagh will be discussed in the light of the work which has particular significance for theory in urban structure.
The economic explanation of the urban land use pattern involves considerations of the structure and functioning of the urban economy of the region and the nation. Both regional and localized forces interact to shape the urban land use pattern, or more socially, that external forces affecting the makeup and vitality of the economy act upon internally focused processes of the urban land market to determine the location of urban functions on the land.¹

The land economist views land use in terms of economic theory. The market value of land varies, other sites within one particular type of area. Thus, however, intensity of space use rapidly falls off as the less accessible area and varies inversely with the distance from the centre of the city.

Apart from the economic theory noted, three explanations have been advanced: one known as the concentric zone concept, a second referred to as the sector concept, and the third, the multiple nuclei concept.

Early land economists frequently used Burgess' conventionalized diagram to explain the composite effect of market forces upon land use arrangements.² Burgess conceived the city

¹ Chapin, Jr. F.S. Urban Land Use Planning, Chapter I, Land use perspective. p.7.


Chapin, Jr. F.S. Urban Land Use Planning. p. 16.
as a series of five concentric zones. At the core is his "Loop" district with its shopping areas, its theater district, its hotels, its office buildings, its banking houses, and other business which seeks a central location. The next zone are the city's commercial functions. Here the market district and other wholesale district and warehouse areas are located which are absent in the central core of Dacca. His second zone is the area which has been termed "the zone of transition". Here the residential area commence. In some sections such structures may have been subplanted by large "apartment houses." In others the old structures may be still standing. Often other sections of the zone, contain residential slum areas. According to this concept Fakirapool-Arambagh will be either in the light industry district or in the zone of transition. It is also evident from the land use and socio-economic survey that the area is a low-class residential mixed with slums and blighted structures.

However Hoyt's well-known study leads to a theoretical explanation of residential land uses in terms of wedge-shaped sectors radial to the city's centre along established lines of transportation. This theory holds that the different income group classes of a city tend to be found in distinct areas describable in terms of sectors of a circle centred on the C.B.D. The high-price residential areas can be identified
in particular sectors, "and there is a gradation of rentals downward from the high rental areas in all directions. Low-rent areas occupy other entire sectors of the city from the centre to the periphery." Viewed in the context of change, the theory holds that similar types of use originating near the centre of the city tend to migrate within the same sector and away from the centre. In respect of sector concept the area of Fakirapool-Arambagh will fall either in wholesale and light manufacturing or in low-class residential areas.

The multiple nuclei concept first suggested by McKenzie and later developed by Harris and Ullman in 1945. The function of each nucleus vary from one metropolitan area to another. The C.B.D. clearly serves as one nucleus. The theory perceives city growth around multiple, rather than single centre. Nuclei are distinguished by concentration of activities. The central business district specializes in general functions dealing with business. Other nuclei may be industrial, wholesale, educational or other specialized functions.

1 Homer, H. The Structure and Growth of Residential Neighbourhoods in American Cities, Washington, Federal Housing Administration, 1939, p. 76.

CONCENTRIC ZONE CONCEPT

1. CENTRAL BUSINESS DISTRICT.
2. ZONE OF TRANSITION.
3. ZONE OF WORKINGMEN'S HOMES.
4. ZONE OF BETTER RESIDENCES.
5. COMMUTER'S ZONE.

SECTOR CONCEPT

1. CENTRAL BUSINESS DISTRICT.
2. WHOLESALE & LIGHT MANUFACTURING.
3. LOW-CLASS RESIDENTIAL.
4. MEDIUM-CLASS RESIDENTIAL.
5. HIGH-CLASS RESIDENTIAL.

MULTIPLE NUCLEI CONCEPT

1. OUTLYING BUSINESS DISTRICT
2. RESIDENTIAL SUBURB.
3. INDUSTRIAL SUBURB.
4. HEAVY MANUFACTURING.

SOURCE: MAYER, H.M. & KHON, G.T.
READINGS IN URBAN GEOGRAPHY
CHICAGO, 1959, PP. 277-278.
The Motijheel Commercial Area is functioning as a nucleus (C.B.D.) of Dacca. Therefore, according to the multiple nuclei theory, the land use of Fakirapool-Arambagh should be either wholesale and light manufacturing or low-class residential or medium class residential. In Dacca, light industries have been planned and located at Tejgaon.

The area of Fakirapool-Arambagh is mainly developed as a low-class residential area mixed with medium class residences and commercial slums. According to the land use planning theories and concepts, the land use of Fakirapool-Arambagh ought to be either low-class residential or wholesale and light manufacturing. The sociologist usually views the city partly in the context of urban ecology with its concern for the physical, spatial and material aspect of urban life and partly in the context of social structure in the city. Socially rooted factors of land use thus can be explained in terms of "ecological process."

The processes were first identified in a systematic fashion as a part of the concentric zone conceptualization of the city. Thus the central core of Dacca is obviously one centre of dominance, and the gradient of its influence over the area of Fakirapool-Arambagh can be describable in concentric zone. The clustering or segregation process, as manifest for example, in the way used-car and automotive service centres,

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1 Chapin, Jr. F.S. Urban Land Use Planning, Chapter 1, Land Use Perspective. pp. 21-22.
wholesale district or light-house-keeping apartment areas of single persons or working couples development in Fakirapool-Arambagh will be suitable as explained in this concept.

The sector theory explain the distribution of residential areas is also adoptable to describing these process. For example, such process are seen in the presumed controlling position of high value areas, in the downward gradients noted in the adjoining sectors, and in the clustering of uses of like character and intensity of development within certain segments. The land use of the study area is residential and is surrounded from three side by residential land use. Therefore, according to the sector concept of socially rooted determinants the character and intensity of development should be residential in this segments of the pattern.

The multiple nuclei concept is particularly graphic for describing dominance and sub-dominance within the urban centre and is adaptable to explain each of the other related processes.

The gradient extends from a point of greatest intensity or incidence to an areas of low intensity. The segregation process identifies distinct prestige areas, is land of slums, areas of high incidence of disease, and so on.

The central core of Dacca has a dominant character of C.B.D., but the gradient of intensity to Fakirapool-Arambagh
could not move due to the physical barrier of the lake, and the congestion of the area. The structure of the area is also quite unsuitable for commercial purposes. The real character of the study area is sub-dominant residential, s
gredient that is flow of intensity could not be started. The segregation process identifies that the area of Fakirapool-
Arambagh is the island of blight and slums and area of high incidence of disease and so on (investigation and observation).

The implication of these processes for land use planning have never been explored. The urban ecologist has identified them in a descriptive "what is" or "what has been" context. In this respect the study area has to be either a wholesale and light manufacturing or low-class residential. But due to the continuous effect surrounding forces acting upon the area, it has become residential cum commercial.

The city planner must also review land use in the context of "the health, safety and general welfare" -- what is termed here the public interest.

The public interest is used in law to refer to what the courts will sanction as a public purpose, whether under the police power, the power of eminent domain or the power of taxation. In land use planning the purpose usually identified with public interest are five: health, safety, convenience, economy and amenity.
Health and safety should be improved by planning and building it into the physical environment. But the investigation and analysis reveals that though the area of Fakirapool-Arambagh lies near the heart of Dacca City no adequate measure has yet been taken. Out of 1500 families only 300 families can use municipal drum to dispose their waste and only 800 families have pucca drainage inside their house. The attitude survey also reveals that the majority of people wants adequate health and safety in the area. So, to create an adequate environment there is, the area's health and safety should be taken in consideration.

Convenience has given judicial sanction as a basis for regulating the traffic using streets and highways. It is a derivative of the locational arrangements of land use and the relationship that each functional use area bears to every other one. Thus convenience can be justified in terms of home-to-works, work-to-recreation, home-to-shopping, and a variety of other relationship - intrinsic to the urban land use pattern.

The investigation and analysis reveals that the maximum distance home-to-primary school is 900 yards. According to the Master Plan for Dacca the desirable distance is one third to half a mile walking distance. The shopping-to-home distance is almost same. The home-to-rickshaw stand for 190 homes is
about quarter mile and is not convenient. The maximum distance home-to-main road is about one third of a mile which is most undesirable and so in the case of bus stop-to-home distance. The maximum distance home-to-work is more than two miles. So, we can say that in respect of convenience the present situation cannot be justified.

Economy as public interest means control of land development, "economy" is a term associated with efficiency in the land use pattern. As an element of public interest economy is associated with convenience as discussed before.

Amenity refers to the pleasantness of the urban environment as a place in which to live, work and spend one's leisure time. At present there is nothing in regards of amenity in Fakirapool-Arambagh Area.

In conclusion we can say that the area of Fakirapool-Arambagh should be redeveloped as residential neighbourhoods and the service industries and shopping facilities should be provided there in.

Let us now discuss the present land use of the study area in detail. Though the area less just on the north of the Motijheel Commercial area yet the dominant land use of the area

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is residential mixed with some commercial and other structures. Most of the structures of the area are temporary and substandard (707). We know from the investigation and analysis that the value of per bigha land in the study area is Tk. 4,72,000 whereas the land value is much higher and is Tk. 16,00,000 per bigha in the Motijheel Commercial area-(1)

The investigation and analysis of the site reveals that Fakirapool-Arambagh area is a strong hold of residential land use. The residential land use alone covers 49 acres of land, accounting for 74.20 percent of the total area. Other ancillary land uses such as shopping, service industries, educational, religious and entertainment together cover 6.25 acres only. These ancillary land uses specially the shopping and service industries serves not only the Fakirapool-Arambagh area but also the surrounding residential areas e.g. A.G. Colony, Bangladesh Bank Colony, T & T Colony, and the Purana Paltan area. These surrounding residential areas do not have shopping and service industrial land uses which are essentially required to serve those areas. So, the existing land use is more or less in a balance with the surrounding land uses.

Fakirapool-Arambagh area is surrounded by residential land use from three sides and by the commercial area from the south-west side. If the present residential character of Fakirapool-Arambagh is changed to commercial and light industrial land use, it will affect adversely on the surrounding

residential environment, moreover it may destroy the balance of the whole area.

From the investigation and analysis of the site, it is also evident that more than 50 percent (803) structures are pucca, structurally sound and have life of 1050 structures within 20 years. The pucca structures are scattered all over the area (please see Map-3). The study of the historical background of the site reveals that the area is not very old (50 years) and rather a new development. Hence most of the pucca structures are new. So it will not be economically viable to demolish the existing pucca structures and they should be preserved and rehabilitated if required to make them present day stand and of living (please see Map-5). Most of the pucca structures are being used for residential purpose. So, the construction of new multi-storied commercial buildings by the site of the existing residential buildings will not be functionally compatible and architecturally sympathetic. If new structures has to come by the side of existing residential building, that ought to be residential by character. Otherwise the environmental quality of the area will be destroyed and the area will become an admixture of incompatible land uses.

The physical survey also reveals that the area is horizontally compact (please see Map-2), but it is not vertically compact, there is room for vertical expansion. The
number of more than one storied buildings is only 277. It is also evident from the sky-line curve of Dacca City that the vertical height of Fakirapool-Arambagh is much below the normal slope of the curve. It is also evident from the nature of the curve that the area of Fakirapool-Arambagh should have 5 to 7 storied buildings. If the area is redeveloped up to a desirable standard then more people can be accommodated there in by the construction of multistoried apartment houses and dormitories for single person or couples who work in the area nearby.

The 1958 D.I.T. Master Plan has proposed the area to be developed as a residential. The Master Plan also proposed that the lake and the adjacent area will be developed as commercial area (please see Map-17).

Dacca, being the capital of Bangladesh after liberation in 1971, is expanding very rapidly. In 1961 the population of Dacca was 556,712 but in 1974 it has become 1,679,572. Both the population increase, and the physical expansion and growth of Dacca City demands that the central commercial (C.B.D.) function of Dacca City should be decentralized to 2 or 3 centres, instead of concentrating only in one centre. This idea now is going to be realized and a commercial centre now is under construction at Kowran Bazar. Therefore, further concentration of commercial activities by the expansion of the
LAND USE MAP OF CENTRAL AREA WITH SURROUNDINGS AS SHOWN IN THE MASTER PLAN.

LEGEND
- COMMERCIAL
- GOVERNMENT CENTRE
- PUBLIC BUILDINGS
- HOUSING & ANCILLARY USES
- OPEN SPACE

C.B. ZONE
EDUCATION

SOURCE: DACCA
Motijheel Commercial Area, specially on the Fakirapool-Arambagh area may give rise to undue and unjustified concentration and centrality, and may create congestion specially of traffic and other activities.

Therefore, the area of Fakirapool-Arambagh should be redeveloped as residential area giving a little land for commerce along the north-south road. The lake will be filled up and used as the proposal discussed above.
CHAPTER VI

LAND USE PROPOSAL FOR FAKIRAPOOL-ARAMBAGH AREA
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LAND USE PROPOSAL FOR FAKIRAPOOL-ARAMBAGH AREA.

The economic, social and public interest determinants of land use lead us to believe that the area of Fakirapool-Arambagh should be developed as a high density residential neighbourhood with some commercial development and service industries.

The existing gross density of population of Fakirapool-Arambagh area is around 200 persons per acre which has been considered a desirable population of the central area neighbourhoods of Dacca city in the Master Plan Report. Although there is sufficient density yet due to unplanned and spontaneous growth of the area, almost all neighbourhood facilities are lacking.

The area of Fakirapool-Arambagh lies just on the north of the central core of Dacca. But the land value in the study area is much lower than that in the central core. It may, therefore, be said that the land use in the study area, in terms of economy is not optimum. In redeveloping towns and cities neighbourhoods of high densities are often aimed at. But high densities may not necessarily mean that all should live in high-rise flats. Planned approach permits provision of park space and other neighbourhood social facilities with densities 300 persons per acre. The study
area being redeveloped in close proximity of the central area of the city may be with some multi-storied dormitories in the existing lake area provided the soil conditions permit. It may also be possible to fill up the lake and to construct multi-storied flats for small families which will add to the vitality of the centre. If the above provision is provided the transportation cost will be curtailed for those who work in the central core. The pockets of slums in the study area will be cleared on selective basis and low-cost flats will be constructed in those places. Such buildings as may be preserved for reasons of economy will be rehabilitated. Thus the proposal to redevelop the area as a high density neighbourhood is a workable proposition.

Assuming that after redevelopment the gross population density of the area will be 300 persons per acre, the study area will thus provide accommodation facilities for 20,000 persons approximately. For a neighbourhood of 20,000 inhabitants the following neighbourhood elements will be required:

**Educational Facilities:**

The number of elementary school required to serve any neighbourhood has a very close relation with its population. It is a key to the measurement of a community, even the grade of schools differs from community to community. In Bangladesh the elementary school is called a primary school (I-V). The primary school age group of the children is 6-10
years which constitutes 12.5 percent of population. The average enrollment capacity of a primary school is 200 pupils.

The projected population of Fakirapool-Arambagh is 20,000. So, the children of primary school going age will be \((12.5 \times 20,000 = 2,500)\) 2,500. If full enrollment is expected then 12 primary schools will be needed in Fakirapool-Arambagh area. In western communities, most communities favour elementary schools with an enrollment capacity ranging between 600 and 800 pupils in the first six grades. A neighbourhood capable of supporting such a school usually has a population between 1,500 and 1,700 families, or between 5,000 and 6,000 people.

Fakirapool-Arambagh lies just on the north of the C.B. D. of Dacca. Obviously, the area is fully urbanized. In such a high density neighbourhood enrollment capacity of a primary school should be 500 pupils. From the above it would appear that at least \((2,500/500 = 5)\) five primary schools are needed in the Fakirapool-Arambagh area.

The location of primary schools is governed by another factor that is, the distance to be covered by the students, normally specified as \(\frac{1}{4}\) mile or 2 furlongs. So, the present neighbourhood will be divided into five community groups, so that one primary school can be placed at each centre of convenience.
The land requirement of a primary school varies from a community to community, depending upon the local factors and physical conditions of the area. In western community one elementary school requires 5 acres of land. In the D.I.T. master plan it has been suggested as 3 acres. But in practice it is rarely identifiable in Bangladesh that a primary school uses even an acre of land. Over and above, the area of Fakirapool-Arambagh, being adjacent to the heart of the city, its land value is high. Therefore, at best only one acre of land can be allocated for each primary school. Five primary schools will therefore, require five acres of land.

In Bangladesh, the secondary school (VI-X) age group is 11 to 15 years, which constitutes 9% of the population. The average enrollment capacity of a secondary school is 500 pupils. In Fakirapool-Arambagh, the number of expected youths of 11 to 15 years age group will be \((\frac{9}{100} \times 20,000 = 1,800)\) 1,800. In western countries, at least two neighbourhoods of 5000 to 6000 population require a secondary school and enrolls 1200 to 1500 students. In the D.I.T. master plan one secondary school for 15000 population has been proposed. So, considering the location of the area and its land value, it can be thought that one secondary school will be able to serve the area.
According to the western standard, the land requirement for a secondary school is 10 to 15 acres. In the D.I. T. master plan 10 acres of land for a secondary school with playing ground has been proposed. But for the area of Fakirapool-Arambagh, it is unworkable to allocate 10 acres of land for a secondary school. Roughly 3 acres of land may be suffice for a secondary school with a playing ground in this case.

The location of a secondary school should be within three-quarters to one mile. If the secondary school is sited centrally then no residence will be more than the standard walking distance. The location of the present secondary school is right in respect of distance. The present school with its two storied building covers only 0.44 acres of land and its enrollment capacity is 300 to 350 pupils only. So, it needs expansion. But it will be very difficult to expand the secondary school in its present site, because the school is surrounded by pacca structures of one and two stories. It should be removed a little toward the east on the opposite side of the existing road where required space can be created easily by clearing the sub-standard and temporary structures.

Therefore, the total land requirement for educational facilities in Fakirapool-Arambagh area is (5+3=8) 8 acres which accounts 12.12 percent of the total available land.
Open Space:

Planned small parts and recreation space are essential element of a neighbourhood which should be accessible to all residents. Such parks and play grounds are totally absent in Fakirapool-Arambagh area.

The open space standards vary from country to country and community to community depending upon the local needs, cost and availability of land. The British standard for open space is 10 acres per 1000 population. The open space standard for Singapore is 2.5 acres per 1000 population. It has been proposed in the D.I.T. master plan that there should be provision of open space of 4 acres per 1000 population. Of this, 2 acres would be in the form of parks and 2 acres would comprise neighbourhood open spaces, mostly for playing fields.

Now, it is interesting to note that if British standard is applied, 200 acres of land will have to be provided as open space for a projected population of 20,000 whereas gross area available is only 66 acres. Such standards are, therefore, not applicable in a land scarcity zone like ours. Even the standard suggested in the D.I.T. Master Plan will require \( \frac{2 \times 20,000}{1000} = 40 \) acres of land to create the open space in the neighbourhood. But the theory put forward by Clereance Perry states that, a system of small parks and recreational spaces should be planned to meet the needs of neighbourhood residents and should be located at suitable sites which will cover 10% of land. Now, according to this theory it is possible to allocate 10% of land for small
parks and recreational spaces which amounts to 6.60 acres of land. These 6.60 acres of land can be distributed at suitable sites. It can be assumed that the better site will be adjacent to the schools - where it will perform the function of open space as well as the function of buffer zone to the schools. So, the land for open space will be distributed as one acre for each primary school and 1.6 acres for the secondary school. The incidental open spaces will perform the functions of play lots. No such land can be allocated separately for the creation of play-lots etc.

**Religious Facilities:**

In Dacca, mosque is an important element of planning and must be located at suitable places. There are three mosques in Fakirapool-Arambagh covering together only 0.20 acres of land. These mosques must be rehabilitated and redeveloped at their respective places upto general standard and requirement.

These mosques will be used for daily prayers as well as Juma prayers. Supposing that at least one person from each family will attend the mosque for Juma prayer, then there should be accommodation for \(\frac{20,000}{6} = 3,333\) persons in three mosques. Each mosque should have the capacity for 1,111 persons. Assuming that 9 sqft. spaces is required per person, each mosque will require 9,999 sqft. As these mosque are likely to be used during Eid prayers, each one should have an open yard. Assuming that during Eid
prayers, two more persons from each family will attend the prayer. Area of the open yard will be double the space of the mosque. So, the total area of each mosque will be \((9,999 \times 3) = 29,997\) sq ft. Then the three mosques together will require \(89,991\) sq ft. that is 2.00 acres which will occupy 3.00% of the total land.

All these three mosques are on the main neighbourhood roads and can not be removed from their existing locations. Suggestion, is, therefore, put forward that these mosques will be rehabilitated and redeveloped at their respective places.

**Commercial Land Use:**

**Neighbourhood Centre and Sub-centres:** In neighbourhood planning provision of centralised shopping and recreation facilities gives rise to creation of centres and sub-centres on the basis of area and population to be served. Relationships between number of shops and population has not so far been established in Bangladesh on the basis of any empirical research. But in western countries, one shop is planned to serve around 100 persons. In Pakistan surveys were conducted to find out such relationship in connection with the planning of Korangi (Karachi) and Islamabad, where it was found that one shop is required for every 70 to 100 population depending upon the circumstances. Actually these shops do not exist in one specified area. These are distributed at different community levels.
such as from corner shop to posh marketing centre. For our convenience, it can be assumed that in Fakirapool-Arambagh one shop for every 100 persons may be provided. Accordingly, Fakirapool-Arambagh will require \( \frac{20,000}{100} = 200 \) shops. In addition, it can also be assumed that one laundry, one barber salon, one medicine shop and one tea house will serve 1,000 population. The study area will thus require \( \frac{4}{1,000} \times 20,000 = 80 \) more shops. Then the total number of shops required by Fakirapool-Arambagh are \( 200 + 80 = 280 \) in number.

The spot investigation and the analysis of survey data reveal that in Fakirapool-Arambagh, there are 260 shops of different categories which serve the local people only. These shops are found located on both sides of the inner roads (Pl. see Map No. 2). In this circumstance, neither one special organized neighbourhood centre aggregating these shops is workable nor it will be feasible to relocate them after demolishing the existing pucca structures. The existing pattern of distribution of shops in the area, though spontaneously developed may, therefore, be suggested to remain undisturbed.

The investigation and analysis also reveal that the average area of a existing shop is 265 sft. in Fakirapool-Arambagh. The area of a neighbourhood shop varies from 1,200 to 1,750 sft. in western countries and that has been assumed as 800 sft. in Bangladesh. But the existing land use study & analysis lead us to believe that a shop
having area of 400 sft. would be functionally compatible in the area. According to the above proposal the area of Fakirapool-Arambagh will require \(280 \times 400 = 112,000\text{sft}\) 2.50 acres of land for neighbourhood shopping purposes.

The Super-Market:- In Fakirapool-Arambagh, there is a super-market which covers 1.5 acres of land. This market serves the study area as well as the surrounding neighbourhoods like T.& T. Colony, Bangladesh Bank Colony and Naya Paltan. The location of the market is central in respect of its service area and the distance of the Kama-la-pur Railway Station is only 2/3rd of a mile. It may therefore, be assumed that the market can better function as a wholesale centre for merchandise like rice, vegetables, fish and other agricultural commodities of daily needs, which are carried by rail from many parts of the country.

This market in its present condition is overcrowded, congested and almost unhygienic. More space should be given for diversification and redevelopment of this important centre which will function as an economic nerve centre of the community. Two and half acres of land may suffice for such redevelopment.

Road-Side Shopping:- There are 240 shops along the Fakirapool road and the Toyanbee circular roads. These shops cover 2.50 acres of land. Among these, the number of service shops are 75, commercial and professional offices.
are 5 and tea houses cum restaurants are 10, and the rest are groceries, stores selling medicine, electrical goods and the luxury items.

From the very foundation of the city of Dacca, till today, the areas of Sadarghat, Islampur and Chawk-bazar have been performing the function of wholesale markets. When the city was smaller and Phulbaria (old Railway Station) was the railway station, it was easy to reach those centres. But today, due to traffic congestions and shiftment of the railway station from Phulbaria to Kamlapur, it has become very difficult and costly to reach those wholesale centres for the people who come by rail. In these circumstances, it may be assumed that the roadside shops of Fakirapool-Arambagh can better perform the functions of wholeselling of electrical goods, medicine, stationary goods and other finished products. If the area is redeveloped as proposed, this will help to curtail both the transportation and time cost of those customers. It will also remove partly the traffic congestion in the older part of the city. The investigation and analysis reveal that the Motijheel Commercial Area does not have the function of whole-sellling and service industries. If the area is redeveloped as proposed, it will also partly fulfil those lacking functions. Such a type of redevelopment will surely provide employment opportunity for the
local people and economic revitalization to the area. It can be assumed that 3.00 acres of land will be sufficient for such redevelopment.

**Community Facilities:**

Community Centre:— Normally a community of 400 families or 2,500 persons requires a community centres. According to this standard, the area of Fakirapool-Arambagh needs eight such community centres. It will not be feasible to locate eight community centres in this small area of 66 acres of land. It may, therefore, be said that the importance of a community centre in our society is not the same as that in the western society. It can be assumed that one community centre will be able to serve the population of the area. According to Bangladesh standard, the space requirement of a community centre has been assumed as 10,000 sft. But it can be assumed that a community centre of 7,500 sft. can provide necessary facilities. The community centre will be located at a central place.

Health Centre:— For Bangladesh, it has been assumed that one health centre can serve 400 families or 2,500 persons. According to this standard the study area requires eight health centres. At present, the ratio of doctor and population is 1:10,715. In Bangladesh, there is one hospital bed for 6,250 population and that in the U.K. for 100 population. It may, therefore, be said that the above mentioned standard can not be adopted here. It can
be assumed that one health centre having 2 doctors and 4 or 5 nurses with 3 or 4 hospital beds can serve the area.

For Bangladesh, a standard space of 20,000 sft. has been adopted for a health centre. Due to scarcity of land, such big health centre can not be suggested. At best 7,500 sft. can be allocated for a health centre and will be located at a central place.

Post Office: - In the U.K. one post office serves 2,000 population, that in India serves 4,300 and in Pakistan 5,800 population. In Bangladesh one post office currently serves 12,000 population. But for Bangladesh it has been assumed that one post office will eventually serve 2,500 persons. According to this standard the study area requires eight post offices which may not be workable under the present system. If on the other hand, one post office with good telephone and telegraph services is established, this will be able to serve the study area efficiently.

In Bangladesh, 2,500 sft. of space has been assumed for a post office. The post office will be located at a place of convenience.

Police Station: - For the security of 20,000 people of Fakirapool-Arambagh, a centrally located police outpost is needed. The space requirement for a neighbourhood
police station has been suggested as 30,000 sft. But it can be assumed that such a big police station can not be proposed for the study area. A police out-post covering 5,500 sft. will be enough.

**Petrol Pump and Car Parking:** A petrol pump station is an essential element of a neighbourhood. It should be located at a place of convenience. For a petrol pump, normally 20,000 sft. of space is needed. Considering the shortage of space and character of traffic in the area it can be assumed that 7,500 sft. will do the needful. In respect of car parking no separate land can be allocated. The roadside parking is suggested hereby.

**Roads and Streets:**

The area of Fakirapool-Arambagh is connected and served from three sides by major arterial roads namely, the Fakirapool-road and the Toyanbe circular road. The internal street network should be designed to facilitate circulation within the neighbourhood. The pedestrian road network will be given importance so that school going children may not have to cross any vehicular road. By careful planning through traffic will be discouraged.

The width of roads, and streets will be 40 feet and 20 feet respectively. The existing inner roads cover 5 acres of land, accounting for 7.60 percent of total land. For a residential neighbourhood, the standard of road coverage is 18 to 21 percent. It can be assumed that 15% of the land if used for roads and streets will be enough.
for inside circulation, which will cover 9.9 acres of land.

**TABLE - 17**

PROPOSED LAND USE TABLE OF FAKIRAPOOL-ARAMBAGH

<table>
<thead>
<tr>
<th>Elements</th>
<th>Area in acres</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Residential</td>
<td>30.50</td>
<td>46.22</td>
</tr>
<tr>
<td>Educational</td>
<td>8.00</td>
<td>12.12</td>
</tr>
<tr>
<td>Open Space</td>
<td>6.60</td>
<td>10.00</td>
</tr>
<tr>
<td>Religious</td>
<td>2.00</td>
<td>3.03</td>
</tr>
<tr>
<td>Commercial</td>
<td>8.00</td>
<td>12.12</td>
</tr>
<tr>
<td>Community Facilities</td>
<td>1.00</td>
<td>1.51</td>
</tr>
<tr>
<td>Roads &amp; Streets</td>
<td>9.90</td>
<td>15.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66.00</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

Community facilities that will be needed to serve the 20,000 persons in Fakirapool-Arambagh area have been discussed above. It has been estimated that about 35.50 acres of land shall have to be allocated to provide those facilities in the area. Now, 30.50 acres of land is left for residential use which amounts to 46.22 percent in the available land. Obviously, the area shall have to be redeveloped as high density area. The net density of the area will be 650 person per acre. It may, therefore, be suggested to construct multistory apartment houses to accommodate
LAND USE PROPOSAL FOR FAKIRAPOOL-ARAMBAGH AREA

LEGEND
- RESIDENTIAL
- COMMERCIAL
- EDUCATIONAL
- COMMUNITY FACILITIES
- OPEN SPACE
- RELIGIOUS
- PETROL PUMP
- POLICE OUT-POST.
the projected population. For a central area neighbourhood, the net density may be 750 per acre which is desirable. The net density of similar neighbourhood is 700 persons per acres in Bangkok and is 500 person per acre in Cuttack.

The present investigation and analysis has revealed that the neighbourhood of Fakirapool-Arambagh is slowly turning into a blighted area losing its economic vitality. Roads and streets have become congested, housing overcrowded and the community in general socially undesirable to live in. The area is also lacking of service facilities. There is no open space to breathe. Moreover, the polluted water of the stagnant lake is spoiling the health of the neighbourhood.

It may, therefore, be assumed that if the area is redeveloped on the lines suggested above, it will help to regain its economic vitality. The suggested educational, community and recreational facilities will help create a livable environment. If the roads and streets are improved and widened traffic congestion in the area will be removed. Redevelopment of the commercial activities through diversification and introduction of whole-sale trading in selected commodities will add to the neighbourhoods economic strength. Planned provision of socio-cultural and physical facilities will ensure better quality of life for the residents of this neighbourhood.
CHAPTER VII

URAL RENEWAL POLICY FOR FAKIRAPUOL-ARAMBAUGH AREA
Although a few piece meal effort on urban renewal has been attempted by D.I.T. and the Dacca Municipality in different parts of the city, no comprehensive urban renewal programme has yet been undertaken by any one in Bangladesh. Consequently, no urban renewal policy has so far been developed.

Urban renewal is a process and a method whereby a great variety of objectives - social, economic and physical can be achieved. In the social front major objectives of any renewal or redevelopment programme are usually the following:

i) greater social cohesion;

ii) better community feeling and participation;

iii) adaptation of traditional life to modern ways of living;

iv) wider social mix inclusive of all income and cultural groups of people.

The major economic objectives are:

i) optimisation of land use consistent with land-value structure;

ii) diversification of economic activities;

iii) creation of opportunities for public and private investment and thereby enlargement of employment and income;
iv) promotion of productive efficiency through better working and living environment.

The physical and environmental objectives are:

i) upgrading the basic services like water supply, sanitation, electricity, gas etc.

ii) provision of better housing;

iii) creation of public open spaces including parks and playgrounds;

iv) improvement of traffic circulation through better road networks, parking places, garages etc.

v) creation of wooded parks or lakes as recreational spots.

To achieve some of the objectives mentioned above systematic application of all Government powers becomes essential. The statutes or laws that govern such use of Government powers for assembling land, partial clearance of the renewal or redevelopment area, relocation of people and activities, relaying the services etc. must be enacted before such schemes are taken in hand.

Choice of the particular area in the city to be designated as a renewal or redevelopment zone is guided by a host of consideration usually defined in the law. Such considerations are:

i) that any area in any city is economically rundown and physically decayed;
ii) that the structures in the area are dangerous or injurious to public health or to the health of inhabitants of the area;

iii) the narrowness, closeness, bad arrangements and condition of streets or buildings or groups of buildings in such area;

iv) that the area is a slum and lacks community facilities and municipal services.

The process of designation is also usually defined in the laws often in the following manner.

i) City Government's planning unit identifies the area on map and puts up a proposal to the city council for undertaking a renewal or redevelopment programme.

ii) City council evaluates the workability of the proposal on the basis of data and information supplied by the planning unit.

iii) City council takes a decision to adopt the scheme and announces it to the public through a designation order.

iv) Such order is modifiable with respect to parts of the area so designated on the basis of representations and objections from the public.

The law also defines the institutional responsibility of carrying out such renewal or redevelopment programmes. In countries where such programmes have been successfully carried out responsibility for initiation, approval and implementation of such schemes rests with municipal or
city governments. And such countries have a very old and strong tradition of local government. Since our municipalities have tended to lag behind even in initiating development schemes in their usual field of operations it would perhaps be unworkable to make them responsible for such renewal/redevelopment or slum improvement programme.

The only law which enables undertaking of renewal or redevelopment schemes in Bangladesh is the Town Improvement Act, 1953. The provisions relating to the making of improvement and rehousing schemes are contained in sections 38 to 53 of the Act.

The law provides:

i) the designation of the area to be undertaken for improvement or rehousing schemes, when dilapidated structures become dangerous to the safety of the inhabitants, or narrowness, closeness and bad arrangement of streets, or unhygienic and unsanitary conditions are found in any area.

ii) the acquisition of land required for:

a. execution of the scheme, for demolition, alteration or reconstruction of existing structures or utilities and the laying and relaying of the land in the said area.

b. the construction of any building for any purpose other than for sale.
c. the construction of streets, the laying out or alteration of streets, sewer and draining facilities, and the provision of water, lighting and other sanitary conveniences.

d. the development of land, formation and enlargement of open spaces and any other matters consistent with this act.

iii) the rehousing of the persons displaced by the execution of improvement schemes, and the construction, maintenance and management of dwellings and shops to be provided for the displaced persons.

From the above it would appear that the existing law is not specific about the issue of urban renewal/redevelopment or slum-improvement and there is an urgent need to formulate a set of policies regarding:

i) Can we or should we undertake urban renewal/redevelopment or slum-improvement as a public sector responsibility. Or, allow rundown or slum areas to persist and expand in our urban scene?

ii) Assuming that a positive decision is taken, do we need to enact a special piece of legislation to cover all aspects of such schemes?

iii) Is there a need to create new institution to carry out such projects? Or, existing urban housing and land development agencies should be given the charge of initiating and implementing such projects?
iv) Will the existing financing mechanisms and sources of finance have to be somewhat broad based to enable those to advance loans and credits for such projects?

Analysis of social, economic and physical conditions of our study area presented in the earlier chapters unmistakably point out to an urgent need for adopting policies in favour of urban renewal/redevelopment programmes. The area of Fakirapool-Arambagh, its landscape, economy and services must be upgraded to enable it to optimise its development potential. While there is a need to state policies regarding the study area, few general principles may be inunciated here to guide activities in urban renewal/redevelopment either by public agencies or private enterprise. These may be stated as under:

a. Wherever found necessary for reasons of optimising development potential of any sizeable area in and around the central parts of any city/town in Bangladesh urban renewal or redevelopment projects may be taken in hand to promote economic activities or to encourage social welfare of the existing or future inhabitants.

b. Sections of cities may be designated as urban renewal/redevelopment zones and taken up for gradual upgrading and improvement if traffic congestion, physical blight, substandard housing, and absence of basic amenities of urban life so warrant.
c. Easily identifiable slum areas lacking of basic physical and social amenities affecting quality of human life may be taken up for gradual improvement to enhance functional efficiency and environmental quality therein.

In so far as the study area is concerned all the three principles stated above are applicable. Specific policies for Fakirapool-Arambagh area redevelopment can be stated as below:

a. To optimise the development of this near-central area high-rise residential and commercial building activities may be promoted.

b. Through opening of an organised street network and inner area zoning, transportation of people and goods and location of public spaces may be articulated to suit the eventual requirement of the projected population and activities.

c. For a project of this magnitude public sector initiative needs to be mobilized initially for reclamation of land and building of infrastructure allowing sufficient room for private enterprise to play its legitimate role in planned building activities.

d. In land reclamation and relaying of streets, re-organisation and re-zoning of activities, there may be partial demolition or dislocation of existing structures and activities. Re-housing and re-settlement of the present dwellers, business, or any other activities demolished or dislocated in the process of re-development must be an integral policy of the total scheme.
e. Existing legislation must be up-dated or altogether a new piece of legislation should be enacted. Such amendment or enactment should enable public or semi-public authorities to undertake such re-development projects in a comprehensive manner.

f. The charter of existing city development authorities or urban land reclamation and development authorities be examined to see whether these may be utilised for initiating planning and implementation such programmes. At the beginning it may be advisable to utilise existing institutions to handle such programmes. While at a later stage where major projects/schemes in more than one major urban centre are initiated with substantial commitment of national fund, separate institution may need to be created.

g. Renewal/redevelopment or slum-improvement efforts are generally public welfare projects and hence can hardly be expected to be self financing. Therefore, an element of capital subsidy may become necessary in financing such programmes. The legislation enacted specially for such improvements or rules framed thereunder may define the degree of public commitment in assembling land (aspecial power for emergency acquisition and requisition of property), in relation of public activities and funding (sources, terms of loan and grants) in financing such programme.

h. Participation of local people specially of those who are residing or carrying on their economic and social activities in the area may be ensured in planning, programming and implementation of such programmes.
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BIBLIOGRAPHY

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APPENDIX


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64. পরিবারের মানিক অর্থন অর্থন

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<th>পাত্র</th>
<th>লা.</th>
<th>ম।</th>
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65. বাড়ির মানিকানা : 

| নিজের | পাশাপাশি | বিনামূল্যে | অন্য এক- |
11 বাণীর নম্বর নথিভুক্ত

| শব্দ    | বাণীর বাক্য | সংযোগ | ব্যক্তি নাম
|-------|-------------|--------|---------|

12 জানানো বিষয় তালিকায় করা হয়:

| কাঠ | অমৃত | দুধারিক | কাঁচ | ব্যবহার
|------|-------|----------|------|-------|

13 বাণীর পাতি দরবার তালিকা:

| দিন | সামান্য | পাকা | উচ্চ | পুরুষ | বিশালগুলি
|------|--------|------|-----|-------|-------|

14 বাণীর নথিভুক্ত তালিকা:

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15 একারণ পুরুষ করার তালিকা:

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16 অন্যান্য পাতি দেখানো বাণীর পুরুষ:

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17 বাণীর পাতি তালিকা:

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### ১০১. বাড়ী নং ই এক্স এফ এ।

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### ১০২। বাগনার একাকৃতি হি হি হুমকো বুদিখার তাহে।

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### ১০৩। বাগনার একাকৃতি হি অধুনাবিধা তাহে।

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### ১০৪। বহি বনে কোলাত্ব ও কাজ বহবকা করে পেইয়া দুপ্ত, চর বর্ধমান একা থেকে পরে পেতে বাড়ী ভাবে কি না?

হি যা না

### ২১৫। বহি থেকে চান, চর লুভন একাকৃতি হি ধরনের হুমকো বুদিখার চাঁ হেমেন ৪-

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১৮। যদি এই প্রানে রাষ্ট্রীয় প্রানে নাগুন থাকে, তবে আপনি নিজের প্রস্তাব সাক্ষী
তথ্যের করতে পারিনে কিনা হাস না

১৯। সরকারী স্থান নিজে সাক্ষীত্বের করতে রাশিএ বাংলা কি হাস না

২০। সরকারী স্থান কি সর পরিশোধ করবেন

লাম মেঝামেঝি নিয়ে রাখা মেঝামেঝি নিয়ে নিজের খাপ হচ্ছে সাক্ষী যাহা নিয়ে

২১। সে - বনার্সিক মালের বাণ করতে রাশিএ বাংলা কি হাস না

২২। আপনি কি যথেষ্ট করে নে আপনাদের এই এমার ঠাকুরি করের সাবিত্র সরকারী

হাস না

২৩। যদি এই যথেষ্ট তবে, বন্ধন সরকার কি করে এই বাণিজ্য পাশব করতে পারে

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দো। আপনা বন্ধন, আপনারা সাধারণ বিশে এই এমার কি করে ঠাকুরি পাশব করতে পারেন

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২৫। বসি পৌকা, মেরাবতবাণা, করফানা ও পানায় হয়।

১। নাম :
২। বিবরণ :
৩। অবস্থান :
৪। করফানীর সংখ্যা :
৫। বাসিক জীব :
৬। বাসিক সংখ্যা :
৭। মোকম জাতক :
৮। করফানীর বেতন :
৯। রাতে যাতে এমন মোকম সংখ্যা :

২৬। বহি কুঁড় বা বক্তিয় হয় :

১। নাম :
২। বিবরণ :
৩। অবস্থান :
৪। মোকম জাতক : বোমা জামাগার
৫। সরকারি :
৬। পাখা সরকারি :
৭। মেনরকারি :
৮। করফানীর সংখ্যা :
৯। সিক্কি সংখ্যা :
১০। সাঁচ সংখ্যা :
১১। রাতে যাতে এমন সাঁচের সংখ্যা :