AN APPROACH TO UPGRADING OF LOW INCOME URBAN SETTLEMENTS: A CASE STUDY OF SHAHEEDNAGAR AREA IN DHAKA CITY

QUAZI GULIVE ABDUS SATTAH

MASTER'S THESIS

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BY
QUAZI GALIVE ABDUS SATTAR

APPROVED AS TO STYLE AND CONTENT BY:

Mahbubun Nahar
Chairman of the Committee 19. 11. 86.

Member

Mrs. Shahidul Islam
Member

Abdul Quimum
Member

November 1986
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Modern development process has come to produce rapid urban growth. The rate of urban growth in Bangladesh is one of the highest in Asia. Almost all the cities of Bangladesh in contrast with their rural hinterland are richer places. The economic vitality of these cities triggered large scale migration which coupled with the natural increase rapidly increased their respective urban population. These new migrants from rural areas to the relatively richer urban areas could manage to earn very little for their subsistence. Due to the financial hardship, these people are often housed in slum and squatter settlement in sub-human condition. Number of these settlements are day by day increasing causing inhuman living condition for the low-income people and thereby creating misery for city life. This study aims at creating a settlement suitable for low-income people and creating settlements free from undesirable environmental conditions.

This study focuses on identifying the problems of low-income settlement by going for elaborate socio-economic and infrastructure survey. After identifying the problems of low-income settlement in Bangladesh, the problems of low income settlements in other South and South-East Asian countries were also studied in order to utilize their experiences in drawing inferences and instances which are applicable to our case and suggestions were made to improve settlements environment with the overall objective of improving the living condition of the low income people without displacing the majority of the residents; and to demonstrate that upgrading of slum areas are socially, technically and economically viable.

In view of the above, the study suggests for formulating a comprehensive approach and thereby a general model for upgrading programmes in Shaheednagar area. Such an approach as revealed from the study is not an easy task, since it calls for integration of various agencies concerning settlement issues and effective co-ordination amongst them. Moreover, the study also suggests that due consideration should be given to various factors like social, technical, economical etc. While appraising them to demonstrate the feasibility of such approach.
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<tr>
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<tr>
<td>DWASA</td>
<td>DHAKA WATER AND SEWAGE AUTHORITY</td>
</tr>
<tr>
<td>DMC</td>
<td>DHAKA MUNICIPAL CORPORATION</td>
</tr>
<tr>
<td>T&amp;T</td>
<td>TELEGRAPH AND TELEPHONE</td>
</tr>
<tr>
<td>ZIP</td>
<td>ZONAL IMPROVEMENT PROGRAMMES (PHILIPPINES)</td>
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<tr>
<td>KIP</td>
<td>KAMPONG IMPROVEMENT PROGRAMME (JAKARTA)</td>
</tr>
<tr>
<td>IBRD</td>
<td>INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT</td>
</tr>
<tr>
<td>NGO</td>
<td>NON GOVERNMENT ORGANISATION</td>
</tr>
<tr>
<td>HBFC</td>
<td>HOUSE BUILDING FINANCE CORPORATION</td>
</tr>
<tr>
<td>NHA</td>
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CHAPTER - 1

INTRODUCTION

1.1 BACKGROUND

The most distinguishing feature of all the major cities of the Third World is urban explosion. Particularly the population of South Asian cities are growing at an alarming rate posing serious threat to the process of urbanization and its attendant crisis of housing.

The urbanization pattern in Bangladesh was very much insignificant from the early history. Important stage of urbanization began in Bangladesh from the period of the Mughal and the British. During the Mughal period, cottage and crafts industries flourished in this region and several centres developed around such industrial concentration. Old towns became more important as administrative centres of different hierarchies. However, large-scale urbanization could not take place until very recent time. During early sixties the country has been experiencing a fast rate of urbanization, starting from 3.72 per cent per year during 1959-61 to 6.70 percent per year during 1961-74. During 1974-81, population growth rate in urban centres is estimated at eleven percent while according to 1981 population census, fifteen percent of the country’s total population live in urban areas. If this growth rate continues then by the year 2000 A.D. about 35.6 per cent of the total population will be urban inhabitants. Projection also shows that Bangladesh will have an urban population of 57.5 million with per capita GDP 213.3 dollars in 2000 A.D. as against 5.3 million population with per capita GDP 64.3 dollars or Tk. 965 approximately in 1973. It is also revealed from 1974 census that 8.78 percent of the country’s total population lived in 119 urban centres which accounted for 62,73,603 urban population. A conservative estimate shows that population of Dhaka

city only will increase three-fold by 2000 A.D. at an annual growth rate of 3.3 percent, requiring 50000 new houses to be built a year on an average.  

The recent phase of urbanization in Bangladesh not only created new problems but also deteriorated the already existing acute urban problems, like housing, transport, employment, sanitation etc. The provision of these facilities and services has failed to keep pace with urban expansion. The major cities in the country, where population pressure is already intense were unable to cope with rising tide of incoming population. These unskilled rural migrants failed to absorb themselves in their new environment at a decent level of living. In order to survive, they usually seek for employment particularly, self supporting job or small business within the cities. To minimize time and cost, they prefer central location for living and build shacks or some form of shelter or houses called “bustee” or squatter huts or slums on government or private land. Most of these settlements are small clusters of very temporary structures made up of cheapest available local materials, including scrap. Some people would find it difficult to believe that human beings can survive in shelters like those of the bustees or slums.

About sixty percent of all registered commercial establishments and forty seven percent of manufacturing employment in Bangladesh are concentrated in Dhaka. Economic vitality of Dhaka triggered large scale migration, which coupled with the relatively high growth rate of natural increases and thus causing pressure on urban housing. The low income urban settlement in Dhaka city is generally found on vacant spaces located close to the centres of employment, wherever these centres may be—within the centre, middle zone or in the periphery.

Since liberation (16 December, 1971), the city of Dhaka is gradually being submerged with increasing influx of population. In every vacant space available in Dhaka, slums and squatters are springing up fast. These settlements are distributed almost ubiquitously all over the city consisting the older parts, the central business districts, high and middle class residential areas, industrial districts, public housing areas and sub-urban districts. The main factors determining such location are obviously nearness to place of employment and availability of vacant spaces.

Shaheednagar, Islambag, Rasulpur, Dholai Khal, Jinjira, Basaboo, Mirpur, Maghbazar are some of the areas in Dhaka city where major slum and squatter settlements have gradually developed. Most settlements in these areas are found in vacant public lands and abandoned but unused private lands left on marginal terrains besides railway tracts, slopes or depressed land, sewerage lines and on river banks. The characteristics of these settlements are clustered. The houses are small and usually of temporary structure made up of available cheap local materials. The condition of these houses is very poor and living in them is extremely subhuman. Growth of these slums and squatters takes place in an unplanned and haphazard way, usually sheltered in unhabitable and unhygienic condition. These are usually submerged in filth and dirt without any sanitation and sewage disposal facilities. The total number of population living in slums and squatters within Dhaka city is not known. However, according to a recent survey it is estimated that the squatters constitute 13.22 percent of the total Dhaka city population.

In view of the above and considering the gravity of the situation this study has been designed to formulate a concerted programme of action within a well conceived low-cost settlement framework for improving the quality of life of the people belonging to low-income groups who live


in the slum areas within Dhaka city and also to formulate criteria and
principles of upgrading which may be applicable for other cities of
Bangladesh.

1.2 STUDY OBJECTIVES

The overall objective of the study is to make an attempt to provide
information in order to underline the existing conditions, and the scope
and needs to undertake upgrading programme in Shaheednagar area. Specific
objectives set in the study are outlined as under.

i) To study and to analyse the existing socio-economic condition,
landuse and the character of development within the study area.

ii) To evaluate the existing physical condition of structures
and properties which lacks in standard facilities, out-dated
buildings and roads which need to be brought under upgrading
programme to fit well into the socio-economic environment
of the people residing there.

iii) To examine the sanitation, environmental and community
facilities available and to find ways to improve the same to
keep pace with the present day requirements.

iv) To determine the principle and policy framework for upgrading
and to determine the standards and criteria for development
at various levels thereof.

1.3 METHODOLOGY

In conformation with the objectives mentioned above, the following
methodological procedure was followed.

1.3.1 Literature Survey:

An intensive literature survey was undertaken to acquire
knowledge on policy and principles of upgrading low-income
urban settlement and for better understanding and representa-
tion of the problems. Specific attention was given to
conditions of urban low-income settlements in South and South-East Asian countries and then after reviewing the case studies of upgrading principles and standards practised in Asian countries with specific attention to Bangkok, Bandung, Colombo, Bombay and Calcutta. The literature survey on the above cities was carried out due to typical nature and extent of problems faced by these cities which are similar to that of ours and are of particular interest for further study.

1.3.2 Collection of Data from Secondary Sources:

Due to the nature of the problem in hand, part of the study was based on published literature, references, studies, various related materials and statistical data. To supplement some information gaps it was necessary to consult office records as well.

1.3.3 Collection of Data from Primary Sources:

a) Preliminary Survey:

A reconnaissance survey was done through observation and interviewing the local people in order to gain general impression regarding the study area to assess the followings:

- Existing housing condition;
- Infrastructure facilities (accessibility and utility services)

An evaluation of the above reconnaissance was made in the light of the experiences gathered about South and South-East Asian cities. In fact, on the basis of this evaluation the elements for detailed survey was formulated.
b) Detail Survey:

(A detail survey of physical features including land use for the study area was done to find out nature and type of development; infrastructure provision and housing condition.)

c) Questionnaire Survey:

(The socio-economic survey of the study area was done by using predesigned questionnaire for collection of data on demographic characteristics, social status, economic and environmental conditions and attitude of residents towards attainment of underlined objectives of upgrading as mentioned earlier.)

d) Sampling:

(During the field work the whole study area was not covered under survey and as such random sampling procedure was followed. Fisher's Random table was used for drawing the samples for interview. The total population in the study area was about 25,000 (1981) and the total number of households were about 5,000. A total of 300 sample households which is about six percent of the total households were selected randomly for the purpose of this study.)

1.3.4 Data Analysis and Processing:

(After collection of field level data their compilation, tabulation and analysis were done and after proper scrutiny final tables were prepared for our study purposes.)
1.4 SCOPE OF THE STUDY

Since the objectives of this study is to improve the quality of life of the people living in the area, without affecting rental or tenure condition and to demonstrate that upgrading of slums is socially, technically and economically viable, the scope of the study has been delineated into the followings:

a) To understand the needs and problems of the people living in the study area and their feelings towards community development and with this aim to carry out detailed socio-economic and infrastructure survey.

b) To interview community leaders and some of the residents and to discuss with them about their possible involvement in determining the level of services and in decision making and implementation process. The purpose was to identify possible ways and means for community participation so that community can better interact with the implementation authorities.

c) To formulate detailed proposals for infrastructure provision and community development and also proposals for layout reorganization in order to improve the efficiency of the use of space.

d) To review upgrading experiences of other cities of South and South-East Asian countries and to formulate package of proposals for upgrading. To develop various alternatives for cost recovery in order to provide sound financial basis for sustained expansion of the programme in Shaheednagar area and also on national scale.
1.5 SELECTION AND DESCRIPTION OF THE STUDY AREA

In this study, Shaheednagar was selected as case study since it is one of the largest single concentration with critical living environmental condition within the old part of Dhaka city. Shaheednagar is situated in the south western part of Dhaka city and near the bank of the River Burhiganga. It is located within Ward No. 23 of Dhaka Municipal Corporation and is accessible by metal road through Jagannathshaha Road and Rajnarayandhar Road. Major portion of the study area is low-lying area and is formed by the alluvial deposits of the Burhiganga river. The entire area of Shaheednagar is about seventy acres or 0.1093 sq. miles. The area is a new settlement, growing only after 1970 and is mostly inhabited by people with low income origin. There are a number of productive enterprises and other establishments within the study area. The location of Shaheednagar in the context of its surrounding areas is shown on map (Map No. 01). By the two sides of Rajnarayandhar Road, there are a few buildings for residential and commercial purposes with urban facilities. But just behind the facade of the road, situation is different with mostly kutcha houses having no or limited urban facilities. However the situation is better in the region of Rajnarayandhar Road towards Sashanghat.
CHAPTER - 2

PHYSICAL CONDITION OF THE STUDY AREA

2.1 INTRODUCTION

The area of Shaheednagar was originally a part of Kamarangirchar. It is situated at the south western part of old Dhaka and stands on the northern bank of the river Burhiganga. During 1960's, new settlements started in this part of the city due to availability of comparatively cheaper land and employment opportunities in nearby commercial centres. Further, Lalbagh and Chawk Bazar, the biggest business areas of the city are also located very near to Shaheednagar. Since then, gradually the area became overcrowded without proportionate increase in service facilities.

2.2 TOPOGRAPHY

The study area is represented by large areas of low lands and ditches. The lands adjoining Rajnarayandhar road and its lanes are flood-free high lands. The rest of the area are low lands or ditches. The area slopes gently from northern part towards south and merges into the river Burighiganga. Topography of the land is discussed in three divisions (Map No. 02).

Division - 1: In this division, high land is marked along the Rajnarayandhar road to Shashanghat with an average R. L. of 7.0 m. Other than this road there is a kutcha road which proceeds from the market towards Kamrangirchar with an average R. L. Of 4.5m. The remaining parts are low lands with R. L. of 3.5 to 4.5m. The river Burighiganga touches this division on all sides except the north.

Division - 2: The northern area of this division floods during monsoon with R.L. varying from 3.0m to 5.0m. This area is marked by kutcha lanes and kutcha houses on bamboo poles. In the low lying area there are a number of water bodies with a base level R.L. of 1.0 to 2.5m. The southern part of this division, as in both sides of Rajnarayandhar road and its lane are high land with R.L. Of 7m.
Typical houses on low lying areas. Boat plying is the main communication system to reach the metallic road.

Typical houses on low lying areas.
Boats ply to communicate between low lying areas besides Fish market.

Boats plying on waste water for crossing the canal.
Division - 3: Shaheednagar road starts along the extension of Rajnarayandhar road and ends into a vast low lying area. From this road, four parallel lanes run in north-south direction to the northern boundary of the area. Kutcha, semi pucca and pucca houses on high lands exist along two of the eastern lanes with R.L. of 5.0m. But the western part comprises of low land with R.L. of 3.0m. There are a number of ditches which cause flood during monsoon. Western part of this division is low lying area with houses of kutcha structure on bamboo poles.

2.3 LAND USE PATTERN

The land use pattern is predominantly residential together with commercial and industrial uses. The seventy acres of land in the Shaheednagar area is occupied by a population of about 25,000. The distribution of land according to category of use in the study area have been shown in Table-1.

Table-1: Percentage Distribution of Land According to Category of Use in Shaheednagar Area

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Major Landuse Categories</th>
<th>Percentage of Total Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Residential</td>
<td>50</td>
</tr>
<tr>
<td>2.</td>
<td>Vacant Space and Ditches</td>
<td>30</td>
</tr>
<tr>
<td>3.</td>
<td>Roads and Lanes</td>
<td>9</td>
</tr>
<tr>
<td>4.</td>
<td>Commercial</td>
<td>8</td>
</tr>
<tr>
<td>5.</td>
<td>Industrial</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>Community Facilities (Mosques, Madrasha, Club &amp; School)</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.
- Residential uses cover an area of thirty-five acres which is about fifty percent of the total land area. The houses are mostly kutchha structures on bamboo poles. Besides, there are some pucca and semi-pucca structures. On high lands, kutchha houses are built with bamboo mat walls and bamboo mat/tin roof while the kutchha houses on ditches are built with wooden floor on bamboo poles.

- Vacant space and ditches cover about thirty percent of the total area of which eighty-five percent is comprised of low-lying areas, water bodies, and ditches.

- Roads and lanes accounts for nine percent of land in the study area. Most of the roads are not in good condition and go under water during floods.

- Commercial use represents eight percent of the total area. There are varieties of shopping establishments. There is only one big market and also a small market for daily necessaries. These commercial units have structures with temporary sheds and semi-pucca buildings. Big country boats carry commercial goods along two pucca ghats adjacent to the big market.

- Manufacturing & industrial works comprises only two percent of land uses. There are different types of factories such as chocolate, chanachur, juice, bread, ice cream, and also flour mill, soap factory, aluminium factory etc.

- Community facilities account for only one percent of the total land use. There are at present only one primary school, four mosques, and two madrasas.

2.4 **ACCESS AND CIRCULATION NETWORK SYSTEM**

The system of road network within the study area needs extensive development. Dhaka city is connected with the study area through Jagannathshaha road & Rajnarayandhar road. Rajnarayandhar road stretches into the area in two branches, one of which is known as Shaheednagar road at its end.
There are branches as lanes and internal roads either brick-soled or kutcha in nature from the Shaheednagar road. Most of these lanes and internal roads go under water during flood. Some of these roads are private and some are public i.e., Municipal Corporation roads. There are good number of "shakos" made of bamboo poles over the ditches providing access to the kutcha houses on bamboo platforms.

Detail information on roads according to width classification and type in percent may be revealed from Table-2.

Table-2: Percentage Distribution of Roads According to Width and Type

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Types of Road</th>
<th>Width (in metres)</th>
<th>Distribution in Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kutcha Road</td>
<td>1.15</td>
<td>70</td>
</tr>
<tr>
<td>2.</td>
<td>Pucca (Paved) Road</td>
<td>5.75</td>
<td>25</td>
</tr>
<tr>
<td>3.</td>
<td>Brick-Soling Road</td>
<td>2.5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.
Pucca road within the locality: Width of the road is not sufficient for vehicular access; require to be widen.

Sewage pits are seen much above the existing road level. Reduced road width requires earth filling up to the level of sewage pits.
2.5 **PHYSICAL CONDITION OF THE DWELLING STRUCTURE**

It is found from the study that about seventy percent of dwelling units in Shaheednagar are of kutcha type out of which about twenty percent are built on platforms constructed on bamboo poles over the low-lying areas and ditches. Of the total dwelling units twenty two percent are of semi-pucca type and only eight percent are of pucca type (Table 3).

Table 3: Percentage Distribution of Structures According to Type and Unit Cost

<table>
<thead>
<tr>
<th>St. No.</th>
<th>Type of Structure</th>
<th>Percentage of Total Structures</th>
<th>Cost Per Sq.ft, in Taka</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kutcha Structure</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>2</td>
<td>Kutcha Structure on Bamboo Poles</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td>Semi-Pucca (Tin-Shed with Pucca Wall and Tin-Shed with Tin Wall)</td>
<td>22</td>
<td>120</td>
</tr>
<tr>
<td>4</td>
<td>Pucca (made of Durable Permanent Materials)</td>
<td>8</td>
<td>250-300</td>
</tr>
</tbody>
</table>

Total 100

Source: Field Survey by the Author, 1986.
Top view of the locality
Top view of the locality

Houses on bamboo poles with tin roof
Plastic, bottle and other waste is seen collected by local people which shows if municipal waste is dumped in this locality will create employment opportunity for the people.

'Shakops' connecting the houses on low lying areas.
Provision of road is there but it requires earth filling. A boat is seen communicating in flood water.

The only fish market on Shaheednagar sites on metalled road created congestion. Road can be made free from traffic if provision for market is made.
2.6 WATER SUPPLY

Water supply in the study area is covered by the following means:

- Piped Water Supply by Dhaka Water and Sewerage Authority (DWASA)
- Tube Wells
- Surface Water Source

According to DWASA there are about 1800m of pipe line of following diameter in the study area.

- 100 mm dia - 400 m
- 150 mm dia - 600 m
- 200 mm dia - 800 m

- There are about 190 nos. of legal water connection and 13 nos. of street water stand pipes by DWASA along the roads. The supply pressure within the area is very low. DWASA supply covers sixty percent of the households.

- Besides DWASA connection, twenty five percent of the households is served by tubewells. The survey reveals a total of 60 tubewells within the area.
- Other than DWASA source and tubewells, many people use surface water from river Buriganga and also from ponds. Surface water source covers fifteen percent of the households (Table-4).

**Table-4: Distribution of Households by Sources of Water Supply**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Water Sources</th>
<th>Number of legal &amp; formal connection</th>
<th>% of total</th>
<th>No. of household having formal source</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DWASA Line Connection</td>
<td>190</td>
<td>35</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>DWASA Public Stand Pipe</td>
<td>13 Nos.</td>
<td>20</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Surface Water Source</td>
<td>-</td>
<td>-</td>
<td>80</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>Tube Wells</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Private</td>
<td>51 Nos.</td>
<td>15</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>b)</td>
<td>Social Welfare</td>
<td>9 Nos.</td>
<td>10</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>80</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2.7 HUMAN WASTE MANAGEMENT

Human waste management system within the area falls under the following categories.

- Kutcha Latrines
- Pucca Latrines with open pits and covered pits
- Pucca Latrines with Septic Tanks

Most of the kutcha houses have individual or group kutcha latrines. The excreta of these latrines are dumped either in the open pits or disposed off in the attached ditches.

In the study area there are a few pucca buildings having latrines with septic tanks (Table-5).

Table-5: Distribution of Structures by Type of Human Waste Management

<table>
<thead>
<tr>
<th>No.</th>
<th>Human Waste Management</th>
<th>No. of Latrines</th>
<th>Percentage of Total Structures using Latrines in the Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kutcha Latrines</td>
<td>460</td>
<td>73</td>
</tr>
<tr>
<td>2.</td>
<td>Pucca Latrines with open pits</td>
<td>32</td>
<td>10</td>
</tr>
<tr>
<td>3.</td>
<td>Pucca Latrines:with covered pits</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>4.</td>
<td>Pucca Latrines with septic tanks</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>5.</td>
<td>Disposal without latrines</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>6.</td>
<td>Community latrines of DMC</td>
<td>-</td>
<td>2</td>
</tr>
</tbody>
</table>

Total 510 100

Municipal garbage collection points. Scavengers are seen collecting useful waste.

Ditches are being filled up by municipal garbages.
Waste water pipe is seen discharging to the ditches.

Waste water disposal areas create pollution and unhygienic conditions which is dangerous for health.
Women using polluted water for washing purpose.

Toilets on bamboo poles over ditches extremely unhygenic and creates pollution of water. This polluted water are used by locality for bathing and washing purpose.
2.8 SOLID WASTE MANAGEMENT

About fifty percent of the population disposes their solid wastes and garbages in the ditches.

Rest of the people uses dustbins posted beside Rajnarayandhar and Shaheenagar road. Conservation trucks of DMC collect the garbages and dispose the same into two big ditches. A substantial portion of the ditches are filled up and reclaimed by this process.

2.9 ENERGY USE PATTERN

In the study area, three sources of energy are being used by the inhabitants.

- Electricity
- Titas Gas
- Fuel/Wood

The study reveals that only fifty percent of the households have electricity connections. According to information available from the Power Development Board (PDB), there are 260 connections but while conducting survey, it was found that the number of connections were quite high which vary significantly with that of PDB quoted member. There are about 200 nos of street lights in the study area. The households which do not have any electrical connection use kerosine for lighting.

For cooking purposes gas is used as source of energy. According to the Titas Gas source, about 600 meters of gas line have been laid in the Shaheenagar area. Gas connections are available for all the holdings located along the Rajnarayandhar road. The study reveals that twenty percent of the households have gas connections. Kerosene/wood is being used for cooking by the households having no gas connections.
2.10 TELEPHONE SERVICE

According to information available from the Department of Telephone and Telegraph (T&T), there are 12 telephone connections at present in the locality.

2.11 PROPERTY VALUE

In the study area, presently the minimum valuation of land is estimated at Tk. 10 lacks per bigha (100 decimal) while the maximum valuation may reach upto Tk. 20 lacks. The value (price) of land varies widely depending on liability to flood, road access facilities and availability of other utility services.

The value of low-lying land in this area varies between Tk. 15000 to Tk. 30000 per katha (1.65 decimal) depending on liability to flood. The value of dry land with bad access facilities and absence of other services varies within the range of Tk. 30000 and Tk. 50000, while the best land may cost upto Tk. 124000 per katha (1.65 decimal).
CHAPTER - 3

SOCIO-ECONOMIC CONDITION OF THE STUDY AREA

3.1 DEMOGRAPHY

The study area which represent ward No. 23 presently constitute three "Mahallas" namely i) Shaheednagar ii) Rajnarayanandhar iii) Jagannath Shaha. The area previously formed the southern part of former Ward No. 12. Within this former Ward No. 12, besides the above mentioned Mahellas', there were nine more 'Mahallas', namely i) Hara Mohan Shaha Street ii) Raj Sreenath Street iii) Kazi Reazuddin Road iv) Lalbagh Road and Pushparaj Shah Road. v) Afash Khan Lane vi) Shayesta Khan Road vii) Lalbagh Road - V, viii) Lalbagh Road - III, ix) Gangaram Road.

Population data according to 1981 census for the whole of the former Ward No. 12 are presented in Table-6 to explain demographic composition of the study area.

Table-6: Distribution of Population of Former Ward No. 12 by Sex, Age and Literacy

<table>
<thead>
<tr>
<th>St. No.</th>
<th>Sex</th>
<th>Total</th>
<th>18 Years &amp; Above</th>
<th>Literature 5 Years and Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Male</td>
<td></td>
<td>32609</td>
<td>17313</td>
<td>12008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(54.69)</td>
<td>(57.55)</td>
<td>(66.71)</td>
</tr>
<tr>
<td>2. Female</td>
<td></td>
<td>27031</td>
<td>12770</td>
<td>5993</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(45.32)</td>
<td>(42.45)</td>
<td>(33.29)</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>59640</td>
<td>30083</td>
<td>18001</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(100.00)</td>
<td>(10.00)</td>
<td>(100.00)</td>
</tr>
</tbody>
</table>

It appears from the Table-6 that more than fifty seven percent male population are 18 years of age or above while for the female the rate is 42.45 percent. According to the 1981 census, total number of households in the former Ward No. 12 was 10063.

Detailed survey was also conducted to estimate present number of population of the study area according to various age group and sex as well and the results are given in Table-7 along with data for Bangladesh total for comparative study.

Out of five thousand households in Shahaednagar, a total of three hundred sample households were brought under survey and the sample population was distributed by age and sex as have been represented in Table-7. From the Table, it is revealed that majority of the population (92.31 percent) are within 0-39 years of age while (55.75 percent) falls within 6-19 years of age groups.
Table 7: Distribution of Population of the Study Area and Bangladesh Total by Age Group and Sex

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Shaheednagar</th>
<th>Bangladesh (000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>0-9</td>
<td>279</td>
<td>(27.04)</td>
</tr>
<tr>
<td>10-19</td>
<td>216</td>
<td>(26.66)</td>
</tr>
<tr>
<td>20-29</td>
<td>177</td>
<td>(21.85)</td>
</tr>
<tr>
<td>30-39</td>
<td>106</td>
<td>(13.09)</td>
</tr>
<tr>
<td>40-49</td>
<td>50</td>
<td>(6.17)</td>
</tr>
<tr>
<td>50-59</td>
<td>28</td>
<td>(3.46)</td>
</tr>
<tr>
<td>60-65</td>
<td>14</td>
<td>(1.73)</td>
</tr>
<tr>
<td>Total</td>
<td>810</td>
<td>(100.00)</td>
</tr>
</tbody>
</table>

Source: Field Survey and Monthly Statistical Bulletin, BBS, July, 1986. (Figure in parenthesis indicate percentages)

3.1.1 Household Structure

Table 8 represent the distribution of households according to family size. The table shows that 40.67 percent of the households have 3-4 members per household while thirty and 15.33 percent of the households have 5-6 and 7-8 members per household respectively. It is interesting to note that one percent of the households are having more than ten family members. The average size of household is 4.92.
Table-8: Household Structure

<table>
<thead>
<tr>
<th>Family Size</th>
<th>No. of Household</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 2</td>
<td>25</td>
<td>8.33</td>
</tr>
<tr>
<td>3 - 4</td>
<td>122</td>
<td>40.67</td>
</tr>
<tr>
<td>5 - 6</td>
<td>90</td>
<td>30.0</td>
</tr>
<tr>
<td>7 - 8</td>
<td>43</td>
<td>15.33</td>
</tr>
<tr>
<td>9 - 10</td>
<td>17</td>
<td>5.67</td>
</tr>
<tr>
<td>Above 11+</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.

3.2 HOUSING CONDITION

Most of the dwelling structures in the area under study has been found to be extremely small in size and hardly exceeds 350 square feet in area. Sixty percent of the houses have floor space upto 150 sq ft and twenty four percent of the houses have floor space between 151 sq ft to 250 sq ft. Only nine percent houses have floor space more than 250 sq ft (Table-9).
Table-9: Dwelling Space

<table>
<thead>
<tr>
<th>Size (sft.)</th>
<th>No. of House</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto - 150</td>
<td>201</td>
<td>67</td>
</tr>
<tr>
<td>151 - 250</td>
<td>73</td>
<td>24</td>
</tr>
<tr>
<td>251 - 350</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>351 +</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.

3.2.1 Tenancy and Ownership

The study reveals that more than 77.3 percent of the households have only one room, while only 10.40 percent of them have two and 12.30 percent have three rooms. Eighty eight percent of the households have hired the dwellings while the rest twelve percent owned the houses (Table-10).

Table-10: Distribution of Households by Occupancy Status and Number of Rooms

<table>
<thead>
<tr>
<th>No. of Rooms</th>
<th>Hired</th>
<th>Percent</th>
<th>Ownership</th>
<th>Percent</th>
<th>Total</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>216</td>
<td>72.0</td>
<td>16</td>
<td>5.3</td>
<td>232</td>
<td>77.3</td>
</tr>
<tr>
<td>2</td>
<td>17</td>
<td>5.7</td>
<td>14</td>
<td>4.7</td>
<td>31</td>
<td>10.4</td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td>10.3</td>
<td>6</td>
<td>2.0</td>
<td>37</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>264</strong></td>
<td><strong>86</strong></td>
<td><strong>36</strong></td>
<td><strong>12</strong></td>
<td><strong>300</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.
3.2.2 Pattern of House Rent Payment

The study reveals that fifty nine percent of the households pay a monthly rent up to Tk. 150/- and thirty four percent of the households pay monthly rent ranging between Tk. 151 to Tk. 250/-. Only seven percent of the households pay a monthly rent exceeding Tk. 250/-. (Table-11).

Table-11: Distribution of Households Falling under Different House Category

<table>
<thead>
<tr>
<th>Ranges of Monthly Rent (Taka)</th>
<th>Paid To Owner</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upto 150</td>
<td>177</td>
<td>59.0</td>
</tr>
<tr>
<td>151-250</td>
<td>102</td>
<td>34.0</td>
</tr>
<tr>
<td>251-350</td>
<td>17</td>
<td>5.67</td>
</tr>
<tr>
<td>351-450</td>
<td>2</td>
<td>0.67</td>
</tr>
<tr>
<td>451-550</td>
<td>2</td>
<td>0.67</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author 1986.

3.3 EMPLOYMENT STATUS

Survey findings show that in Shaheednagar about 19.6 percent are child (below 5 years, age) and about 4.70 percent attend schools. Data on employment status of the population shows that about forty nine percent of the population are fully employed round the year while a very minimum percentage (only 0.4 percent) are unemployed. Summarised data on employment status are given in Table-12:
Table-12: Distribution of Population by Employment Status and Sex

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Employment Status</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fully employed</td>
<td>365</td>
<td>353</td>
<td>723 (49.0%)</td>
</tr>
<tr>
<td>2.</td>
<td>Employed for less than 12 months</td>
<td>238</td>
<td>143</td>
<td>381 (25.81%)</td>
</tr>
<tr>
<td>3.</td>
<td>Day to day basis</td>
<td>5</td>
<td>3</td>
<td>8 (0.5%)</td>
</tr>
<tr>
<td>4.</td>
<td>Unemployed</td>
<td>6</td>
<td>-</td>
<td>6 (0.4%)</td>
</tr>
<tr>
<td>5.</td>
<td>School going</td>
<td>38</td>
<td>31</td>
<td>69 (4.7%)</td>
</tr>
<tr>
<td>6.</td>
<td>Child (age below 5 years)</td>
<td>158</td>
<td>131</td>
<td>289 (19.6%)</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td>810</td>
<td>666</td>
<td>1476 (100%)</td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.

3.4 OCCUPATION STATUS

Distribution of population as per occupation of the household heads have been examined and is presented below in tabular form. It is observed that about 21.33 percent are mill/factory workers and 21.7 percent are small traders which shows that by utilizing locally available skill it could be possible to exploit or to expand small trading and small industries if Government would come forward with adequate package of incentives. The highest number of household heads belong to rickshaw pulling group representing 27.3 percent of the total number under sample survey. Occupation group 'others' includes carpenter, driver, trailer and cart puller and altogether they represent only nine percent (Table-13).
### Table-13: Distribution of Household Heads by Type of Occupation

<table>
<thead>
<tr>
<th>St. No.</th>
<th>Occupation Type</th>
<th>Household Heads (No.)</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rickshaw (Pulling/Dwing)</td>
<td>82</td>
<td>27.3</td>
<td>190</td>
<td>167</td>
</tr>
<tr>
<td>2.</td>
<td>Mill/Factory Worker</td>
<td>65</td>
<td>21.3</td>
<td>160</td>
<td>132</td>
</tr>
<tr>
<td>3.</td>
<td>Service Holder</td>
<td>25</td>
<td>8.3</td>
<td>83</td>
<td>55</td>
</tr>
<tr>
<td>4.</td>
<td>Day Labour</td>
<td>21</td>
<td>7.0</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>5.</td>
<td>Small Traders</td>
<td>65</td>
<td>65.7</td>
<td>188</td>
<td>162</td>
</tr>
<tr>
<td>6.</td>
<td>Unemployed</td>
<td>6</td>
<td>2.0</td>
<td>23</td>
<td>35</td>
</tr>
<tr>
<td>7.</td>
<td>Hawker</td>
<td>9</td>
<td>3.0</td>
<td>25</td>
<td>11</td>
</tr>
<tr>
<td>8.</td>
<td>Others</td>
<td>27</td>
<td>9.0</td>
<td>81</td>
<td>52</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>300</strong></td>
<td><strong>100</strong></td>
<td><strong>810</strong></td>
<td><strong>666</strong></td>
</tr>
</tbody>
</table>

**Source:** Field Survey by the Author, 1986.
3.5 **INCOME AND EXPENDITURE PATTERN OF HOUSEHOLDS UNDER SURVEY**

The monthly income of 66.67 percent of the households ranges between Tk. 851 and 1650. Expenditure of eighty percent of the households is noticeable within this range. Next major group i.e, eighteen percent of the households belong to income group in between Tk.1651 and Tk. 2550. The lowest income expenditure as have been recorded from survey findings is Tk. 451 only while the highest amount of income and expenditure is Tk. 4150. Only four percent of the households earn more than Tk. 4150 monthly and 2.33 percent of the households spend the same amount per month. From the Table it is also revealed that the lower income groups have negative savings while higher income groups have some savings (Table-14 and 15).

Table-14: Distribution of Households According to Monthly Income Range

<table>
<thead>
<tr>
<th>ST. No.</th>
<th>Income Range (Tk.)</th>
<th>No. of Household</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>451-850</td>
<td>12</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>2.</td>
<td>851-1650</td>
<td>200</td>
<td>66.66</td>
<td>70.66</td>
</tr>
<tr>
<td>3.</td>
<td>1651-2550</td>
<td>54</td>
<td>18.0</td>
<td>88.67</td>
</tr>
<tr>
<td>4.</td>
<td>2551-3350</td>
<td>11</td>
<td>3.67</td>
<td>92.34</td>
</tr>
<tr>
<td>5.</td>
<td>3351-4150</td>
<td>11</td>
<td>3.17</td>
<td>91.0</td>
</tr>
<tr>
<td>6.</td>
<td>4151+</td>
<td>12</td>
<td>4.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Total 300 100

Source: Field Survey by the Author, 1986.
Table-15: Distribution of Households According to Monthly Expenditure Range

<table>
<thead>
<tr>
<th>ST. No.</th>
<th>Expenditure in Taka</th>
<th>No. of Household</th>
<th>Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1,451-850</td>
<td>12</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>2.</td>
<td>851-1660</td>
<td>228</td>
<td>76.0</td>
<td>80.0</td>
</tr>
<tr>
<td>3.</td>
<td>1661-2550</td>
<td>35</td>
<td>11.67</td>
<td>91.67</td>
</tr>
<tr>
<td>4.</td>
<td>2551-3350</td>
<td>12</td>
<td>4.0</td>
<td>95.67</td>
</tr>
<tr>
<td>5.</td>
<td>3351-4150</td>
<td>6</td>
<td>2.0</td>
<td>97.67</td>
</tr>
<tr>
<td>6.</td>
<td>4151+</td>
<td>7</td>
<td>2.33</td>
<td>100.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>300</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.

3.6 EDUCATION

Survey data shows that the level of education of the people of Shaheednagar area is very poor. On the average, 67.55 percent of the total population can not read or write. If we exclude the percentage representing child then the percentage of illiteracy becomes too high (84.06 percent). Total population attending schools at various levels represent only 8.85 percent, out of which below primary level accounts for 4.80 percent. We have not considered percentage of drop outs at each level of education. However, present level of education as may be revealed from Table-16 represent a gloomy picture.
Table-16: Level of Education

<table>
<thead>
<tr>
<th>Education</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Child</td>
<td>160 (19.75)</td>
<td>130 (19.52)</td>
<td>290 (19.65)</td>
</tr>
<tr>
<td>2. Can't read or write</td>
<td>520 (64.20)</td>
<td>477 (71.62)</td>
<td>997 (67.55)</td>
</tr>
<tr>
<td>3. Can read and write but never attended school</td>
<td>5 (0.62)</td>
<td>-</td>
<td>5 (6.34)</td>
</tr>
<tr>
<td>4. Below primary</td>
<td>45 (5.56)</td>
<td>32 (4.80)</td>
<td>77 (5.21)</td>
</tr>
<tr>
<td>5. Primary</td>
<td>56 (6.91)</td>
<td>25 (3.75)</td>
<td>81 (5.49)</td>
</tr>
<tr>
<td>6. Secondary</td>
<td>23 (2.84)</td>
<td>2 (0.30)</td>
<td>25 (1.69)</td>
</tr>
<tr>
<td>7. Graduate &amp; Higher</td>
<td>1 (0.12)</td>
<td>-</td>
<td>1 (0.07)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>870 (100.00)</strong></td>
<td><strong>666 (100.00)</strong></td>
<td><strong>1476 (100.00)</strong></td>
</tr>
</tbody>
</table>

Source: Field Survey by the Author, 1986.
3.7 HEALTH AND RECREATION

Available health facilities in the study area are found to be quite inadequate. Till now, there is only one health centre which is the Municipal Charitable Dispensary. Ninety percent of the ailing patients are to run for "Mitford Hospital" which is the only nearby hospital with adequate medical facilities. Percentage of ailing patients out of the total population is quite significant as reported while conducting survey for the study. Basic reasons for ailment seem to be poor sanitation, under nutrition and unhygienic living condition.

As regards recreation facilities, the people of the locality is deprived of modern amenities. The only playground which is being used at present also goes under water during rainy season. There is no institutional arrangement/facility in the study area for recreation purposes. Going for movies outside the area is the only way for recreation/entertainment for the people of Shaheednagar at present.
Azad Muslim Youth Club - The recreation centre serving the youth of the locality. This also serve the purpose of vocational training and other social and religious activities.

Play Ground - The area is not sufficient and condition is poor, require to be improved.
CHAPTER - 4

REVIEW OF UPGRAADING PRINCIPLES AND STANDARDS IN SOUTH AND SOUTH-EAST ASIAN COUNTRIES

4.1 INTRODUCTION

Upgrading principles and standards in South and South-East Asian countries differ significantly from country to country. Available literature on settlement problems of the low-income people in these countries illustrate very eloquently diversity of the problem and their solution in historical perspective. Since, they are country specific and does not contain all the related aspects of upgrading principles and standards in one single source of literature, it is difficult to make any comparison amongst major South and South-East Asian countries for ready reference. However, this chapter on upgrading principles and standards elucidate at length experiences of the South and South-East Asian countries based on two major sources of literature which in our opinion are most comprehensive. Therefore, close review of the under noted literature sources allowed us to present all the relevant sections as highlighted in this chapter.


4.2 BASIC REASONS FOR GROWTH OF SLUMS AND SQUATTERS

The basic characteristic of slum and squatter areas in Asian cities is that they developed outside the legal framework of city management and in most cases they are built by their inhabitants by mobilizing limited resources that they could afford. Therefore, due to unauthorized nature of these settlements and illegal land tenure they have rare access to publicly provided infrastructure facilities. Past development history of low-income neighboring countries reveal that the residents after a process of consolidation, either go for their own rudimentary infrastructure solutions or create pressure to build up public opinion in favor of providing them with basic service.

Most important urban settlement in Asia have taken place in the cities like Bandung, Bangkok, Colombo, Bombay etc. They represent comparatively richer places in relation to their rural hinterland. For example, fifty-five percent of Thailand's Gross Domestic Product (GDP) is generated only in Bangkok city and during 1976 per capita income in the city was recorded three times higher than the national average. Similar trend is observed in Karachi where per capita income was two and half fold higher than the national average and twice as high as that of Calcutta city. In Bandung, the income growth rate is thirteen percent while the national average represented only nine percent, the richest city in India, contributes one third of the total income tax and fifty percent of the customs and excise revenues to the national exchequer.
The economic potentiality of these cities attracted large-scale migration, which, coupled with the relatively high rate of natural increases in the 1960 and 1970's rapidly increased their respective metropolitan population. These migrants were absorbed mostly in informal sectors, although many of them are not having stable jobs and earned very little. Hence this large low-income people in these rich cities remained practically poor, which has formed the bulk of slum population.

4.3 CONDITION OF SQUATTERS AND SLUMS IN ASIAN CITIES

In Asian cities, government intervention in low-income housing issues is as yet too negligible. Generally, commercial enterprises only come forward to sell housing to the migrants which is too expensive to match their economic affordability. Hence, the result is overcrowding within authorised housing and widespread unauthorised self-help house construction.

The history of low-income housing in Bangkok (Thailand) reveals that the slum areas are relatively small pockets of self-built neighbourhoods where land owners usually let plots through a contractual agreement to low-income families. Therefore, land tenure is secured within the contractual period but when the contractual period is over then the tenureship becomes uncertain. Judging from this view point alone, most of the buildings are constructed with non-durable materials.
Water supply and house registration number is obtained by land lords whereas toilet is built by the residents when they construct their houses. There are some four hundred slum locations in Bangkok with residential densities two hundred to eight hundred persons per hectare. The Klong Tony is a squatter community comprising of twenty five thousand people on low-lying areas belonging to Port Authority. Beside this, there are many small settlements along construction sites and along rail road tracks elsewhere in the city. About three to five percent of the population that is 200,000 to 300,000 people live on illegally occupied land.

Indonesian experience differ significantly with that of Thailand. In Bandung (Indonesia), about eighty percent of the population live in traditional Kampong settlements. This settlement in fact does not qualify to commonly accepted definition of slum and squatter settlement. Here settlement development follows customary land transaction and housebuilding. The security of tenure encourages the people to invest on their own shelter and also in communal infrastructure facilities. Within the administrative structure of urban management, the neighbourhoods are recognized and facilitates easy communication. Kampong located at the interior of the city normally develops into densely residential areas accommodating many renters. It may be noted that Kampong's itself are not too high densely residential areas.

It may be noted that in Colombo (Srilanka), dilapidated "tenement gardens" are refered to as slums. These tenement gardens represent single room accommodation with back to back rows of tenement buildings where common facilities are shared by
the residents. Rental levels are fixed and security of tenure is protected by proper legislative powers. Since 1973, the housing units are being purchased either by the tenants or are vested at the Government disposal.

The "shanties" in Colombo are squatter areas on lowlying under developed land which has evolved for the last twenty years. The increase in population in shanty areas, together with migration of families from tenement gardens due to overcrowding is accommodated by increased density and expansion rather than by the establishment of new settlements.

In Bombay (India) there are one hundred and forty four slum locations where people have illegally occupied land and built semi-permanent shelter. They have little tenure security with almost negligible infrastructure facilities. In these slum areas densities are high, nine hundred persons per hectare and accommodate many tenants in addition to owner-occupiers. But in recent days, due to scarcity of land, squatting has become difficult in Bombay. New comers take rent or buy plots in the existing slum communities. But for those who can not afford to take rent, they establish their shelter in margins of sidewalks, parks, water courses and bridges. In these places they are always subjected to constant harassment and frequent removal of their huts.

Bustees are considered as "Institutionalized" slums in Calcutta (India) where land, building owners, and the occupants of the Bustees are legally defined and acknowledged. Bustee housing are characterised by grouped structure subdivided into rooms of around ten square meters for one family. Fifteen to twenty
families share a water source, bathing place and bucket latrine. Next to Bustees, largest slum and squatters are 'refugees' (displaced persons which was resulted due to partition in 1947). Growth of these colonies are the outcome of self-help land purchasing principle, land sub-division, house construction and the provision of rudimentary infrastructure. Other colonies were regularized by state intervention, following years of squatting on poorly drained areas helped by absentee land owners. Other than these settlements many people live in pavement shacks and makeshift huts along canals, railway land and other public reserves.

4.4 PRESENT PRACTICES OF SLUM AND SQUATTER IMPROVEMENT

Settlement improvement programmes in most of the cities of South and South-East Asian countries begun with the financial assistance from their national government and also from international agencies. Government budgetary constraints did never allow to take up such settlement initiative independently. Moreover, governments of the cities under question are usually reluctant to support peoples housing efforts particularly in those cases where tenure is illegal, densities are high and terrain conditions are difficult.

The National Housing Authority took over the tasks of slum upgrading programme in Bangkok in 1977. But ultimately they could not provide long term security to the residents after the infrastructure improvement was completed due to land rental system. Moreover, in the absence of proper legislative framework the Housing Authority was not in a position to provide long term security on government or quasi-public land. So they have concentrated on the construction of walkways elevated above the
swampy grounds, drainage, improvement of water supply, garbage collection and fire protection. However, the Authority's first five-year slum upgrading programme benefitted forty thousand families. This programme was implemented with much difficulties in negotiating with landlords and in removing doubts put by the residents as to whether the services provided would be worth their changes.

The main obstacle, the authority had to face was the land tenure problem and as such the authority proposed for land sharing and implementation of the legislation framework for compulsory acquisition to provide long-term security to the residents.

In Bandung, village Development Unit known as Bang-Des, took up the responsibility for maintaining contracts and assisting in development of Kampong areas. Initially they used to receive minor fund from development budget and concentrated on improving physical aspects of environmental improvement. Subsequently their budget was increased substantially, and they took ten year programme of infrastructure investment for the city's poorly serviced Kampungs. Indonesian government initiated development programme of similar nature in other urban cities. In Bandung, with the financial assistance of the Asian Development Bank the city government in 1978 took up the responsibility to provide water supply, drainage system, communal toilet facilities, garbage disposal, paved roads and footpath.
Under the aegis of the United Nations Environment Programme, two Kampongs in Bandung were taken up to experiment the principles of integrated slum upgrading and new infrastructure technologies. The programme was designed to insist on the use of local resources and community decision making regarding the type and scale of improvements. In two years time, modest success was achieved in upgrading community water supply, toilet facilities, and establishing a network of garbage collection.

In Colombo, the Government nationalized "occupied dwellings without ownership" by enacting law in 1973 and afterwards legislation was made during 1977 to hand over all surplus houses vested in the Government having rental value of less than Rs. 25 to their occupants which in fact brought significant change in tenure condition for the residents of the tenement gardens. Slum tenants became owner-occupier although the dwellings were in very poor condition with appreciably no communal infrastructure and service facilities. Therefore for improving roads, toilet, water facilities and for recovering the cost of these services from the users a "Common Amenities Board" was established.

Slum and shanty Upgrading Programme financed by national housing budget and foreign donors was undertaken in 1978 which attempted for the permanent on-site-improvement of low-income settlements. This programme also attempted to provide security of tenure, regularization of settlement layout to create suitable areas and sponsoring of loan schemes to facilitate more rapid self-help housing improvement. Through this programme, it is expected to make a substantial impact on the habitat of low-income households.
In Bombay, slum areas Act of 1971 and Maharashtra Slum Improvement Board Act of 1973 provided funding for the construction of water supply, drainage and communal toilet facilities in slums located on government land. In 1976, the Government took up the scheme of issuing identity cards with the objective of identifying the occupants and recovering fees and charges. The card did not give tenure right to the holders but makes families eligible for compensation if the settlement required to be demolished or relocated. By 1980 the condition of two third of slum population was improved. However, slum improvement in Bombay does not imply permanent low-income settlement development.

In Calcutta, West Bengal Slum Areas Act of 1971 provided for two courses of public sector intervention, one for environmental improvements without interference with the rights and interests of landowners and hutowners, and the other for redevelopment with restructuring of land use and services, bustees were selected as the principal component. Since they make up seventy five percent of the slum population, they have defined geographical boundaries and are recorded in municipal registers; their status is legalized and are treated as economically serviced communities. The Bustee Improvement Programme consists of providing sewer latrines or septic tank, potable water supplies, surface drainage, road and footpath paving, street lighting and solid waste collection points. By 1983 sixty two thousand five hundred latrines have been constructed, twenty one thousand water taps were provided, sixteen hundred wells were sunk and ten thousand streetlights were erected. The programme as a whole benefitted a total of 1.9 million population.
Zonal Advisory Committees were set up within the municipalities with increased power for identification of areas for improvement and to recommend requirements for the allocation of improvement budget. This was done in order to draw up proper coordination with municipalities with respect to non-conforming standards and responsibilities for operation and maintenance of the improved services.

4.5 UPGRADING PRINCIPLES AND STANDARDS PRACTISED IN ASIAN COUNTRIES

During 1970's, respective governments of many Asian countries adopted various policies for the development of low-income settlements. These policies have been evolved surpassing the legal framework of accepted norms of residential development with the aim to formulate more positive development strategies by integrating the areas within the regular development process of the city. In fact, large scale eviction policies, relocation or passive tolerance of slums and squatter areas were subsequently replaced by government policy initiative. Settlement improvement policies generally incorporate four intervening principle in order to preserve and upgrade the housing stock where low-income families find shelter and which provide serviced land for self-help housing construction. These are:

a) Provision of various measures leading to and ensuring tenure security;

b) Provision of infrastructure as well as other residential services;

c) Participation by the residents in all the stages of planning, implementation and also in maintenance of new facilities; and

d) Recovery of cost to provide financial basis for the sustained expansion of the upgrading programme.
The above mentioned upgrading principles will have different impact depending on the underlined objectives and merit of individual case as may vary in different cities due to heterogenous nature and extent of low-income settlement. In the context of above principles, settlement improvement programmes in Asian cities are discussed below:

4.5.1 Security of Tenure

Security of tenure depends on the political and administrative environment prevailing in each country and as such country experiences may differ.

In Bangkok, the authority developed mechanism of ensuring security of tenure for residents in improved neighbourhood as well as a degree of protection from arbitrary rent increases. In the form of long-term leases, the authority took land from public or institutional owners and the same was sublet to the residents. The slum upgrading office by means of various methods also acquired houses which are not inhabited by the owners and in course of time sold or leased them out to their tenants. When upgrading was undertaken on private property, long-term agreement between landowners and current tenants were proposed with controlled rent increases for a period of five years.

This mechanism had the drawback of bureaucratic implication of administering the multitude of lease arrangement and fee collection. As a result the authority hardly took up any programme for improving basic infrastructure without any formal commitment from the landlord to grant long-term security to the tenants. In order to overcome this drawback of the policy, greater legislative power has been proposed to force landowners to accept slum improvement with security of tenure.
In implementing such legislative power however, care must be taken so that low-income families are not deprived of land supply.

The tenure issue in Philippines is cardinal, partly because of the previous arbitrary resettlement practices and partly because of the importance that Filipinos attach to individual land ownership.

The process of tenure legalisation in Philippines involves in "tagging" structures and registering the resident population. This means that it will freeze total development in the area. Then 'reblocking' of the area is done by three alternatives which involves resettlement of residents to adjoining sites and service projects. Private plot and public rights of way are subdivided by reblocking. Then twenty five year transferable lease is given to those who are awarded with a plot which also includes option to purchase a freehold title. This is how the Zonal Improvement Programme (ZIP) in Philippine approached the tenure question.

Kampong Improvement Programme (KIP) in Jakarta (Indonesia) has faced number of difficulties due to traditional tenure arrangement, highly fragmentation of holdings and of (Urban) land property. Due to the aforesaid problems it was also not possible to register land rights at the Kampong areas. But the policy assured that for a term of five years, the improved area will not be disturbed by redevelopment projects. In real practice such an assurance was found to be not enough to save Kampongs which are strategically situated in the city centre from redevelopment for any commercial reason. In fact, as a matter of policy, the KIP in Jakarta has by-passed the issue of tenure.
4.5.2 Provision of Infrastructure and Services

Upgrading programmes underlying the principle of provision of infrastructure as well as other services depends largely on physical conditions prevailing in different cities. For example, regional setting, rainfall, terrain characteristics, water level etc. influences greatly in choosing strategies for development. Considerable variations in these conditions also noticeable in Asian cities as summarized below:

(a) Locational Feature

It may be recorded that bulk water source for supplying water in Bombay city is 75-100 Kilometers away. The city of Calcutta relies on the River Hooghly as the main source for city water supplies, while Bangkok extract water from deep well and maintain a series of independent decentralized supply networks. Due to deltaic feature of the cities (Bangkok, Calcutta and Colombo) and intense tropical rainfall, the slum areas in these cities are subjected to flooding and stagnant waterpools. Flood protection requires an elaborate regional network of dykes, pumping stations and constant dredging of the silted riverbeds.

On the otherhand due to locational advantage of Bandung, with sloping hills in the north and flat plain in the south the run-off from northern urban areas finds its way through natural water courses and moderate gradients which offers less expensive possibilities to develop preventive measures than the regional dyke system prevailing in Bangkok. As long as it is not polluted, high ground water level ease the problem of water supply. But this creates problem for construction and maintenance of traditional human waste disposal facilities. In such case, environmental safety is achieved by protecting the latrines from over flooding.
b) **Major Services**

Summary of experiences of the South and South-East Asian countries according to major service category have been described as under.

1) **Water Supply**

The supply of drinking water by public agencies to all urban residents is still to be attained in most of the Asian cities. For low-income people, the supply is mostly in the form of a public standpipe or communal reservoir. For that reason, in most of the cases, the contract between municipalities and the leader of low-income group centres around providing a public standpipe or water truck service. But the presence of water vendors, illegal connections, locally dug shallow wells in slum and squatter settlement areas explains that this negotiation is not always successful. In the absence of heavy investment and continued expansion of water supply facility in almost all the Asian countries, a serious water shortage prevails as yet.

In Bandung, the supply network produces ninety thousand cubic metre per day which serves only twenty five percent of the city's population. Except a few of the slum population, who have access to piped water supply, the rest of the families relies on wells or open streams.
In Bangkok, due to the problem of low pressure and intermittent supply, most of the middle class families have built reservoirs and installed pumps. Such ad-hoc solution has further aggravated the problem for those who cannot afford this, especially low income groups. In low-income areas generally the piped water is served by public standpipe or communal reservoir. Outside the central system, numerous privately operated, independent networks were developed from deep tube wells, which also serve considerable number of people in low-income areas.

Within the administrative boundary, eighty one percent of all assessed properties in Colombo have connections to the system. Other than individual house connections, there are numerous privately supplied communal yardtaps which enable families to share the cost of connecting charges. The city also has an extensive network of public roadside standpipes and public bath houses.

Within the metropolitan area in Calcutta about three million people are supplied with piped water at a level of only sixty litres per capita per day. Where as one and a half million people with substantial number of slum population relies on surface water, open wells and hand-operated tube wells. The quality of groundwater is poor and river water is affected by high salinity caused by sea water intrusion during the drier months.

2) Human Waste Management

To solve human waste disposal, the main objective of public agencies is to provide water-borne sewerage system. Beside this system, in Bangkok and Karachi vacuum truck and sweeper services are also operated by municipal administration.
In almost all the cities of Asia where the people have no access to piped sewerage, municipal authorities and private house owners have installed septic tanks. Bandung, Karachi, Colombo - each city has a nucleus of sewerage system. Throughout Calcutta Metropolitan Area, sixty six percent of the population have access to piped sewerage. The remainder of population depends on bucket latrines, pits, water courses and open ground. In Bundung, the network comprises of nine and half kilometres of pipes. In Karachi the sewerage system collects forty percent of the human waste generated in the city. The rest is cleared by vacuum truck service and night soil collection.

In Bangkok, National Housing Authority has provided for individual or collective septic tanks which are periodically emptied by vacuum truck. But for slum population, the majority of Kampong residents in Bandung, the entire slum population of Bangkok, the shanties of Colombo and outlying katchi abadis in Karachi have no access to any municipal assistance for human waste disposal. In most of the low-income settlements, families build rudimentary toilets or use nearby streams and swamps for waste disposal.

3) **Solid-Waste Management**

This requires collection of garbages from household and industrial/commercial premises, transportation to transfer stations and then disposal at land fill sites, compost plant or incinerators. In low-income settlement areas the garbages are openly dumped and transported either manually or through hand carts to an intermediate transfer point.
In Bangkok, the refuse is dumped into collection vehicle by three men team from household containers and the trucks transport the material to landfill sites. In this way about fifty to fifty five percent refuse is actually collected and disposed of. For the rest of city's refuse and for low-income settlement areas, the refuse is collected from house-to-house with hand-pulled carts to collection point usually sited at places accessible to heavy vehicles. From this collection point once or twice a week the refuse is taken to landfill sites or composed plant by municipal authority.

In Calcutta, the facility is available for only four million of the population within Calcutta Corporation Area. Including low income settlement areas, the system includes depots in each of the one hundred wards. Handcarts with a capacity of one hundred and eighty litres is for operating manually and then direct transfer from handcarts to truck at the depot.

In Colombo, municipal workers empty house hold refuse into communal containers which are designed for direct tipping into loading trucks. But for low income neighbourhood, where accessibility by truck is restricted, open collection points are established where residents deposit the refuse. The daily collection of about four hundred tons is disposed of on landfill sites.

In Bandung, solid-waste is managed both by community and municipal sector. As Kampong areas are unaccesible to heavy vehicles, the residents have organized house-to-house collection with hand-pulled carts. The refuse is deposited at road side collection points, where municipal trucks operate once or twice a week. But due to shortage of transport facilities and maintenance problem it only covers forty percent of urban population.
4) **Drainage System**

Cities in this continent located in wet monsoon zone, are subjected to flooding. Much of the land mass in these cities is low-lying and flat.

In Bangkok, topographic variations are about one metre. For drainage purpose, previously an extensive canal system served the purpose but now many of these canals have been filled and converted into traffic routes for vehicles. To save the area from flooding, private developers usually raise the ground by one to two metres for housing project to protect the area from flood, leaving the low-income settlements in the depressed area, water-logged and subject to the additional run-off.

In Colombo, urban development and landfill have already started eroding the retention capacity of natural drainage system and low-lying marshy areas. In order to overcome this, an elaborate network of storm drains is under construction to supplement the natural drainage. Beside this, new pump station and strict control of urban development on canal banks and lowlying areas are planned to overcome drainage problem.

In Bandung, due to favourable topographic condition, the drainage is possible through natural river course. With sufficient gradients, simple, open roadside storm drains provides adequate provision in the built-up areas. In contrast, Calcutta's topography is such that the slope of the land is towards east which is opposite to the natural drainage channel of the River Hooghly. This requires extensive drainage network and the provision of pumping station.
In all these cities storm water disposal coping with waste water generated by households is manageable. Practically where sewer lines, drainage canal, or open water course pass through urban development, whether legal or unauthorised, households connect the drains from kitchens and waste places. Even in neighbourhood where no municipal infrastructure is available but natural slope has sufficient gradient to carry the run-off, communities improvise narrow ditches for both drainage and waste water. Moreover, low-lying localities, and many slums and squatter settlements in Bangkok, Calcutta, Colombo use this type of marginal land. In Colombo utilization of this type of marginal land for waste water disposal adds to the problems of the formation of stagnant pools which remain throughout the wet season because of inadequate drainage.

4.5.3 Community Participation and Institutional Arrangements

While undertaking upgrading programmes community participation should be encouraged at all levels of decision making and implementation. Self-help practices should be matched with improved technical inputs, appropriate resources and credit facilities.

In Zakarta, Bangkok and Manila, while implementing such programmes, voluntary and non governmental organizations had played their role in motivating and supporting communities. It may be mentioned that for successful implementation of programme, the project team has established credibility with the community.
Development and maintenance of urban-scale infrastructure provision is gradually transferring from routine municipal department to semi-autonomous public agencies. This is because international agencies who finance the extension of basic urban services have preferred for relative autonomous functional separation of infrastructure agencies. This strategy is justified with a view to keep separate accounts of expenditure and cost recovery. But one thing should be brought in mind that too much independence can hamper overall co-ordination and can hamper long term planning and routine operational policies.

In Bangkok, the Metropolitan Water Works Authority is an independent public body directly under the control of the Ministry of Interior. However, the Department of Public Cleaning and the Department of Drainage are within the Bangkok Metropolitan Authority.

In Colombo, water supply has been entrusted to National Water and Drainage Board and the Colombo Municipal Council has been entrusted for the operation and maintenance of the system.

In Bandung, recent reorganisation of the Municipal government resulted in creation of a semi-autonomous Municipal Water Enterprise, a function which previously belonged to the city's Department of Public Works.

From 1974 Calcutta Metropolitan Development Authority took over planning, co-ordination and execution responsibilities of water supply, sewerage, drainage, traffic and transportation, bustee improvement and new township and area development. Solid-waste management remains a municipal responsibility and bustee improvement is scheduled to be transferred to the municipalities to improve the relationship between implementation and maintenance.
4.5.4 Cost Recovery

To finance settlement improvement programme, the following issues must be considered:

Firstly, source of finance to start the programme and to continue it when the recovery of costs is not linked to the actual beneficiaries.

Secondly, the residents who belong to the lowest income group out of mixed income groups who can not pay for the services they receive through this project, would necessarily mean their displacement. Thirdly, when the residents receive leasehold title, they acquire an asset in the urban land market. The transfer price is difficult to fix whether the price should be same as current market value of adjacent properties, or deflated price reflecting that its use is fixed and unmarketable, or the likely market price of the upgraded plots.

In the light of the above issues the programmes in Jakarta, Bangkok and Manila are discussed below.

To pursue settlement programme on metropolitan or national scale, there seems to be heavy reliance on outside loans.

The KIP in Jakarta extending its activity to all Indonesian cities required external assistance from the IBRD and other bilateral sources. For Jakarta, KIP is responsible for expenditure of about eighteen percent of the yearly development budget of the city.
In Bangkok and Manila, the IBRD supplemented budget for such programmes. Within the context of municipal budget, the infrastructure service development are relatively minor expenditures. In Bangkok, infrastructure cost of the slum improvement programme amounts to two percent of the yearly capital expenditure of seven key public agencies associated with urban development and servicing functions in the Bangkok metropolitan region.

In Philippines, the implementation of the ZIP requires four percent of the combined services budget to be financed by external assistance or other bilateral sources.

Thus from the above discussion, it is apparent that affordability of local government should not be a constraint on settlement improvement strategies, because in all the cases, there is a substantial central government resource transfer component.

Secondly, the strategy of direct cost recovery from the residents of low-income settlement remains politically unfeasible. In Jakarta, the KIP provided regular government infrastructure services, and they generated finance by improving existing land taxation and higher rates for land on which specialized commercial activities were located.

In Bangkok, the new lease price proposed for the direct cost recovery for infrastructure was incorporated within it. But, when it was found that no tenure regularization was feasible, the concept of direct cost recovery of capital expenditure was dropped.
In Manila, it is proposed that direct beneficiaries of the upgraded settlement would pay for the price of land acquisition and also for the infrastructure development cost. This recovery arrangement seems to be feasible in Tondo and payments are now being collected. But whether the people would regularly pay over a period of twenty-five years remains to be seen. But, as in Tondo, the same could not be achieved by NHA technical team in other ZIP sites.

In Tondo the land price component was very low, but in other ZIP sites the land cost is marginally lower than current market prices. The second difference is due to the complicated internal sub-letting and renting arrangement that prevail in some of the inner-city ZIP areas.

The presidential decree gave the ZIP a legal tool to acquire the land and transfer the improved plots to the residents either on an ownership or leasehold basis. But the economic mechanism which guides the process of transferring the market-dominated cost of the acquired property to the beneficiaries is not very clear. Some communities simply could not afford to pay for the land transfer cost though there was substantial difference in land prices on ZIP sites. To overcome this the authority has proposed to create a mechanism of cross subsidy by averaging out land acquisition costs among the sites.
4.6 CONCLUSION

Reviewing the upgrading principles and standards in South and South East Asian countries, some general conclusions have been drawn as mentioned below:

a) Settlement problem of the low-income groups in all the Asian countries is very acute which calls for immediate attention at Govt. as well as private level.

b) Lack of land ownership, low per capita income and inadequate employment opportunities are the basic reasons leading to growth of slums and squatter and rapid increase in rural-urban migration phenomenon.

c) Physical condition of squatters and slums in almost all the Asian cities is quite poor and does not suit the living environment. Reasons are not only financial but also administrative, organisational as well as motivational.

d) Slums and squatter improvement in all the countries of Asia had to follow a long path of reorganization and had to proceed through trial and error process.

e) Government intervention was necessary through legal framework or by means of enacting laws to formulate national policies for development of low-income settlement.

f) Upgrading principles and standards presently practised in various Asian countries vary significantly depending on socio-political and economic condition of the individual country, although settlement improvement policy pursued by these countries aims to realize identical objective.
SUMMARY OF FINDINGS AND THE MODEL FOR UPGRADING OF SHAHEEDNAGAR AREA

5.1 IDENTIFICATION OF PROBLEMS IN THE STUDY AREA

The seventy acres of land in the Shaheednagar area have a sizeable number of population of about 25,000. The area is fairly level with large areas of low lands and ditches and is formed by the alluvial deposits of the Buriganga river. Vacant space and ditches comprises about thirty percent of the total land use, out of which eighty five percent is comprised of low lying areas, water bodies and ditches. Since community facilities comprises one percent of the land, low land and ditches can be reclaimed for creating open spaces or for other community facilities which are very essential for healthy community formation. Moreover, in the study area only seven percent of the household heads are day labourer and two percent are unemployed. Therefore, extensive land fill programme is expected to create employment opportunities for unskilled labourer and also for the under and unemployed population. Further, from category 'Hawker' and 'others' as mentioned in Table-13 which comprises twelve percent of the household heads, some of them will also have the opportunity to shift their profession and can work as scavengers to collect valuable waste from garbage landfill sites.

The area has nearly all the characteristics of a slum area in terms of dwelling construction and living space. More than seventy percent of the houses are kutcha structure and about sixty seven percent of the households have total living space of within one hundred and fifty square feet (for an average household of about five persons). In respect of number of rooms occupied by the residents, more than seventy percent of the households have one room while only 12.3 percent of the households have three rooms.
The majority of the households (40.67 percent) have three to four members per household while 30 and 14.33 percent of the households have five to six and seven to eight members per household respectively. The average household size is relatively low at 4.92 compared to national average of 5.8 and most of them have only one working member per household.

Eighty eight percent of the households have hired the dwellings while the rest twelve percent are habited by the owners. This shows that a significant portion of the house owners live outside the locality, which means the land owner will have less interest for the development of the locality. Since, majority of the residents are tenants, their representation in the process of policy making and its implementation is vitally important. In this context or in otherwise, institutional body responsible for upgrading of this locality should have representative from tenants to speak and reflect their problem.

Regarding monthly rent, only seven percent of the households pay a monthly rent exceeding Taka two hundred and fifty, while fifty nine percent of the households pay a monthly rent upto Taka one hundred and fifty per month. Monthly rent paid by the residents is comparatively cheaper than other parts of Dhaka city. This is due to the fact that the study area lacks in minimum possible environmental facilities that are available in other parts of Dhaka city.

About fifty percent of the population under survey are fully employed and twenty six percent population are either employed for less than twelve months or on day to day basis or unemployed. This shows that employment generation programme would need to be initiated to create adequate employment opportunities so that proper utilization of the workforce could be attained round the year.

Pucca road comprises only twenty five percent of the total road network system, while kutcha road accounts for seventy percent. This shows that if the road network system is improved then there is abundant scope to improve the quality of life of the people living there.

Dhaka water and sewerage authority supplies water to cover sixty percent of the households of which twenty percent are served by public stand pipe. Tubewell serves twenty five percent of the households. From our survey it was found that community structure is such that around one row of houses on each side of footpath or around a communal courtyard, there exists group of other dwellings which are quite considerable in number. From study findings it was also established that this group of houses belong to one landlord and they are served by public stand pipe and tubewells. So we can easily convert this public stand post to plot stand post which will serve only identified number of households. Thus it would be easier to receive the cost and minimise the water from being wasted and would provide direct means to recover cost of the services from forty five percent of the households.

From survey it was found that thirty five percent of the households have formal water connection and five percent of the households have no formal water connection. That means they collect water by paying to their neighbours which speaks of their ability. So we can extend private connection to forty percent of the households.
Regarding human waste, seventy three percent of the households have kutcha latrines and the excreta of these latrines are discharged directly into the ground. Like water supply system, here also we can go for private toilet of pucca and semi-pucca structures and grouped community latrines with identified users for the group of houses which belongs to one landlord.

Rickshawpullers, Mill/Factory worker and small traders are the principal occupational groups of the area (About seventy percent of the households). Besides, bulk of the unemployed population are willing and able to work as physical labourer but there are no such employment opportunities for them. Since, thirty percent of the area represent low lying, these unskilled labourer can work at land fill sites and also as scavengers collecting valuable wastes.

Income and expenditure data as revealed from the study indicate that the area is not inhabited by rich people. Sixty six percent of households have a monthly income of Tk. 851-1650 and only four percent of the households have a monthly income of more than Taka 4000. Regarding expenditure, seventy six percent of the households spend between Taka 851-1150 while only 2.33 percent of the households spend more than Tk. 4000.

5.2 FIXATION OF STANDARD FOR UPGRADING

Fixation of standards depends on various factors such as characteristics of locality, physical condition, socio-economic condition and also finance involved to enforce the standard. There may be various options for the standards that may be acceptable and appropriate for the low income settlements. Some of these options are:
Option 1: To create a high quality type of environment with excessive land and infrastructure facilities.

Option 2: To create a lower quality of environment which is affordable by poorer people that may be acceptable and desirable in certain areas of the city.

Option 3: Without fixing performance standard, requirements are met in a number of way under various situation.

All these options have advantages and disadvantages but here we will not go into details since section 5.3 is devoted to the issues of appropriate and affordable standard. However from the above three options as have been outlined, it appears that option No. 3 is more suitable to satisfy the needs of the low-income people as well as more efficient and effective both in terms of achievement and cost-effectiveness. Moreover, this option ensures the poor to achieve security of tenure and access to facilities.

5.3 APPROPRIATE AND AFFORDABLE STANDARDS

People should be encouraged to improve both their own dwellings and as well as other community buildings incrementaly, either single or in a group under certain standard. Therefore, certain degree of enforcement need to be applied at local or community level with higher level supervision and the reasons for enforcement should be made public and explained by community leaders.

Firstly, standards should reflect appropriate environmental condition and life style and it should permit the use of traditional materials and construction techniques as well as intermediate technology with appropriate use of local skill.
Standard should also permit the plot holder to use his dwelling for 'small home industry' or to permit breeding of chicken or livestock on the premises so long they do not create health hazards or an unreasonable amount of noise. Standard should deal with height regulation of the dwellings so as to permit light and ventilation on streets.

Secondly, the upgrading of existing properties must be taken into account while considering affordable standards for urban betterment. For this the people should be motivated to upgrade their existing properties and to satisfy reasonable standards of health and safety.

Thirdly, there must be a reasonable set of guidelines available for the people, which they can understand and accept, and on the basis of which they can act and improve their properties. These could be presented in the form of illustrated sketches or even cartoons, cheap drawings of dwelling plans and on site free or very cheap advice by technical experts to indicate how people might carry out improvements.

Finally, formulation of standards would require a system of enforcement which is effective. It is important to institute some form of enforcement or checking at local level which has delegated powers and is responsible to the normal enforcing agency, in order to ensure that standards are being implemented.

5.4 UPGRADING PROGRAMMES FOR SHAHEEDNAGAR

Upgrading programmes for Shaheednagar would include the following components:

- Security of Tenureship.
5.4.1 Security of Tenureship

The whole system of tenureship will remain dependent on market competition. But the market competition will be regulated by making the provision of standards appropriate and affordable.

In Shaheednagar area proposed upgrading programmes would not bring any radical change in the present state of security of tenureship. This is because to incorporate any change in the existing tenureship pattern would require legislative coverage which in fact is absent at the moment and is a political issue irrespective of social justification.

Therefore, present land holdings, rental system, authorised and or unauthorised occupation of public lands etc. would not be disturbed at the initial stage to start with the upgrading programmes. Such policy of tenureship is advocated in order to avoid any social or political unrest with the aim to convince the people of the area about the expected benefits of the settlement upgrading programme.

Upgrading programme under the present tenureship pattern may be difficult in negotiating with the residents as well as with the occupants of land holdings since it would not provide any permanent security of tenureship. But it is expected that it would not be difficult to convince the residents as regards worthiness of the overall upgrading programme which in course of time with the help of the government initiative would lead to resolve the problem of tenureship under an accepted devise of mechanism for the purpose.
5.4.2 Community Participation and Institutional Authority for Shaheednagar

This authority is to be created at ward level under direct supervision of Dhaka Municipal Corporation. Dhaka Municipal Corporation would receive national policy from Ministry of Local Government. So at this level policy would be formulated and implemented. The authority for upgrading Shaheednagar would consist of:

- Ward Commissioner of the municipality to act as member secretary of the committee. He will co-ordinate policy and programmes related to development with the Dhaka municipality.

- Representative from residents. Since, settlement development is to be determined by residents themselves, the participation from residents would be comprehensive. From our survey it was found that eighty eight percent of the households are tenants and twelve percent are owners. So while choosing representatives from residents, care must be taken so that tenants have their representation to speak and highlight their problems. Also representation from owners would need to be taken into account with due consideration.

- Professional representatives from dominant professional groups like rickshaw pullers, mill factory workers and small traders would also be incorporated.

- Representation from technical representatives as planners, economist, engineers etc.

The function of the authority at this level would be to identify the problems, set up priorities at municipal level and implement the same as setforth by planning team at municipal level.
5.4.3 Policy for Financing the Programme

Since replicability is of prime importance, the strategy for cost recovery of capital expenditure of infrastructure provision is to be designed with the participation of the residents. That is thirty percent of the cost would be borne by the area people and the rest would be borne by Government. Since, environmental facilities are at minimum level, government would come forward to finance the municipal authority to develop the network. But there should be participation from residents by financing the programme as much as possible. This may be attained by a set of policies as described below:

- In Shaheednagar, since thirty percent of the land are ditches and lowlands, the authority can fill in the area by garbage collection and with the built up facilities and thereby can make shopping centres for selling to the people to recover the cost of infrastructure provision.

- Some of the filled up lands may be sold to the public for cost recovery of capital expenditure of infrastructure provision.

- In order to recover the cost of infrastructure provision from owners of land within the locality, they could be asked to surrender some of their lands with houses to the upgrading authority. Upgrading authority may sell the same to public or give lease to the tenants living there.
- The recurring cost of infrastructure provision would be met by levying directly from the users.

5.4.4 Proposed Standards for Shaheednagar

The criteria for the selection of standards is based on the following objectives:

- to ensure a improved living environment,
- to ensure the health and safety of the occupants,
- to provide acceptable facilities for access,
- to provide adequate social facilities including health clinics, schools, mosques, recreation and sports centres etc.
- to prevent nuisance and pollution and flooding,
- to enable incremental improvement of standards to occur within a controlled or guided policy framework.

The main aim of the proposed outline for standard is to improve living condition in the area and to retain the majority of the residents without materially changing rental or tenure condition and to determine the principle and policy framework for upgrading and also to determine the standards and criteria for development at various levels thereof. The basic categories into which these standards would fall are:
A. Standard for circulation and access
B. Environmental standard
C. Standard for social facilities and services
D. Employment opportunities
E. Social Welfare programme

A. Standard for Circulation and Access

Other than some heavier vehicles carrying goods to serve local industry, traffic in Shaheednagar consists of pedestrians and rickshaws.

Considering the type of traffic which may be generated, social group of people who will be accommodated in the area and their requirement of emergency services and restriction of access to plots to discourage the higher income group from exploiting the poor land tenures, four different types of access are proposed for the study area (1) Footpath (2) Rickshaw routes (3) Secondary access roads (4) Main access roads.

Footpath: These are narrow lanes and bylanes for pedestrians only. Such access ways will have a width of 2.0 metre and are represented by $R_4$ in Map No. 03. These will serve the following purposes:

- Provide final access to the plots
- Provide surface drainage of storm and household waste water to the drainage system.
- Carry water supply line, power and gas services.
- Allow no motor vehicle.
**Rickshaw Routes:** These are lanes and byelanes for light traffic which is represented by R3 with a width of 4.0 metres. These will serve the following purposes:

- Allow two-way traffic of rickshaw and handcarts for solid-waste collection and general transport of goods.

- Provide surface drainage of storm and household waste water to the drainage system.

- Carry water supply, power, gas and may also carry telephone service.

- May allow some one way traffic like auto-rickshaw but no car or landrover.

**Secondary Access Roads:** These are local access roads for light and medium traffic which are marked as R2 with width of 5.0 metres. These are meant for the following purposes:

- Allow access for emergency vehicles and solid waste collection trucks. But allows no truck or bus.

- Allow drainage of storm and household waste water to the drainage system.

- Carry water supply, power, gas and telephone services.
Main Access Roads: These are the major accesses for all light and medium traffic with occasional heavy traffic which are marked as R, with a width of 7.5 meters. These roads will serve the undermentioned purposes:

- Allow all types of light and medium traffic and one way buses and trucks with some crossing points.

- Allow main drainage of storm and household waste water and effluents to drainage system.

- Carry water supply, power, gas and telephone services.

The road system has been proposed with:

- No acquisition of land.
- With open drain on both side.
- To be constructed with an objective to make partially flood free, if not fully during high flood time in order to avoid excessive cost of road development.

The road system has been proposed on the existing right-of-ways. No acquisition of land will be required for this purpose. The road system will have pucca open drain on both sides. In order to avoid excessive cost of road development, these will not be constructed fully flood free during high flood time. The road network has not been designed with access for firefighting, since it will require additional width of roads and greater radius. But the problem of fire fighting can be resolved by installation of hydrants at points on major roads. Rickshaw/push cart stand has
been provided by the side of the road in order to make easy movement of the traffic without disturbance by standing vehicles.

Besides road network system, it was also observed that a large number of passengers use boat as their mode of transport. The passengers are mainly from the surrounding areas of Rasulpur and Jinjira and there is some cross-traffic between Islamabagh and Shaheednagar. In order to facilitate riverine traffic flow, the river ghats as shown in the drawing requires improvement to facilitate the movement of the people.

B. Environmental Standard

This include upgrading of the following:

- Water supply
- Sanitation
- Storm water drainage
- Solid waste collection and disposal
- Electricity/Gas supply and telephone services

Water Supply: The majority of the residents living in the study area do not have proper access to safe drinking water. Mortality and morbidity rates are high. Improvement of bulk water supply in the study area can be achieved by extending already existing water distribution network entering the area from adjacent old Dhaka. Since water pressure is very low in the existing line, deep tubewell well may be installed to increase the pressure
needed for proper distribution. As the occupants belong to the lowest income groups, shallow tube-wells with hand pump may seem to be appropriate in respect of cost for the preliminary improvement of the existing poor water supply facilities.

As regards, type of services presently provided to the consumers, it may be noted that private connection is only affordable by the middle and higher income groups living in the semi-pucca and pucca houses. Connection to private houses should be increased as much as possible in order to benefit cost recovery. And care should be taken for proper disposal of the waste water by septic tank with soakage facilities. It is expected that with increased facilities in the near future, twenty percent of the households can afford private connection.

In the study area, the community structure is such that there is one row of houses on each side of footpath or around a communal courtyard a number of dwellings have grouped together. Each group of houses belong to one landlord. If water connection is given to each group of dwellings, then that standpost will serve only identified number of households which will make easy to recover the cost and help minimise waste of water. For the study area, perhaps this will be the most suitable solution. It is expected that this system would serve sixty percent of the households.
After plot standpost has been provided, it will minimise the requirement of providing public standpost since it has proven drawback of water wastages and difficulty in levying charges from the consumers. But public standpost will be required to serve remaining twenty percent of the households living in the low-lying areas which are flooded during monsoon. These areas will be served through public standpost placed at suitable distances along the newly proposed elevated roads and footpath.

Sanitation

The sanitation system in the study area is predominantly dry pits and disposal in sanitary surface drainage. Often dry pit latrines are emptied into the drains, and instead of infiltrating effluent into the subsoil it is discharged directly into the drains. The vast majority of the population depend on kutchha latrines mostly built above ponds, ditches or the river.

Proposed improvement to such system may be (1) Pour-flush latrines in high-lying land areas and (2) community pour-flush latrines along raised level piers in the low lying areas.

In high-lying land areas pour-flush latrine may be the choice for pucca and semi-pucca dwellings. This will have a toilet within the house periphery and twin soak pits outside. The squatting pan is designed in such a way so that human excreta
can be flushed by hand pouring of water. In the study area pucca and semi-pucca dwellings constitute only eight and twenty two percent respectively. This type of latrines will be provided for such dwellings and will minimise sanitation problem of the area.

In the low-lying areas latrines have to be provided on the basis of community latrines. A number of community sanitation block is to be constructed with each toilet for the exclusive use of the households. This system may exist with similar arrangement as that of yard standpost connection for water supply as discussed earlier. The plot owner will go for construction of such toilet with assistance from the government. With the improved condition of added facilities, the land owner will not displace the existing tenants but will levy the maintenance cost from the users.

Storm Water Drainage

Seasonal flooding affects the area and there is almost negligible stormwater/sullage water drainage. During monsoon water logging occurs which become polluted by human waste discharge.

The existing situation in the study area can be improved by solving the problems in high level as well as low level areas. In high level areas, the ditches are to be filled in and drainage is to be provided for the ditches in low-lying
areas after partial fill. Sanitary land fill of major ditches may be done, but some ditches shall have to be kept to collect stormwater and to be gradually filled in later on. This will imply that storage of stormwater in ponds and ditches during the period of high river levels is still necessary. Gradually these ditches will be filled up when the surrounding area is provided with proper surface drainage system.

For the low-lying land, also drainage and partial sanitary land fill of ditches is necessary and will be done phase-wise to maximise the effectiveness of the area under surface drainage system.

Solid Waste Collection and Disposal

There are public dustbins only along Rajnarayandhar road in the study area. Apart from these, formal garbage collection system is totally absent. In normal practice, garbage is dumped into nearby ditches.

In order to improve the existing situation, number of measures can be taken. All improved roads and footpaths including commercial and public building areas to be provided with public dustbins. Then Dhaka Municipal Corporation will be entrusted to extend its conservancy services to the study area. The solid wastes and garbages may be used for landfill in the ditches of the area. Besides public dustbin, houses on high-lying areas may be provided with private dustbins on a large scale.

2. Sanitary land fill is the process of filling up the ditches with garbages collected from collection point and compacting them by layers by mechanical means and then covering them by carried earth so as to prevent health hazard and bad smell.
Electricity/Gas Supply and Telephone Services

In Shaheednagar, about fifty percent of the households have electricity connections. The main lines enter the area from Lalbagh Fort via Rajnarayandhar Road and from Jayannath Shaha road. For street lighting purposes Dhaka Municipal Corporation has extended the network encompassing kutcha roads and footpaths. For improvement of this system PDB would take over these lines and convert it into proper distribution lines from which legal house connection can be made. This will imply for new reclaimed areas as well.

Gas have access to fifteen percent of the houses of the area and in fact serving only the households located along the limited few improved access roads. Gas Company is already expanding their connections to those areas which have proper roads. It is expected that with the road improvement as proposed, gas connection will reach all the houses.

As regards telephone service is concerned, instead of improving private connections, coin operated telephone booths may be provided at all major road corner/commercial buildings in order to facilitate essential and emergency use of the low-income residents.
G. Standard for Social Facilities & Services

These include the following facilities:

- Open space and recreational facilities
- Education
- Social facilities and health

Open Space and Recreational Facilities: These facilities barely exist in the study area. In comparison with new Dhaka, old Dhaka as a whole has much less open space for recreational purposes. But from our survey of land use distribution it has been found that open spaces and ditches occupy thirty percent of total land in the area. Which shows that ample opportunity exists to convert ditches into open spaces, provided they are government khas land.

In deciding location, we should bear in mind that such locations should serve multi-purpose community facilities as playground, gymnasium, educational facilities, and also social facilities and health provisions. In the map are shown existing play-ground and the future space provision for above mentioned facilities.

Education: It is apparent from our study that educational facilities presently available in the study area are inadequate and that literacy level and standard of education fall well below the level existing in other areas of Bangladesh.
There are two educational institutions, of which one is formal primary school and the other one is informal school for adults, organised and managed by local Muslim Club members. Besides these institutions, a considerable number of students attend Lalbag Primary School.

It has been observed that children in the study area go to school less regularly than those in other areas of the city. Children are often forced by their parents to contribute to the family income. This factor shall have bearing on our proposed improvement programme in education sector.

If the average level of school enrollment is to raise to the same level as that of DMC (32.7%), Shaheednagar needs two large primary schools. That means one more primary school will have to be set up in the study area.

During the survey, it was found that children are forced by the parents to look for earning. In order to encourage school attendance, incentive like one time free meal, free school dress etc. are required to be provided by the public authority. Since the students in the study area attends secondary school outside the area, one secondary school may be set up within the study area to meet the present as well as future requirements.
Adult literacy programme in the evening may be started with the identification and registration of all persons who are illiterate and then imparting them basic education which may include how to read, write and basic arithmetic. This will have direct impact on improvement of overall education system in the locality.

D. Employment Opportunities

With the upgrading of the area, employment opportunities may be created in commerce, industry and other activities.

Trade and Commerce

The existing marketing facilities can be extended in Shaheednagar area by increasing the number of establishments dealing with various trade and commerce activities. Such market expansion will help increase employment opportunities for the people of the locality. However, two factors in our opinion need to be addressed in this regard. Firstly, to increase purchasing power of the people living there and secondly, to create adequate facilities in order to attract more buyers from the surrounding areas.

From our survey it was found that the study area is inhabited by low-income people and they comprises eighty five percent of the residents. Moreover, financial solvency of the people residing in the study area should not be looked in isolation rather it depends on the over-all economic condition of the country.
Therefore, this aspect of the problem under question is beyond the scope of this study. Any success in this regard however will depend on the steps taken by the government in this direction to make the condition better off.

As to the second factor, in Shaheednagar, the existing market can be expanded and improved by filling the adjacent ditches. After filling the ditches, Dhaka Municipal Corporation can make buildings to rent it out or to give lease to the interested persons for business. The market is ideally located near the river ghat which is the landing stage for main entry into Shaheednagar from river side. It is expected that the improved condition will attract more buyers from adjacent Rasulpur area and other nearby areas. This will help expansion of business activities and will increase employment opportunities in commerce and related activities.

**Industry**

In the past, large or medium scale industries could not develop in Shaheednagar area due to lack of adequate infrastructural facilities particularly due to poor road access. The only advantage of the study area may be characterised by its location along the river-side. Since, river has linkage with all the major rivers that connect all the districts of Bangladesh, it can offer a very cheap transportation facility which is needed to make the industry feasible depending on the nature and products of the industry.
As discussed earlier, if existing small industries are developed further with the support of financial assistance from banks or any other money lending agencies, these could provide opportunities for increasing significantly labour intensive production activities. It is expected that various types of small industries would find good location over Shaheednagar where supply of abundant unskilled and semi-skilled workers would not be difficult.

As suggested by local people, some of these industries may include plastic industries, rubber industries, toy-making, food processing and other home based industries. Growth of such industries invariably will help generate new employment opportunities in the study area.

Others

Since the study area requires extensive land fill programme, this will provide employment opportunities for unskilled labour over a very long period of time. In order to improve living condition of the low income settlers and since our effort is destined to improve the living condition of the people of the study area, it should be taken as policy matter that any one living in the study area is hired in preference to an outsider.
E. Social Welfare Programme

Social Welfare programme will be provided through community centre. Social Welfare services within the study area will integrate education, primary health care and community self-help programmes. The main objectives are to aware the people of the existing problems and suggest ways to overcome such problems through organisations, community activities and through providing skill development training programmes to increase the income generating potential of the community in order to make them more independent and self reliant. One community centre in Shaheednagar will serve the following elements of social welfare programme:

a) Youth development programme through imparting basic education to illiterate youths, cultural and sports activities, self-help programmes and construction of playgrounds etc.

b) Training to workers to participate in the social welfare programmes.

c) Income generating activities including programmes for the womenfolk.

d) Participation of community women in initiating women's Child Minding Programme in 'day care' on a self-help basis.

Primary Health Care Programme

The basic objective of this programme is to achieve Primary Health Care for all in the study area. The programme would include the followings:

a) For simple treatment & first aid - Primary Referral unit/ dispensary.
b) Immunization against major infection and childhood diseases.
c) Health education to promote awareness of prevailing health hazards and how to avoid these.
d) Family Planning and maternity facilities
e) Appropriate treatment of common diseases and injuries, and provision of essential drugs through traditional health care system and medical dispensaries.
f) Nutritional Rehabilitation Unit to provide therapeutic nutrition of malnourished children.

These activities would be carried out in the community centres within the study areas. Equipments and medicines may come as support from the government. These activities would run by trained staff and with NGO assistance (like CARE, Terredes-Homes etc.) and the government would provide expertise service only. We are to keep in mind that health of community reflects its prevailing economic level. Investment in health pay rich dividends, both in the form of improved human welfare and in increased productivity.
CHAPTER - 6

GENERAL MODEL FOR UPGRADING PROGRAMME FOR OUR CITIES

6.1 COMPONENTS OF UPGRADING MODEL

Upgrading principles and its implementation is a new concept in our society. Hence, a legislative coverage of such concept is required at first. Government would require by proper legislative power to enforce such concept so that it has lawful authority to implement its programmes related to upgrading development. Since replicability is a key objective of such concept, the strategies to deliver shelter to the urban poor should be designed without large subsidies.

The planning and implementation of upgrading programme will require new capacity within municipal government. And finally improved management is of prime importance for particular project area, where upgrading programme is to be initiated.

Considering above noted prerequisites a general model for upgrading programme would include the following components.

a) Community participation and institutional authority for upgrading programme.

b) Financial policy for upgrading programme.
6.2 COMMUNITY PARTICIPATION AND INSTITUTIONAL AUTHORITY
FOR UPGRADE

In upgrading programme community participation is to be encouraged at all level of decision making and implementation. Self help practices should be matched with improved technical inputs, appropriate resources and desired credit facilities. So in the context of our country, we see that for upgrading programme co-ordination of representatives is to be attained at three different levels:

01. National level (that is within ministry concerned with local government affairs).

02. Municipal level.

03. Action area level.

6.2.1 National Level

This would be a cell within the ministry of Local Government and rural development, which would be responsible to focus good will of government towards upgrading programmes and to demonstrate that such programmes are socially technically and economically viable. Broad policy guideline would be formulated here and communicated to the municipalities. The proposed cell at the ministry is discussed under the following heads:
a. Organization
b. Policy making and Evaluation
c. Training

a) Organisation

- One representative from the ministry would act as member secretary of this newly formed cell. He along with his team will be responsible for preparing national policy related to upgrading and will co-ordinate interministerial affairs concerning other ministries such as Planning Commission, Ministry of Finance etc.

- Representative from respective municipalities to intimate their plans and programmes for evaluation and reviewing at national level.

- Technical representatives as planners, engineers, economists etc. would need to be included for formulating national policy for upgrading and also for evaluating the completed projects.

- Representatives from donor agencies may be accommodated if they are directly involved with the upgrading programme.

b) Policy Making and Evaluation

The cell at the ministry would formulate national policy based on which municipalities would prepare upgrading proposals. They will also review the upgrading schemes carried out elsewhere in the country. Review of the schemes at national level and its subsequent evaluations would enable us to assess our achievement towards community development.

The evaluation would justify the viability of the upgrading programmes so that replicability of such concept can be achieved.
c) **Training**

Training at this level would include participants from action area level and also from municipal cell. This training is intended to impart skill to the representatives so that they can identify their problems, fix-up priorities and can skillfully implement the programme.

6.2.2 **Municipal Level**

One institutional body under the municipality would need to be created for upgrading programme. They would be directly under the ministry at national level. After receiving the problems and priorities for development from action area level, the upgrading authority would prepare five year plan for upgrading schemes. This five year plan would be in accordance with the policy setforth at national level. The institutional body of Municipality is discussed below.

a) **Organisation**

b) **Plan preparation & monitoring**

c) **Organisation**

- Representative from municipality would act as member secretary of the committee. He along with other members would act for formulating five year plan in accordance with national policy and based on problems and priorities received from action area level. That means they are to co-ordinate with the bottom level authority and with the national level authority.
- Ward Commissioner from action area to intimate their problem & to participate in the process of plan making as this would vary depending on the merit of individual case.

- Technical representatives as planners, engineers, economists would be required for making five year plan and for monitoring and reviewing the plans at various city locations.

b. **Plan Preparation and Monitoring**

After receiving problems the planning team would prepare five year plan in accordance with national policy guidelines. After the plan has been prepared and approved by the local authority at the area level, it would be sent to local authority for implementation. Municipal level authority would monitor the programme during implementation. Since authority at municipal level include representation from each action area, monitoring at this level would permit each other to acquaint with each others problem and also with their innovative ways in solving problems by themselves. Further, the authority at municipal level can draw inferences and instances from already running projects, and can suggest better ways for development. In a nutshell, they can give overall guidance to the authority at action area level. The authority at municipal level is also responsible for
looking at the interest of the people from such locality where upgrading programme is not presently carried out, so that by such programme they are not disturbed.

6.2.3 **Action Area Level**

This is the level for identification of problems and fixing up of priorities for development programmes. Also this is the level where policy would be implemented. Therefore, this action area level deserve serious attention and is discussed in more details under the following heads:

a) **Organisation**

- Ward Commissioner of the locality to act as member secretary of the committee. He is to co-ordinate policy and programme related to development with the authority at municipal level.

- Proportionate representation from the residents, that is from tenants and owners. The residents of the locality are to speak of their problems, their needs. The residents, are given opportunities to suggest development work in a way whatever and however much they consider necessary.
- Professional representatives from the locality.

- Technical representatives as planner, engineers, economists etc. are to review the policy set forth by popular participation from technical and planning point of view.

b) Identification of Problems and Fixing up of Priorities

As settlement development is to be determined by the residents themselves, the participation from residents would be comprehensive. Residents are to identify their problems and will fix-up the priorities for development work. This is the most important task in this process. For identifying their problems technical representatives would assist the people of the locality so that problem identification is done in a proper way without reflecting personal interest of any corner.

c) Implementation

After receiving five year plans from authority at municipal level, phase wise programme for implementation is to be prepared and implementation would start with the total monitoring of the upgrading authority. Monitoring is very much essential in this type of settlement improvement programme, because during implementation various new problems may come up which would require immediate solution at the very outset. Therefore, success of this programme largely depends on implementation mechanism.
6.3 FINANCIAL POLICY FOR UPGRADING PROGRAMME

There are two aspects of financial policy for upgrading programme. These are firstly, recovery of cost of capital expenditure of infrastructure provision, and secondly recovery of cost to sustain the programme for a long time.

Since replicability is of prime importance, the strategy for cost recovery of capital expenditure of infrastructure provision is to be designed with the participation from residents as much as practicable.

Recovery of cost to sustain the programme for a long time would definitely be made from the residents by levying charges based on certain acceptable criteria and principles.
CHAPTER - 7

POLICY RECOMMENDATION AND CONCLUSION

7.1 POLICY RECOMMENDATIONS

At present, Government's policy is to initiate development programmes catered to the needs of the rural sector i.e., rural oriented activities and to make Upazilas the focal point of all development activities. Despite this policy, due to the economic vitality of the capital city, Dhaka has a momentum of growth which is expected to continue at a high rate for many years. For this reason, demand for suitable urban land in Dhaka has become very high, acquisition of land for development programmes by public agencies has become almost impossible. Moreover, numerous departments are concerned with the city's development policies and there is no effective institutional structure to co-ordinate policies and programmes related to development. Considering these constraints, some specific policy recommendations for upgrading proposal for Shaheednagar area have been made as formulated below:

- An institutional authority is to be created for planning and implementation of the upgrading proposals and also to co-ordinate with other development agencies currently engaged in city's development programme.

- In Shaheednagar, no private acquisition of land will be done. From our infrastructure survey it was found that thirty percent of land are ditches and low-lands, which are khas land and are to be filled in by garbage collection. These lands will serve the purpose of additional land requirement for upgrading of infrastructure provision.
The tenure legalization on private land in the area will be effective by tagging structures and registering the resident population and then long term agreement between land owners and current tenants could be made by the newly formed authority with controlled rent increases for a period of fifteen years. The upgrading authority by proper legislative power may also acquire houses which are not inhabited by owners and then lease them to the tenants. The acquisition of houses from private owners is to be done in a manner that the authority does not indulge in capital investment by paying its prices to the owners, rather the owners will collect rent monthly from the authority on a regular basis which is paid by the tenants.

For those residents, who live in public land in the form of long term lease, the authority may take land from public or institutional owners and then may lease for fifteen years on transferable basis to those original residents including the provision for option to purchase a freehold title.

Based on our study as well as from our experiences in other Asian countries it is suggested that we should not go for any low-cost housing programme for those who live in privately owned houses but only for those who live in public land or over ditches or marshy lands by making houses on bamboo poles. The authority by giving tenure
rights to the residents would help them to obtain loan from the House Building Finance Corporation (HBFC) for building low cost houses which would be designed by the authority. As a matter of policy direct house building schemes will be discouraged in the upgrading packages.

As regards cost recovery of the infrastructure service provision, our experiences in other Asian cities suggest for heavy reliance on outside loan. Thus affordability of local authority should not be constraint on settlement improvement strategies, because in all the cases there is a substantial central government resource transfer component. Under the circumstances, to start the programme and to continue it when the recovery of cost is not linked to the actual beneficiaries, the finance would come from outside loan or from government.

As for recurring cost of the services as discussed in infrastructure provision it would be charged from the residents. So, here as a matter of principle we have dropped the concept of direct cost recovery of capital expenditure of infrastructure provision.

In order to improve the financial ability of the residents, wide ranging training programme may be adopted so that large number of people can make them skilled. Vocational Training Workshop should be initiated on tailoring, book binding,
carpentry, handicrafts and others like servicing etc. in the area. Some kinds of incentives in the form of supply of tools and technical guidance to craftsmen may come as support from government.

- The government may give short term loan which can be repaid by instalments. The repayment of such loans should be made in revolving fund for use in general community improvement.

- Setting up small scale industries by the Government with small scale capital investment may solve financial problem of the poor residents. Besides, proper utilization of the dwellings as a base for cottage industries or small business or services may also serve as an important income earning source.

- To minimise the migration from rural areas, the government may utilise more resources for the improvement of rural economy through different rural development projects and by creating job opportunities in the rural areas. This would be a long term solution to the problem even though this may require huge funds and constant efforts on the part of the Government.

7.2 CONCLUSION

The approach to upgrade low-income urban settlement is not an easy task. Any such initiative will call for integration of various agencies concerning settlement issues. It also would require
intensive study and appraisal of the viability of various factors like social, technical and economical in order to demonstrate the feasibility of a given approach. Above all, the pre-designed approach for settlement programme must reflect the prevailing socio-political, economical and administrative structures and their interrelations in a given country for which it is meant for.

In Shaheednagar, slums and squatter settlement are day by day increasing in areas where an estimated thirty percent of the urban dwellers are residing. Therefore we can not avoid and just can not say that they are not socially, technically and economically viable. We are to find out some ways and means so that squatter settlement can have access to utility services and can have some form of security of tenure with the intention that they do not live under constant threat of eviction.

This study and the subsequent recommendations are based on our experiences that we have gathered by studying some of the South and South-East Asian countries. Since, this is the first of its kind and is yet to be implemented in our country, many new problems, ideas and thoughts may crop up for effective implementation or while approaching to upgrade low-income urban settlement. Therefore, such new ideas, problems and thoughts need to be taken under close consideration in order to draw inferences with the ultimate aim to make this programme really successful.
This study does not claim to be a complete and conclusive one. Many aspects could not be fully focussed due to various limitations. For example peoples attitude towards socio-political life, their thinking, behaviour, and participation in the process of community development as a whole have also bearing on the success of upgrading. But scope of our work did not allow us to incorporate all these aspects conclusively in order to make the present study precise and meaningful. However, future researchers may take up one or more of these aspects for further study and research which could provide some more dimension and scope to understand the problem and could enrich our knowledge in the field of upgrading urban low-income settlements.
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