Residential Development Through Private Land Readjustment: A Case Study of Anandanagar, Dhaka

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RESIDENTIAL DEVELOPMENT THROUGH PRIVATE LAND READJUSTMENT - A CASE STUDY OF ANANDANAGAR

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ABSTRACT

Due to Rapid urbanization Dhaka is undergoing an outward urban expansion. This outward urban expansion results in unplanned transformation from rural to urban land use with inadequate infrastructure facilities. The government agencies responsible for providing necessary infrastructure do not play their roles properly due to resource constraints and inappropriate urban land policy. As a result most of the peripheral areas of Dhaka City are becoming urban sprawl due to unplanned land subdivision and lack of necessary services. In this respect the people of Anandanagar through their combined efforts got organised and initiated some concerted development activities. They worked out some mechanisms for developing their household land. By the process, which is somewhat similar to land readjustment, these middle and lower income people successfully made some services available for themselves which would not have been otherwise possible.

The study has revealed the working process of the development mechanism and its short-comings. Through this case study the inherent forces which attracted the present residents to agglomerate at Anandanagar was also found out. This study will be helpful to formulate a model for private sector urban development which can be replicated in other growing peripheral areas of the major cities in Bangladesh.

January, 1990

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GROWTH OF DHAKA CITY
1600-1980

FIG : I

SOURCE: DMAIUDP FINAL REPORT, 1981

1.2 Problem Statement :

The existing urban management institutions of the country are faced with the problem of accommodating such huge and rapid urban growth. Due to absence of formal management and control, a rapid conversion of agricultural land into residential and industrial use is more apparent in the urban fringe. But land supply is inelastic because urban boundaries set the limits of expansion. Again the land owners tend to withhold land from the market at the prospect of speculative gain. The public sector agencies are unable to provide serviced land at the pace at which it is required. As a result the low and middle income majority with their limited resources do not get access to developed urban land.

In Dhaka city land is generally developed in the puhlic sector by different government agencies or in the private sector by private real estate agencies or by individual efforts. But in terms of making developed land available to the mass, land acquisition by government do not work successfully due to resource constraints. The conventional urban development programmes such as site and service programme, core housing programme, rental purchase or hire purchase housing, land banking and slum improvement can not work sufficiently because of the unrealistically high infrastructure cost which neither the government nor the people can afford.

At the present situation of limited resources and management capacity in the public sector, the private sector must come forward to play a dominant role in urban development activities. But due to the absence of any institutional mechanism in the private sector no comprehensive land development programme has yet been undertaken. The Third Five Year Plan (1985-1990) of Bangladesh also emphasizes to induce the private sector to solve the problem of accommodating the growing urban population.

Land development through private developers is a recent phenomenon in Bangladesh and has mainly been occurring in the fringe areas of

Dhaka. But the tendency of developers to maximize profits and to minimize infrastructure cost in layouts often results in costly but sub-standard developments.

The role of the individual in developing urban land is one of the most significant development mechanisms in Dhaka as well as other cities of Bangladesh. But these individual efforts in land development often lead to slums as there are no development control from the government. Such private development has no legal sanction and is highly deficient in infrastructure. But the provisions of infrastructure increases cost, discouraging developers and also taking urban land out of reach of the majority. So some form of non-profit private organizations is required to supplement the activities of the financially constrained public agency and profit motivated private real estate agency.

1. 3 Fringe area development problems and possible approaches.

The rapid population growth of major cities is accommodated by their outward expansion, which takes place by the conversion of their urban fringe lands from rural to urban uses. As described by Archer (1989) this urban development has three main parts, these being the construction of the network infrastructure, the subdivision of the land holding into streets, open space and building plots, and the building development of the plots. Although most urban fringe land is usually privately owned and privately developed, the government sector is normally responsible for providing the network infrastructure trunk lines as well as the social infrastructure.

"The growth of activities in an urban area has influenced the nature of the fringe areas which changed from being a dominantly agricultural use to an area with mixed uses. The conversion of the urban fringe lands from rural to urban uses does not usually proceed in an orderly and efficient way, rather it creates several problems. The general problems of the fringe area growth are haphazard and scattered ,

conflicting land use, sub-standard settlement and inadequate network infrastructure (Yasmin, 1988).

The urban fringe is usually fragmented into many small land parcels. These parcels are small, often irregularly shaped and usually without any public road frontage, so they cannot be separately sub-divided into building plots and streets connected to the metropolitan road network. Moreover most of the fringe areas are lowlands and are under flood level. The land parcels need to be consolidated for urban development purposes, but the private land sub-dividers find this difficult because there are many owners to negotiate with and different interest of landowners make it difficult to combine in one division.

Generally the Government uses its compulsory acquisition power to purchase and consolidate the separate parcels into sites to be used for private or government development projects, as in the cases of Uttara Banani, Gulshan Model Towns etc. But it is not financially or politically possible to provide additional funds for large scale purchases of urban fringe land due to scarcity of resources. In most mixed economy countries governments would also find it politically difficult to do so because most of the landowners oppose it as in most cases the original landowners are displaced and the whole process takes a long time span.

An alternative means of achieving land consolidation for urban development is provided by the land pooling/readjustment (LP/R) technique that is widely used in Japan, South Korea and Taiwan and in some cities in Australia and Canada, and which has recently been introduced in Indonesia and Nepal.

The urban land pooling/readjustment (LP/R) technique is a land development process which can cope with the urban land demand and conversion of the fringe land with no cost to the government. It ensures regular and uniform subdivision of land. In the land pooling/readjustment technique the fragmented and scattered land parcels are consolidated and then subdivided and serviced with the

provision of necessary infrastructure and utilities. The cost of planned subdivision and service facilities is recovered from the sale of a portion of the new serviced land and the rest is distributed back to the land owners who are included in the development. This LP/R technique gives equal share of land value gain among the land owners from the servicing and planned subdivision of their land. The concept of land readjustment is shown diagrammatically in figure -2

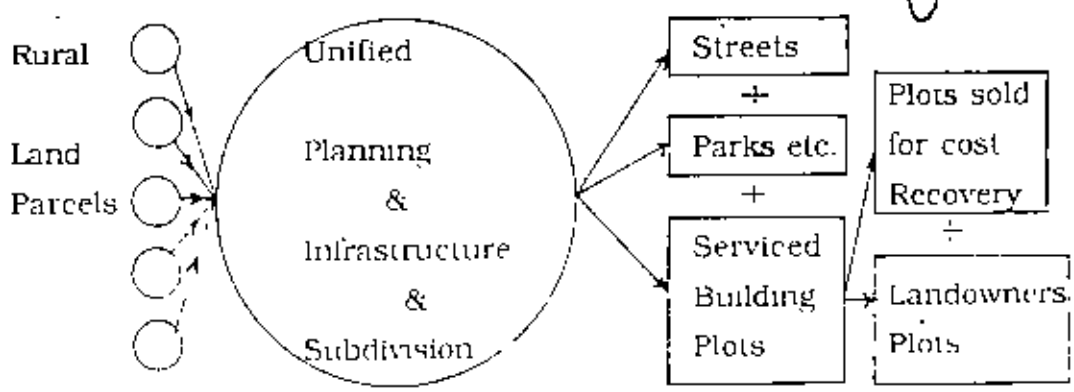


Fig. 2 An Urban land pooling/readjustment project

Source : Archer, 1989

The operating principles of land readjustment process can be quoted as followed :

> "Most LP/R projects are undertaken by local governments. In a typical project, the LP/R agency selects the area to be developed and identifies the land parcels land owners to be included. A draft LP/R scheme is then prepared to plan and devise the project, and to demonstrate its feasibility. The scheme therefore includes plans of the proposed subdivision layout and network infrastructure, a schedule of the landowners, parcels and valuations; a schedule of plot valuations, a map of the original land parcels and a plot re-allocation plan, an implementation

programme. and cost estimates and financial plan. The scheme is prepared as a draft scheme and then presented for landowner approval and placed on exhibition. After possible amendment it is submitted for central government approval. The approved final scheme authorizes and regulates the implementation of the project."

"The LP/R agency then arranges a loan to finance the implementation activities and works. It designs the engineering works and engages contractors to construct them. The land is surveyed and subdivided into streets. open spaces and serviced building plots with title documents. The streets and open spaces are transferred (dedicated) to the local government. Some of the building plots are sold in order to recover the project costs and repay the loan. The remaining plots are transferred to the landowners in proportion to their share in the project. The landowners can then sell or build on, or simply hold their new plots" (Archer, 1989)

Key Features :

The key features of the technique are as follows :

Central government law and administration. There is need for a central government law to specify the approved land pooling/readjustment agencies and to authorize and regulate the preparation and implementation of land pooling/readjustment projects in accordance with the stated principles and procedures. The law is administered by a central government body to over-see the working and improvement of the system and to review and approve each LP/R scheme for implementation.

Approved Land pooling/readjustment agencies. Although most projects are undertaken by local governments other government authorities such as highways departments, urban planning and development authorities and housing authorities are also authorized to

undertake land pooling/readjustment projects for purposes related to their functions. Groups of landowners might also be authorized to undertake projects for their land on a co-operative basis.

Majority landowner support plus compulsory participation. Although the LP/R law may not always stipulate majority landowner support for proposed land pooling/readjustment projects it is a key requirement for successful application of the technique. The more effective land pooling /readjustment agencies aim for 80 per cent plus landowner support. Although the emphasis is on landowner acceptance and support for the proposed project the agency also has to be able to use the government power of compulsory purchase against any minority of holdout landowners.

Land Pooling/readjustment Schemes. The preparation of every project should be carried out by the preparation of a scheme for the project comprising plans, schedules programmes, assessments and a written statement. The scheme defines, explains and justifies the proposed project to the land pooling/readjustment agency, the land owners, the central government and the loan agency. When approved, the scheme authorizes and guides the agency in implementing the project. Each land pooling/readjustment project is a partnership of the landowners for the unified servicing and subdivision of their land and the land pooling/readjustment scheme can be seen as their partnership agreement.

Different forms of LP/R :

The LP/R technique used in Japan, South Korea, Taiwan, Australia and Canada have significant differences that should be recognized.

Land Pulling /Land Readjustment. There is an important legal difference between the land pooling practised in Australia, Canada, Indonesia and Nepal and the land readjustment practised in Japan, Korea and Taiwan. In the former the ownership of the land is actually transferred from the landowners to the pooling agency and then back

to the landowners, whereas in the case of land readjustment the ownership remains with each landowner, but with restricted ownership rights, and the readjustment agency has the right to enter and undertake construction activities on the land when the land servicing and subdivision works are completed, there is a transfer of ownership by the exchange of old parcels for new plots. Under LP the original land parcels are actually consolidated into one parcel whereas under LR they are only notably consolidated for design and construction purposes.

Complete or Partial Land Subdivision. The land pooling/readjustment agency might choose partial subdivision approach for a project over a large land area encompassing relatively large land parcels where the sale and building development of the final plots would be spread over many years. At the first stage the land is subdivided into land parcels, each with a public road frontage and public utility connections. And in the second stage further servicing and subdivision into streets open space and building plots by subsequent owners will be carried out when they decide to do so. This two stage approach to subdivision would avoid the premature construction of costly network infrastructure and allow the landowners to choose the most appropriate subdivision layout for their land, the time it is subdivided and developed. An land pooling/readjustment project for partial land subdivision is shown diagrammatically in Figure 3.

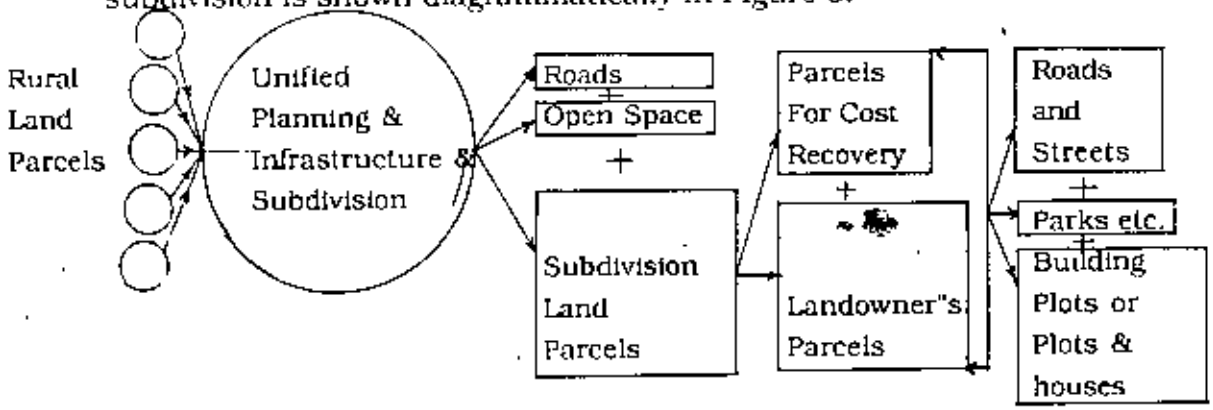


Fig. 3 An urban land pooling/readjustment project for partial land subdivision.

Landowner Sharing of Costs and Benefits. The sharing of the LP/R project costs and benefits between the landowners is based on their land contribution to the project. Any building improvements on their land parcels are excluded as they are either returned to the landowner or paid for with cash compensation if demolished. The calculation of each landowner's share can be based on the area of his land parcel as a proportion of the total land area, or based on the estimated market value of his land as a proportion of the estimated market value of the total area. The land area basis is simple and visible but it does not recognize the important differences in land quality, location and value among subdivision land parcels and among urban building plots. The land value basis is more realistic and equitable but it requires the services of skilled land valuers/appraisers.

Land Pooling /Readjustment Scheme. Each LP/R scheme is much more than a set of plans for the proposed project it has to show how the project will be implemented, how it will affect each landowner, and that it is feasible and viable. As well as the various plans, schedules programme and budget, there would be a written statement that sets out the project objectives, the basis of sharing project costs and revenues and the organization and management of the project.

Lesson for Bangladesh :

The land pooling/readjustment (LP/R) technique has often been acclaimed as an innovative land development technique for the achievement of adequate land supply and planned urban development. A somewhat similar method to LP/R is spontaneously used in some areas of Dhaka city. One of the example of informal land pooling was at Indira Road in Raza Bazar mouza, the people bought land parcels and out of need for access they consolidated their land parcel and after providing streets they distributed back their land. Recently this informal land readjustment technique has been used spontaneously in two fringe areas of Dhaka City. (One is Anandanagar, Badda in H Block of Baridhara under Shakhi Zonal Plan.) Due to

absence of any central government law and administration they could not achieve planned development. But these examples of spontaneous LP/R technique in fringe proved that if they got institutional help to undertake LP/R technique properly, it could be used as a land development technique for the achievement of adequate land supply and planned urban development.

Potential Advantage of land pooling :

As identified by Archer (1989), Karim (1987), Yasmin (1988) the advantages of land pooling are :

I. Land pooling/readjustment technique helps to improve urban infrastructure at no cost to government.

II. It helps to carry out the land servicing and subdivision works efficiently and economically and at no cost to government.

III. This Land pooling/readjustment technique spreads the land reduction and the costs and returns of the project across all the land parcels, so that they are shared by the landowners in an equitable way.

IV. It helps to quickly recover the project costs from the increase in land values generated by the project, by the sale of some of the new plots.

V. The landowners and residents of the project area can maintain their normal life with little interruption during the project period.

VI. It helps to achieve the timely subdivision of urban fringe landholdings for planned urban expansion and it limits or prevents urban sprawl.

VII. Finally it helps to ensure an adequate supply of land for urban development.

1. 4 The Need for a rational approach.

Examples of private sector land development are very few in this country. Anandanagar is one such example sited near Rampura, at the eastern fringe of Dhaka city. To understand the mechanisms of a private land development in Dhaka, study of Anandanagar seems worth pursuing. Here a group of individuals through their combined efforts got organized and initiated some concerted development activities, meeting to some extent the deficiencies of the public sector agency. Here they worked out some mechanisms for developing their household land. By this process of land readjustment these middle and lower income population successfully made some service available for themselves which would not otherwise have been possible. This development process pursued in Anandanagar can be considered as a viable technique, since the owners themselves participated and no government financial support was required.

No study has yet been made to guide the growing urban land development. So the present study of Anandanagar will help to understand the land development mechanism in the growing urban area. Also this study will attempt to establish conceptual model to guide planned and regulated development in the periphery of the growing-cities.

1. 5 Objectives of the research :

The following are the main objectives of the study :

1. To identify the existing nature of the development process and pattern in the study area.
2. To understand the management technique of the present private sector development process.
3. To find out the short-comings and constraints of the development process in the study area.

4. To develop a model for private development of residential communities which can be replicated in other growing peripheral areas of Dhaka city.

1. 6 Research methodology :

The study was based on the study of private land development process of Anandanagar. The methodology of the study consists of three parts :

1. Information Collection.
2. Analysis of collected information: and
3. Development of a model for planning and designing of a residential community under private initiative.

Information Collection :

The search for information was carried out at two levels :

a. Information on urban land development strategies of the developing countries and Dhaka city was collected from literature and available secondary sources like books, journals, government documents, research works, newspaper and other printed materials.

b. Information on the study mainly comes from primary sources. For obtaining information on the mechanism of land aggregation and community organization the following methods were used.

   i. Field observation : An extensive field investigation was required to know the existing condition of the study area. For this purpose necessary notes, photographs and sketches were taken as record.

   ii. Interviews : Interview with the development organizers gave valuable information regarding the community development process, inception of the project and how it is progressing.

iii. Land use Survey : To know the existing structure of the study area a land use survey was conducted to get information on previous situation i.e. prior to land readjustment. mouza map of the area and residents opinion were the main sources of the information. A detailed land distribution survey of the area before and after land readjustment process was required to know the development process.

iv. Household Survey : Household Survey through a coded questionnaire was conducted for better understanding of the community development process. In most cases, the heads of households were interviewed.

Analysis and Development of the Model :

With the collected information a series of maps and tables were prepared to show the dynamics of the community at different stages of the development process. Tabular analysis of the household information was carried out.

Information was gathered by interviewing 81 households comprising of 444 members. of which landowner's constitute 350 members and tenant constitute 125 members. The total population of Anandanagar area was estimated to be about 1650.

1.7 The study area .

For the research purpose both North Anandanagar and South Anandanagar were considered. Although the agglomeration of the settlement was more prominent in North Anandanagar. recently the people of South Anandanagar (Saidantoly) joined the North Anandanagar people. In South Anandanagar an invasion process was going on. The area was previously inhabited by a Hindu community.

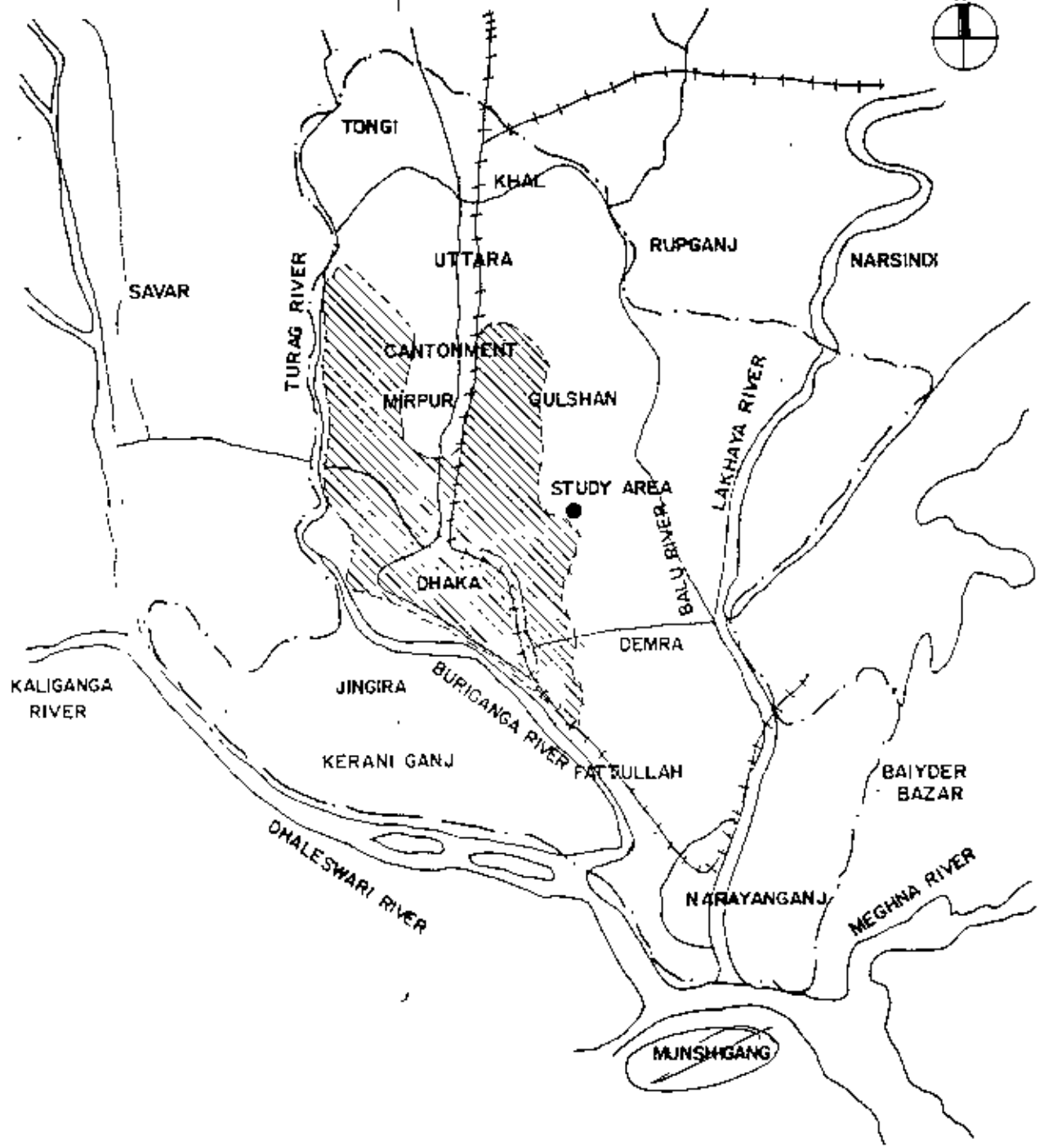


FIG : 4

SOURCE : YASMIN (1988)

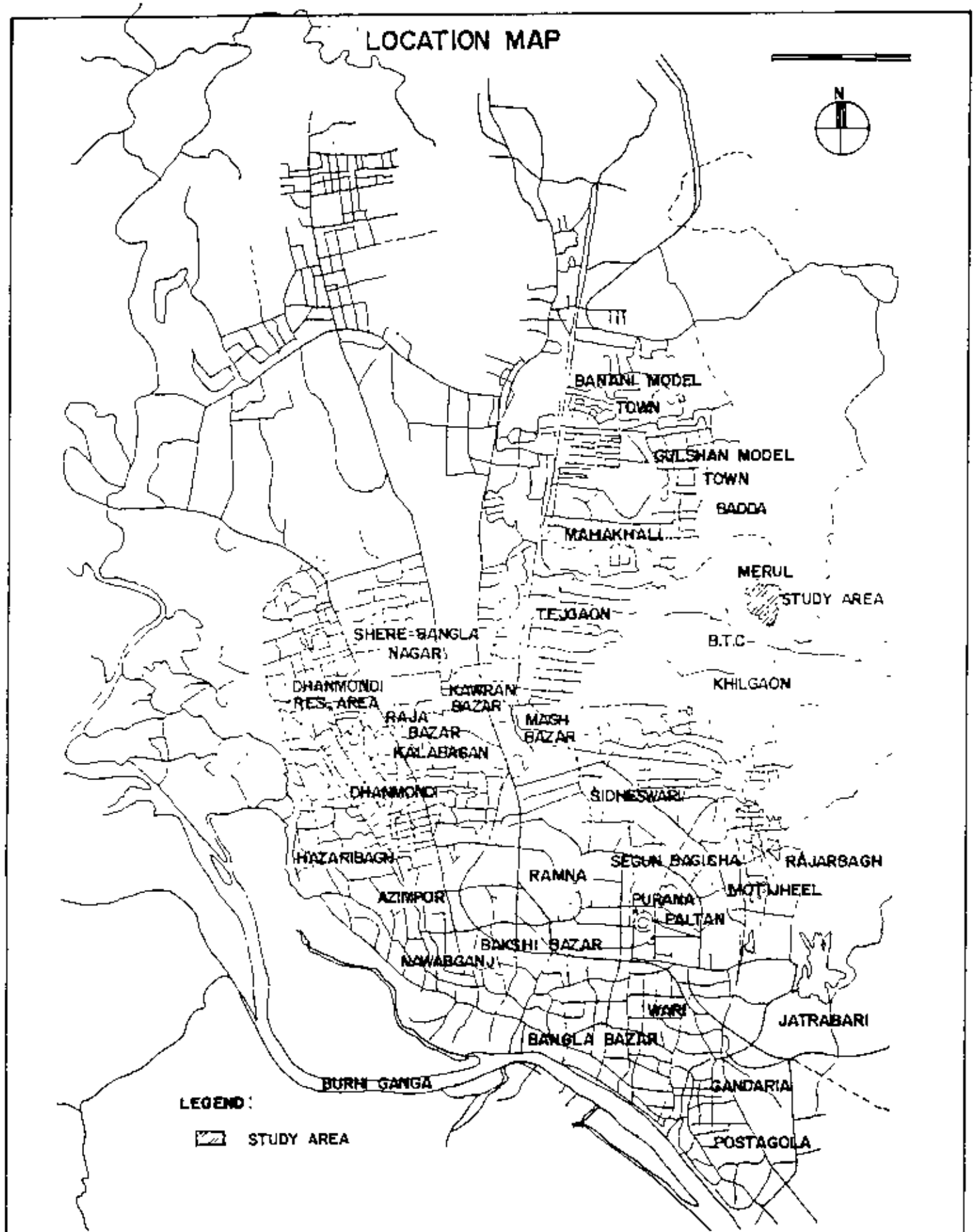


FIG: 5

SOURCE: DHAKA GUIDE MAP

Now only thirteen families reside there. Others left for India gradually after partition (1947).

The study was conducted in Badda, in the eastern fringe of Dhaka City where there has been a dynamic change in land use in the recent past. The study area is situated just outside the Gulshan Pourashava (Fig 4 & Fig 5). Here a private land readjustment process has been going on for last 15 years.

Chapter 2

PROFILE OF THE STUDY AREA :

2.1 General Description of the study area.

The study area is located in the southern part of Badda, in the eastern fringe of Dhaka City. The study area falls just outside Gulshan Pourashava. Rampura road runs along the west part of the site and the distance of the study area from the road is about 1/4 mile. The study area is declared as a flooded zone which is generally submerged by water for about six months of the year. For habitation the inhabitants of the area raise the homestead about twelve to fifteen feet from the ground level to keep their homestead above the flood level. The area of the settlement is about 82 acres. The total population of the Anandanagar area is about 1650 and the proportion of land owners and tenants is about 1:1.

2.2 Land use

Agriculture is the predominant land use in the low lands of this area. Agricultural land comprises about 61 percent of the total land area. The residential area comprises 28 percent of the study area, pond and ditches about 4.8 percent of the total area and roads about 5.8 percent of the total study area. There were 5 grocery shops, 2 wood work shops, 2 tailoring shops, one saloon and one small open Kutcha Bazar in the site. There is one homoeopathy clinic in the area. As the area is now in the process of transformation from rural to urban character, vegetable garden and small poultry is a characteristic feature in this area. Built up area comprises 34 percent of the total land.

BOUNDARY OF THE STUDY AREA

FIG. 6

SOURCE : C. S MAP

LAND USE MAP OF THE STUDY AREA

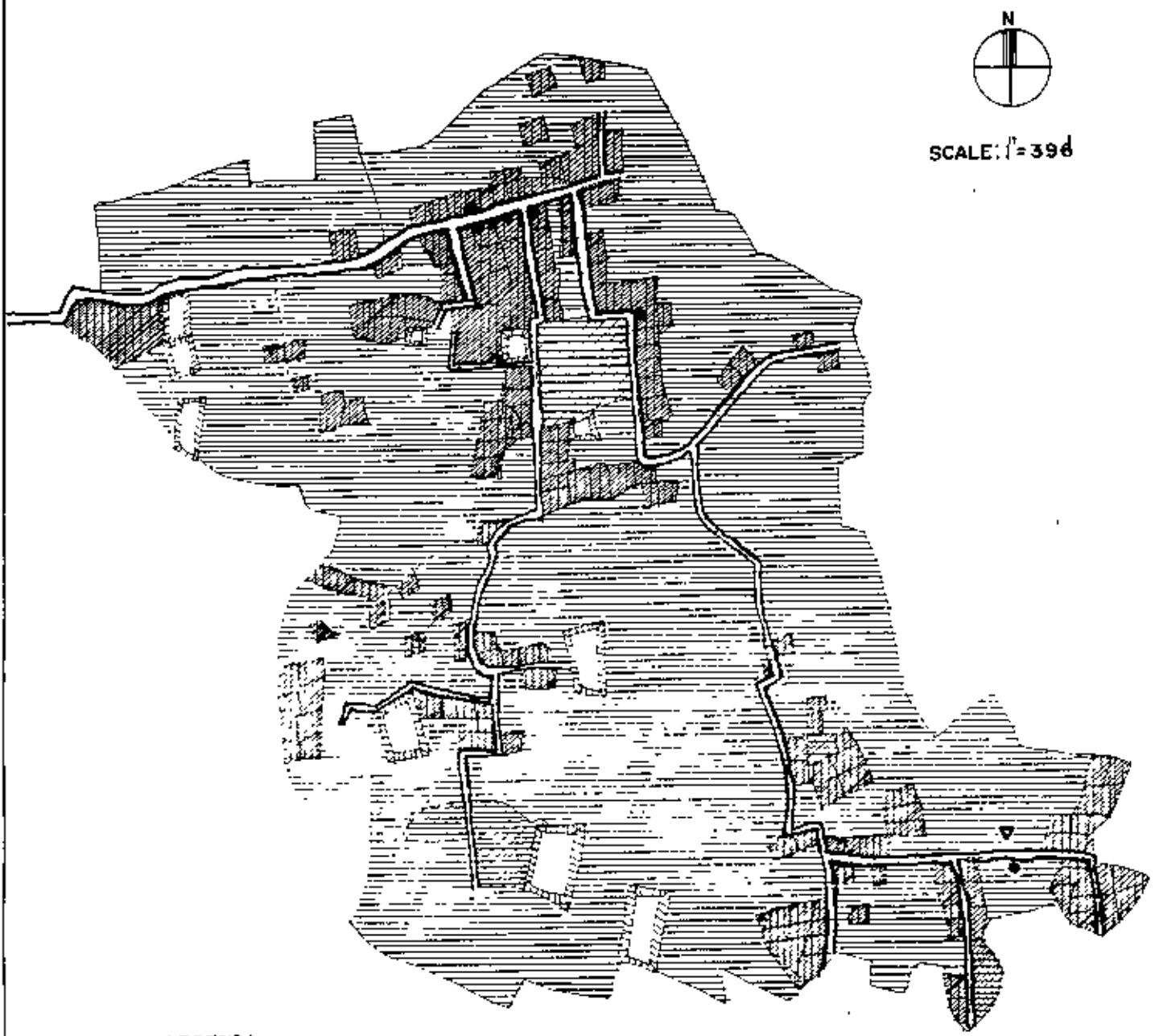


FIG: 7

SOURCE: FIELD SURVEY, 1989

Table 1. Type of land uses in the study area (1989)

Land use Classes	Area in Acres	Percentage of the total area
Residential	23.34	28.57%
Roads	4.66	5.76%
Pond/Ditch	3 89	4.76%
Commercial	0.04	0.05%
Agricultural land	49 75	60.91%
Total	81.68	60.91%

Source Household survey, 1989

2.3 Demographic characteristics.

Essential information regarding the demographic profile of the population include the following :

2.3.1 Age and sex of the population :

Out of the total surveyed population of 444, 53 percent were males and 47 percent females. Among the land owners the economically active age group of the males about 77 percent, the corresponding female figure being 70 percent. But among the tenants both male and female have 60 percent of the population in the economically active age group. A break down of the population of the surveyed population of Anandanagar by age and sex is shown in Table 1.

Table 2 : Distribution of population by Age and Sex.

Age Group years	Male	Female	Total
0-4	21	12	33
5-9	27	34	61
10-14	41	26	67
15-19	17	34	51
20-24	25	18	43
25-29	19	20	39
30-34	16	23	39
35-39	14	18	32
40-44	20	8	28
45-49	13	3	16
50-54	9	4	14
55-60	5	2	7
60 & above	9	6	15
Total	236	208	444

Source , Household survey, 1989

2.3.2 Family type and Household size.

It was found that among land owners 62 percent of the families were nucleated, 15 percent were joint and 23 percent were extended. In South Anandanagar the percentage of extended family is high (51 percent). Among tenants the percentage of nucleated family is 85 percent.

Table 3 : Distribution of family by type.

Family Type	Landowners	%	Tenants	%	Total
Nucleated	28	62	22	86	50
Joint	10	15	2	7	12
Extended	17	23	2	7	19
Total	55	100	26	100	81

Source Household survey, 1989

The average size of household was found to be 5.5 in this area. It is 5.7 for the thana and 5.7 for the nation. It was found that for landowners the average size of the household is 5.8 persons. For the tenants the corresponding figure is 4.8 persons. It is because most of the tenants are rickshawpullers and have one room dwelling accommodation.

Table 4 : Distribution of family by size.

Family size	No. of families		Percent	
	Landowners	Tenants	Landowners	Tenants
3 or less	4	7	7%	27%
4	6	4	11%	14%
5	17	6	31%	23%
6	12	4	22%	15%
7	6	2	11%	8%
8	4	2	7%	8%
9 & more	6	1	11%	4%
Total	55	26	100%	100%

Source : Household survey, 1989

Table 5 : Distribution of heads of households by education level.

Education level	Landowners		Tenants	
	No. of heads of H/	Percent	No. of heads of H/H	Percent
Primary	15	27	7	27
Secondary	7	14	3	11
Intermediate	10	18	1	4
Degree	15	27	2	8
Masters'	3	5	--	--
Illiterate	5	9	13	50
Total	55	100	26	100

Source : Household survey, 1989

2.4 Literacy.

The household survey has revealed that among the landowner's 64 percent of the heads of household had education above secondary level. But for the tenants the rate of persons having education above secondary level is quite low. It is 23 percent. 50 percent of the heads of the households among the tenants are illiterate. In general among the landowners it was found that literacy rate for the age group 5 years and over was 87 percent for both sex, 85 percent for males and 90 percent for females. The corresponding figures for the tenants were 28.8 percent for both sex, 28 percent for the male and 29 percent for the female. The educational attainment of the population for the age group 5 years and over is shown in Table 5.

Table 6(a) : Distribution of male population for the age group 5 years and over by education level.

Male	Illiterate	Primary	Secondary	Intermediate	Degree	Post graduate	Total
Landowner	6	76	30	17	23	4	156
Tenant	28	11	13	--	3	--	45

Table 6(b) : Distribution of female population for the age group 5 years and over by education level.

Male	Illiterate	Primary	Secondary	Intermediate	Degree	Post graduate	Total
Landowner	12	88	28	9	4	--	141
Tenant	26	14	3	1	1	--	45

Source Household survey, 1989.

2.5 Occupation and type of services of head of the households

In a broad occupation breakdown 60 percent of the heads of households among landowner fell into the category of institutional or private service. But for tenant group rickshaw puller or thella puller were quite dominant occupation among the heads of the household. Table 6 shows the occupation breakdown of the heads of the household.

Table 7 : Occupation of the heads of the household.

Occupation	landowner	%	Tenant	%	Total	%
Service	34	67	7	27	40	50
Business	12	21	1	4	13	16

Retired	2	4	--	--	2	2
House wife	1	2	1	4	2	2
Student	--	--	--	--	--	--
Unemployed	1	2	1	4	2	2
Farmer	5	9	3	12	8	10
Rickshaw puller	--	--	13	50	1	18
Total	55	100	26	100	26	100

Source Household survey, 1989

Table 8 : Type of service of head of the household.

Type of service	H/H	%	Tenant	%	Total	%
Officer (professionals and Non-technical	21	37.8	3	12	21	30
Secretariat	13	23.4	3	12	16	20
Ministerial	--	--	--	--	--	--
Business/contractor	12	21.6	2	7	16	20
Student/Retired/House wife	3	5.8	--	--	2	2
Farmer/Rickshaw puller	5	9.0	16	57	21	9
Others	1	1.8	3	12	4	5
Total	55	100	26	100	81	100

Source . Household survey, 1989.

2.6 Income

Among the landowners 61 percent of the households have monthly income between Tk.2001 and 5000. None of the families have monthly income below Tk.1001. But in case of tenants 61 percent households have a monthly income within Tk.2000. Table 8 shows the distribution of households according to income.

Table 9 : Distribution of households according to income.

Monthly Income	Landowner	%	Tenant	%	Total	%
Less than Tk. 1000	--	--	4	15	4	5
1001-2000	7	13	16	61	23	28
2001-3000	16	29	3	12	19	24
3001-5000	18	32	2	8	20	25
5001-7000	7	13	--	--	7	8
7001-10,000	5	9	1	4	6	7
10,000 and above	2	4	--	--	2	3

Source : Household survey, 1989.

2.6 Mode of transport and distance of work place.

In Table 9, it is apparent that both the land owners and tenants used rickshaw and bus as their modes of transport. Among tenants, walking was the principal mode of transport for travel to their working places.

Among the land owners the range from 2 to 5 mile distance of work place constitute 47 percent but in case of tenants 62 percent of them have their work place within half to two miles' distance. Among the tenant group living near to work place is the main consideration for living at Anandanagar.

Table 10 : Distribution of heads of the household according to mode of transport.

Mode of transport	Landowner	%	Tenant	%	Total	%
Walking	13	24	10	38	23	28

Rickshaw	7	13	3	12	29	35
Bus	14	25	6	23	20	25
Tempo	--	--	1	4	1	1
Cycle	1	2	1	4	2	2
Walking+ Rickshaw	3	6	2	7	5	6
Walking+Tempo	3	5	--	--	3	4
Walking+Bus	9	16	1	4	10	12
Office Transport	3	5	1	4	4	5
Not applicable	2	4	1	4	3	4
Total	55	100	26	100	81	100

Source : Household survey, 1989

Table 11 : Distribution of households according to distance of work place.

Distance	Landowner	%	Tenant	%	Total	%
Less than 0.5 mile	5	9	3	11	8	10
0.5 to 1 mile	3	6	9	35	12	15
1 to 2 miles	1	2	7	27	8	10
2 to 3 miles	9	16	1	4	10	12
3 to 5 miles	17	31	4	15	21	26
5 to 7 miles	4	7	1	4	5	6
7 to 10 miles	8	15	1	4	9	11
10 miles and above	4	7	--	--	4	5
Not applicable	4	7	--	--	4	5
Total	55	100	26	100	81	100

Source : Household survey, 1989

2.8 Length of stay on the site

Distribution of residents of Anandanagar according to table 11 show that 50 percent of the land owner's length of stay on the site was 3 to 10 years. But among the tenants 80 percent had a length of stay on the site of less than three years.

Table 12 : Distribution of residents according to length of stay on the site.

Length of stay	Landowner	%	Tenant	%	Total	%
Less than 2 years	6	11	13	50	19	23
2 to 3 years	4	7	8	30	12	15
3 to 5 years	9	17	2	8	11	14
5 to 7 years	7	13	1	4	8	10
7 to 10 years	11	20	2	8	13	16
10 to 15 years	9	16	--	--	9	11
15 to 20 years	4	7	--	--	4	5
20 years and above	1	7	--	--	1	1
Local	4	7	--	--	4	5
Not applicable	--	--	--	--	--	--
Total	55	100	26	100	81	100

Source : Household survey, 1989.

2.9 Place of living before coming to Anandanagar.

It is apparent from table 12 that 80 percent of the dwellers among landowners came from Dhaka City. Of them 42 percent came from within a three mile radius. Among the tenants there were a considerable percentage of dwellers who came from outside Dhaka City.

Table 13 :Distribution of the heads of the household according to place of living before coming to Anandanagar.

Previous place of living	Landowner	%	Tenant	%	Total	%
Near Anandanagar (within 3 mile radius)	23	42	11	42	34	42
Within Dhaka city (more than 3 mile radius)	21	38	8	31	29	36
Out side of Dhaka	8	15	7	27	15	18
Missing/Not applicable	3	5	--	--	3	4
Total	55	100	26	100	81	100

Source : Household survey, 1989

2.10 Home District of the heads of the households.

The home districts of 55 percent of the landowners are Comilla, Faridpur, Noakhali and Dhaka. Among the landowners twelve heads of households came from Comilla district which comprises 21.8 percent of the landowners. But among the tenant group 31 percent came from Faridpur and 23 percent from Barishal.

Table 14: Distribution of residents of the Anandanagar according to home district.

Home District	Landowner	%	Tenant	%	Total	%
Comilla	12	21.8	4	15.4	16	19.8
Faridpur	6	10.9	8	30.8	14	17.3
Noakhali	6	10.9	--	--	6	7.4
Dhaka	7	12.8	1	3.8	7	8.6
Barisal	5	9.1	6	23.1	11	13.6
Others	19	34.5	7	26.9	27	13.6
Total	55	100	26	100	81	100

Source : Household survey, 1989

2.11 Structure of the house

About 53 percent of the households were Kutcha structures in this area. One of the main reasons for construction of these kutcha structures was that RAJUK did not approved plans for construction in this area as the area was declared as flooded zone. Only 17 percent houses were pucca structures.

Table 15 : Distribution of households by structure

Structure	Landowner	%	Tenant	%	Total	%
Pucca	13	23.6	1	3.8	14	17.3
Semi Pucca	20	36.4	4	15.4	24	29.6
Kutcha	22	40.0	21	80.8	43	53
Total	55	100	26	100	81	100

Source : Household survey, 1989

2.12 Service facilities of the households

In order to find out the level of living in the area information was collected on the provision of utilities, electricity, water, sanitation and drainage. As Anandanagar was outside the Dhaka Municipal area, water and gas connection were not provided. They brought electricity by their own arrangement in 1981.

Among the landowners 98.2 percent used electricity for lighting. But 31 percent of the tenant group do not use electricity. 87.7 percent of the resident's source of potable water is private tube-well. Among the tenant group 11.5 percent families shared tube-wells with other families. 62 percent of the residents use soakpit for sanitation. As the area surrounding the homesteads are low lying agricultural land, drainage is not a problem at all. At percent only 28 percent of the households have drainage facility in this area.

Table 16 : Use of Electricity for lighting

Electricity	Landowner	%	Tenant	%	Total	%
Yes	54	48.2	18	69.2	72	88.9
No	1	1.8	8	30 8	9	11.1
Total	55	100	26	100	81	100

Source Household survey, 1989

Table 17 : Source of water

Water Source	Landowner	%	Tenant	%	Total	%
Private Tube-well	52	96.4	18	69.2	71	87.7
Shared facility	--	--	3	11.6	3	3.7
Shared with other family (Tube-well)	3	5 6	4	15 3	7	8 6
Others	--	--	--	--	--	--
Total	55	100	26	100	81	100

Source Household survey 1989

Table 18 : Sanitation condition

Sanitation	Landowner	%	Tenant	%	Total	%
Private arrange-ment (Septic tank)	3	4.5	--	--	3	3.7
Private arrange-ment (Pit Latrine)	35	63.5	15	57.8	50	61.8
Kutcha	11	20.0	7	26.9	18	12.3
Shared (Pit Latrine)	6	10.9	4	15.3	10	12.3
No facility at all	--	--	--	--	--	--
Total	55	100	26	100	81	100

Source : Household survey, 1989

Table 19 : Drainage condition

Drainage	Landowner	%	Tenant	%	Total	%
Private arrangement Pucca	3	5.5	2	7.7	5	6.2
Private arrangement Kutcha	15	27.2	3	11.6	18	22.2
Nil	37	67.3	21	80.7	58	71.6
Total	55	100	26	100	81	100

Source : Household survey, 1989

Chapter 3

Residential characteristics

In this chapter the information collected through questionnaire about the residential development is presented. To identify the land agglomeration process, information on land owner's characteristics was surveyed. Out of 160 land owning households 55 were surveyed which comprises 34% of the landowners in this study area.

3.1 Land Tenure pattern

It is shown in Table 20 that 60.5 percent of the residents acquired their land by private purchase and 11 percent inherited the land. 28.7 percent land was rental acquisition and 3.7 percent land was acquired by the representatives of the land owners.

Table 20 : Land Tenure pattern

Land Tenureship	Frequency	%
Private purchase	49	60.5
Inherited	6	7.4
rented	23	28.4
Others	3	3.7
Total	81	100

Source : Household survey, 1989

3.2 Year of Land acquisition

52.6 percent of the inhabitants acquired land 7 to 16 years ago and 23.6 percent plots were acquired 13 to years back.

Table 21 : Distribution of households according to year of land acquisition.

Year	Frequency	%
Less than 2 years	3	5.5
2 to 4 years	5	9.1
4 to 7 years	3	5.5
7 to 10	8	14.5
10 to 13 years	8	14.5
13 to 16 years	13	23 6
16 years and above	9	16.4
Inheritance	5	9.21
Missing	1	1 8
Total	55	100

Source : Household survey, 1989

3.3 Plot size

It is interesting to see that 69 percent of the Landowners' plot size was from 3 to 6 katha. Most of the residents (30.9 percent) acquired plots in the range from 5 to 6 kathas.

Table 22 : Distribution of households according to plot size

Plot size (katha)	Frequency	%
Lees than 2 katha	-	-
2 to 3 katha	6	10.9
3 to 4 katha	14	25.5
4 to 5 katha	7	12.7
5 to 6 katha	17	30.9
6 to 7 katha	2	3.6

7 to 8 katha	2	3.6
8 to 9 katha	2	3.6
9 to 10 katha	5	9.0
10 katha and above	-	-
missing	-	-
Total	55	100

Source : Household survey, 1989

Price of land :

It is revealed from the study area that the land price increased about 75 to 100 times from 1970 to 1989. from the survey it was found that in 1970 the price of land per katha was 1,000 to 1,500 Taka and in 1989 it was one lakh to 1,50,000 Taka depending upon the nature of land.

Table 23 : Distribution of households according to price of land

Price of land	Frequency	%
Less than Taka 5,000	5	9.1
TK 5,001 to 10,000	11	20.0
TK 10,001 to 15,000	10	18.1
TK 15,001 to 20,000	1	1.8
TK 20,001 to 30,000	3	5.5
TK. 30,001 to 50,000	3	5.5
TK. 50,001 to 75,000	5	9.1
TK. 75,001 to 1,00,000	5	9.1
TK. 1,00,001 and above	8	14.5
Inheritance	3	5.5
Missing	1	1.8
Total	55	100

Source : Household survey, 1989

3.4 Source of information about land availability at Anandanagar.

Table 24 shows that 40 percent of the residents of Anandanagar got their information about land avilablity from relatives and 21.8 percent form their friends. The role of brokers is quite insignificant in this area.

Table 24 : Source of information about land availability of Anandanagar.

Source of information	Frequency	%
Relatives	22	40
Colleagues	5	9 1
brokers	2	3 6
Friends	12	21.8
Own Initiative Lived nearby	6	10.9
Others	3	5 5
Missing	5	9.1
Total	55	100

Source . Household survey, 1989

3.5 Floor area

Of the total surveyed households about 56 percent had floor area from 500 sq. ft. to 1,000 sq. ft. Only 14.6 percent respondents have floor area above 1,000 square ft. In general the pucca houses fell into this group.

Table 25 : Floor area of the households

Floor area	Frequency	Percent
less than 201 sq.ft	4	7.3
201 to 500 sq. ft	12	21 8
501 to 700 sq. ft	18	32.7
701 to 1000 sq. ft	13	23.6
1001 to 2000 sq. ft	4	7.3
2001 to 3000 sq ft	4	7 3
above 3000 sq ft	--	--
Missing	--	--
Total	55	100

Source : Household survey 1989

3.6 Source of Finance for land and House construction.

The principal source of finance for land and house construction were from savings and corresponding figures for land and house construction were 74.5 percent and 76.5 percent. Other sources such as loan from Banks or loan from relatives and friends were very negligible.

Table 26 : Source of Finance for Land and house construction :

Source	Source of finance for land	%	Source of finance for house const.	%
Saving	41	74.5	42	76.5
Selling assets	-	-	0	-
Loan from friends and relatives	1	1.8	2	3.6
Loan from private lenders	3	5.5	2	3.6

Loan from Bank	4	7.5	4	7.3
Loan from office	2	3.6	1	1.8
Inherited	4	7.3	2	3.6
No Response	-	-	0	-
Missing	-	-	2	3.6
Total	55	100.00	55	100 00

Source : Household survey, 1989

3.7 Landowners Participation in the development activities

3.7.1 Land sacrificed by landowners.

It is interesting to note that 96.36 percent of the landowners sacrificed their land for development activities of the area. Out of 55 surveyed landowners 20 sacrificed 200 to 400 sq. ft for the main road. For the main roads 37 of the landowners sacrificed their land and for secondary roads.16 landowners sacrificed their land.

Table 27 : Land sacrificed for the development of Anandanagar.

Land sacrificed	For 16 wide road	For12 wide road	For other activity
100 sq. ft to 200 sq. ft	2	8	--
200 sq. ft to 400 sq ft	20	4	--
400 sq. ft to 500 sq. ft	4	3	--
500 sq. ft to 700 sq ft	3	--	--
700 sq. ft to 1,000 sq. ft	8	--	--
1,000 sq. ft to 2,000 sq. ft	--	--	--
Missing	--	--	--
Total	37	15	0

Source : Household survey, 1989

3.7.2 Information about the land readjustment process when they bought land.

It was found that 70.9 percent of the landowners did not know about the land readjustment process when they bought land. 23.6 percent know about this land readjustment process. Among the previously informed group 92.9 percent agreed to this process. 95 percent of the settlers who did not know about this land readjustment process eventually accepted it.

Table 30: Previously informed land readjustment process when bought land.

Previously informed	Frequency	Percent
Yes	13	23.6
No	39	70.9
Missing	3	5.5
Total	55	100

Table 29: Dwellers reactions about this land readjustment process when they bought land

Previously informed			Did not gent information		
Reactions	Frequency	%	Reactions	Frequency	%
Agreed	13	92.9	Agreed	37	44.9
Did not Agree	--	--	Did not agree	--	--
Do not know	--	--	Do not know	-	--
No answer	1	7.1	At first hesitated then agreed	2	5.1
Total	14	100	Total	39	100

Source : Household survey, 1989

3.8 Type of land purchase

The survey showed that about 70 percent of the dwellers purchased their land individually and 27.3 percent of land was purchased by groups.

Table 30 : Type of land purchased

Type of land purchase	Frequency	Percent
Individual purchase	38	69.1
Group purchase among friends	12	21 8
Group purchase among relatives	2	3.6
Group purchase among neighbours	1	1.9
Missing	2	3.6
Total	55	100

Source : Household survey 1989

3.9. Opinion about urgently required facility.

The most urgently required facility (other than gas and water) according to 98.2 percent of the landowners was Health Care Centre. Only 1.8 percent of the landowner wanted Bazar as a urgently required facility.

Table 31: Opinion about urgently required facility

Facility	Frequency	percent
School	--	--
Heath Care Centre	54	98.2

Bazar	1	1.8
Cinema Hall	--	--
Others	--	--
Total	55	100

Source : Household survey, 1989

3.10 Change in housing situation from previous condition.

It was found that 29.1 percent of the households upgraded their houses to pucca structure from previous kutcha and semi-pucca condition. 63.7 percent of the households did not change their kutcha and semi-pucca structure only 7.2 percent of the houses were pucca houses from the beginning of their house construction

Table 32: Change in housing situation from Previous condition.

Housing situation	Frequency	percent
Initially Kutcha then semi-pucca	9	16.4
Initially Kutcha then pucca	7	12.7
Initially semi-pucca then pucca		
No change (Kutcha)	26	47.3
No change (Semi-pucca)	9	16.3
No change (pucca)	4	7.2
Missing	--	--
Total	55	100

Source : Household survey, 1989

3.11 Residents opinion on the development of Anandanagar

78.2 percent of the landowners opinion about the development of the area was that the area required more development.

21.8 percent of the landowners believed sufficient development had occured in this area.

Table 33 : Opinion about the development of the area

Opinion	Frequency	Percent
Sufficient development has occured	12	21.8
Need for more development	43	78.2
Do not know	--	--
No Answer	--	--
Missing	--	--
Total	55	100

Source : Household survey, 1989

3.12: Landowners involvement in this area.

It was revealed from the survey that 85.5 percent of the landowners were positively involved in the development activity of Anandanagar. Regarding the degree of involvement 40 percent had the same degree of involvement, about 50 percent were neutral and did not respond. 41.8 percent of the landowners were members of the organizations acting in this area. Concerning opinion about the role of organizations 69.1 percent did not agree with the role played by the organization.

Table 34 : Involvement in the development of Anandanagar

Involvement	Frequency	Percent
Yes	47	85.5
No	6	10.9
No Answer	2	3 6
Missing	--	--
Total	55	100

Source Household survey, 1989

Table 35 : Degree of involvement in development process

Degree of involvement	Frequency	Percent
Previously more involved	1	1.8
Not at all involved	--	--
Presently more involved than before	4	7.2
Same degree of involvement	22	40.0
Neutral	14	25.5
No Answer	14	25.5
Missing	--	--
Total	55	100

Source : Household survey, 1989

Table 36 : Involvement with the organizations

Organization	Frequency	Percent
Anandanagar club	14	25.5
Samabaya Kallyan Samity	2	3.6
Anandanagar Bahumukhi Sanchay Samity	7	12 7
Fandpur Samabaya Samity	4	7.3
Others	--	--
Not involved	23	41 S
Missing	5	9 :
Total	55	100

Source : Household survey. 1989

Table 37 : Opinion about organization playing proper role

Playing proper role	Frequency	Percent
Yes	38	69.1
No	4	7 3
Do not know	10	18 2
Missing	3	5.4
Total	55	100

Source : Household survey. 1989

Table 38 : Problems with the organization

Problem	2nd	First
Disorganization	2	1
Lack of sincere effort	1	3

Only a segment of the residents involve	--	--
Corruption	1	1
Missing	--	--
Total	4	4

Source : Household survey, 1989

3.13 Benefits achieved through the development initiatives

Out of 55 respondents 32 considered improvement of accessibility was the first benefit achieved through the development initiatives. 41 respondents considered electricity as the second benefit achieved and 21 respondents considered good environment was the third benefit achieved through this development initiatives

Table 39 : Benefits achieved through development initiative.

Benefit	1st Benefit	2nd Benefit	3rd Benefit
Improvement of accessibility	32	5	13
Electricity	8	49	--
Regular shape of land	--	1	4
Increase of land value	4	--	4
Others	3	--	2
Good environment	8	--	21
Missing	--	--	11
Total	55	55	55

Source : Household survey, 1989

3.14 Agreement to this private development initiative

Among the respondents 52.7 percent believed that government initiative were required to provide these facilities and 45.5 percent supported the private development initiative. Only 1.8 percent did not answer.

Table 40 : Views about development of the area

Views	Frequency	Percent
Yes	25	45.5
No. Govt should provide these facilities	29	52.7
Do not know	1	1.8
Missing	--	--
Total	55	100

Source : Household survey, 1989

3.15 Reasons for staying at Anandanagar.

As a fist consideration 47 respondents out of 55 expressed their reason for staying at Anandanagar was low land price. Proximity to work place is the second consideration for 15 of the respondents for staying at Anandanagar. As a third consideration 13 of the respondents said their reasons for staying at Anandanagar is its proximity to the city centre.

Table 41 : Reasons for staying at Anandanagar

Reasons	1st reason	2nd reason	3rd reason
Original settler	2	3	--
Relatives/Friends are here	--	11	11
Near to city centre	4	6	13
Near to work place	--	15	1
Low land price	47	3	3
Gift From in-laws	1	1	--
Others	--	5	13
Knowing the on-going dev. activities here	1	8	7
Missing	--	3	7
Total	55	55	55

Source : Household survey, 1989

3.16 Opinion of residents of change of housing situation from previous location.

In respect of location, about 50 percent of the respondents expressed that the present condition was worse than the previous condition. 34.5 percent answered that the condition was better than the previous condition. 65.5 percent of respondents opined that tenureship of land had improved. 20 percent of respondents answered that there was no change in the condition of tenure of land. Only 10.9 percent answered that their condition became worse than the previous location. From Table 42 it was quite apparent that job opportunity was not affected for 61.8 percent of the residents due to change of housing situation from previous location. In respect of infrastructure, 70.9 percent of the respondents answered that their present situation was same of worse than their previous condition. Only 9 percent received better infrastructural condition than before.

Table 42 : Opinion of resident on change of housing situation from previous location.

Condition	Better	No change	Worse	Missing	Total
Location	19	8	28	--	55
Tenure of land	36	11	6	2	55
Job opportunity	5	34	14	2	55
Infrastructure	3	19	20	13	55

Source Household survey, 1989

3.17. Rent, floor space and reasons for selection of Anandanagar by tenant group.

It was found that about 61 percent of the residents house rents were from TK.101 to 300. Only one house has rental value above Taka 700. The floor space of the rental houses ranges from 75 sq. ft to 500 sq. ft.

The main reason for selection of Anandanagar for tenant group was low house rent in this area. Only one tenant informed that the main reason for staying at Anandanagar was its proximity to his work place.

Table 43 : Distribution of household by rent

Rent	Frequency	Percent
Less than TK. 100	2	7.69
101 to 200	9	34.61
201 to 300	7	26.92
301 to 400	1	3.84
401 to 500	2	7.69

501 to 700	2	7.69
701 to 1,000	1	3.84
1,001 to 1,500	--	--
Above 1500	--	--
Not applicable	--	--
Missing	--	--
Total	26	100

Source : Household survey, 1989

Table 44: Distribution of households by floor space

Floor space	frequency	Percent
Below 101 sq. ft	4	15.38
101 to 150 sq. ft	7	26.92
151 to 200 sq. ft	5	19.23
201 to 300 sq. ft	4	15.38
301 to 500 sq. ft	6	23.07
501 to 700 sq. ft	--	--
701 to 1,000 sq. ft	--	--
1,001 to 1,500 sq. ft	--	--
Above to 1,500	--	--
Not applicable	--	--
Total	26	100

Source : Household survey, 1989

Table 45 : Reasons for selection of Anandanagar

Reasons	Frequency	percent
Near to work place	1	3.9
Near to city centre	--	--
Low house rent	18	69 2
Relatives/Friends resides here	--	--
Others	7	26 8
Total	26	100

Source : Household survey, 1989

Chapter 4

Development process of Anandanagar

Like other fringe areas of Dhaka City the Anandanagar area was low-lying agricultural land with some small patches of high land. Originally the name of the area was Baidertek, as the Gypsy (Boat people) stay here for 3-4 months during the monsoon. The residential settlement near this area were Merul and Saidantoly, which were mostly inhabited by the Hindu families. They still have a shrine (Nag mandir) at Merul. Much of this low agricultural land was owned by Hindu families. After the partition of 1947, the Hindu families gradually started selling off their agricultural land and migrated to India. The middle class Muslim families who used to live in the nearby areas like Badda, Rampura, Mahbagh, came to know about the land availability in this area and as the price of these lands were low, they started to buythese lands with the expectation of having their own house in this city.

In 1958, when the then Dacca Improvement Trust (DIT) acquired land for Gulshan, one family was compelled to come to this area and buy 16 Bighas of mainly low agricultural land with some high land. Mr. Haji Akram Uddin's family was the first muslim family to start living in this area permanently. There was no road and during dry season they used the field dividers for their movement. But even then they had to cross a canal. For their convenience of movement they built a bamboo bridge (Shanco) over it. But the area used to submerge under water for more than half of the year.

After 1965, Hazi Akram Uddin and his relatives bought land in this area at a minimum cost from the hindu families as they left for India hurriedly due to political reasons.

Then in 1971 Khabir Sarker and his family came to stay in this area. Previously they used to live in Khilgaon. But as he lost his leg during the War of Independence, he could not afford the house rent and was compelled to come to this area. But his house was like an islet in the low land. As he was the only inhabitant in the area, he suffered a lot due to frequent robbery. then three more families came to this area by 1972.

In 1972, Hazi Akram Uddin and other land owners who were interested to live in the area prepared a road layout leading upto Mr. Khabir Sarker's house. Under the scheme, they decided to build a 16' wide main road and 12' wide branch roads with access to every houses. For this purpose Hazi Akram Uddin sacrificed about 1 Bigha of land for the main road and 5 Katha of land for the mosque. Other landowners to minimize their losses, also agreed to contribute land upto half the width of the roads.

In 1975, a group of nine families living in Rampura bought 2.5 Bigha of land in Anandanagar. As the area was within the scheme of Hazi Akram's road layout, they sacrificed about 3 Katha of land for the main road and the secondary roads to have individual access to their houses. Then they subdivided their plots into nine equal divisions after leaving land for the roads and came to an agreement among themselves, according to this new plot division. And one family from this group started residing in this area.

In 1976, another group of 6 families bought land in Anandanagar and subdivided their land in accordance with Hazi Akram's road layout. As time passed by more and more families gradually came to settle in this area and they also accepted and adopted the road layout and land subdivision system started by the earlier settlers . They also prepared a road layout and made an agreement with the new comers to follow the road layout. Gradually a road network was evolved to give access to every household in the area.

In 1977, the inhabitants of Anandanagar built a kutcha mosque on the land donated by Hazi Akram Uddin. Then they formed a Masjid committee with members from every household of Anandanagar.

In 1978, the residents of Anandanagar formed a Road Committee and Mr. Hazi Akram Uddin was the first Chairman of the committee. In the same year a group of local youths formed a club, named Anandanagar Club. The members of this club took active part in the earth filling process of the road construction. The inhabitants of Anandanagar also built a culvert over the the canal in 1979. The people of Anandanagar constructed this culvert with their own effort and money. On their request, in 1979 the Chairman of the Shatarkhali Union allotted one thousand maund of wheat and they utilized the

wheat for road construction. In 1982, they received another two hundred maunds of wheat for road construction form the Shatarkhali Union Council.

After 1980, a group of businessmen form Naya Bazar started living in this area. They actively supported the development activities of Anandanagar. They gave financial help to carry out road construction. The earth filling process for the road is continuing for the last 15 years and at present the road is 16 feet higher from the existing ground level.

In 1981, the inhabitants of Anandanagar with the active participation of Naya Bazar businessmen managed to bring electricity. According to some local organizers they spent about Tk. 30,000 for bringing electricity. In 1982, they laid the foundation stone of a pucca Mosque.

In 1984 the elderly people of Anandanagar formed a club named Anandanagar Adarsha Samaj Kalyan Samity. All the land owners had to be members of the club. The main objectives of the samity were as follows :

i) Physical development of the area.
ii) To ensure better living condition of the area.
iii) Prevention of any unsocial activities.
iv) Social works.

The Samity advised the youth of the locality for any development activities. In 1984, the inhabitants of this area replaced the kutcha Mosque and built a pucca structure at a cost of 4 lac Taka. They raised funds from the land owners, both inhabitants and landowners living in other places. The major share of the donation was given by the Naya Bazar businessmen.

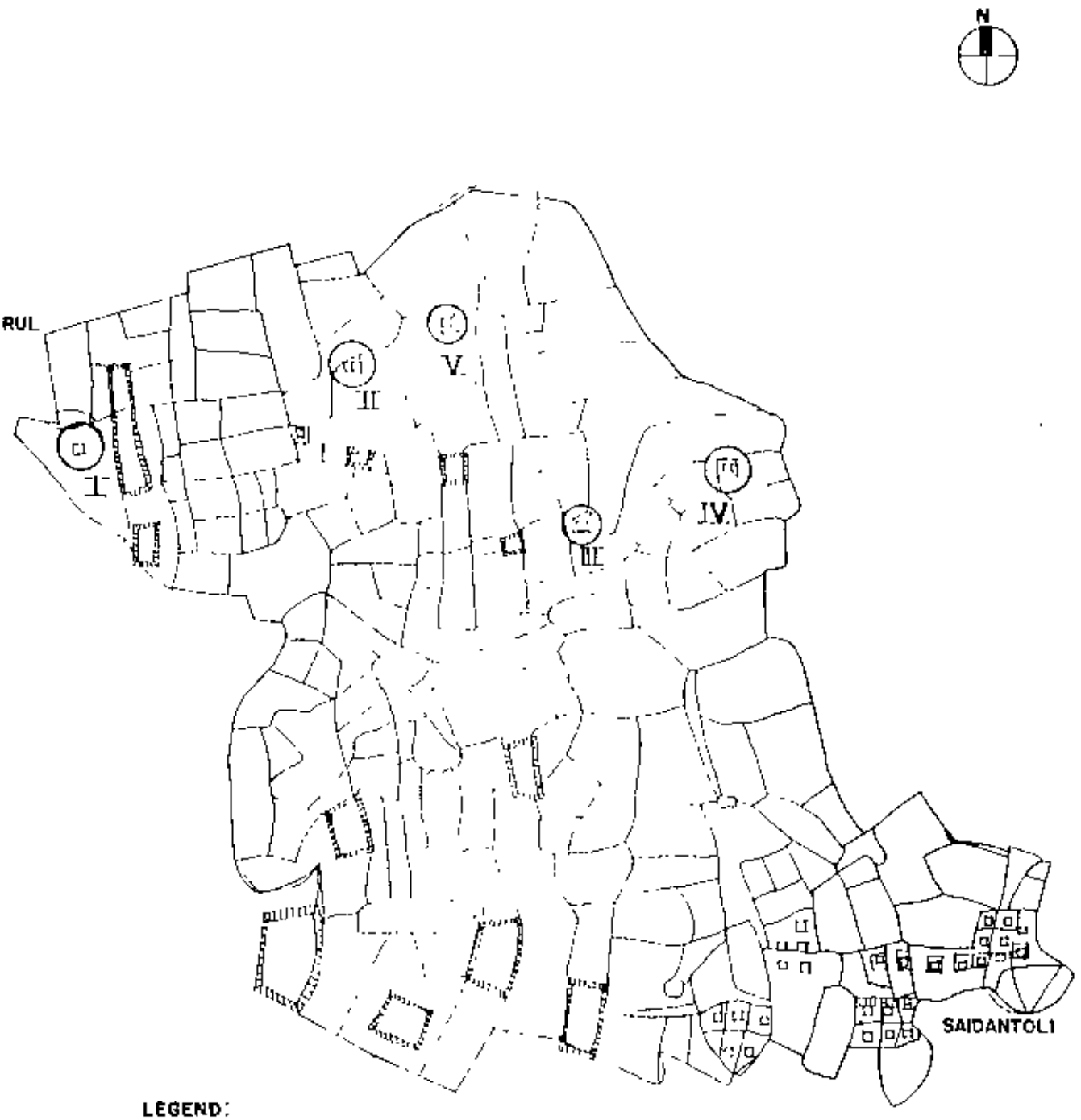
In 1987, with their own initiative and donations from the inhabitants of the area, the road level was raised and the road was extended up to Saidantoli (South Anandanagar). Brick for road construction was donated by one of the landowners from his own brick field. Almost all male adult inhabitants of the locality directly or indirectly participated in this development activity.

In 1988, the devastating flood seriously damaged the earth work of the road. They gradually repaired the road throughout the year.

On 28th December, 1989 they formed a primary school, Anandanagar Adarsha Primary school on a Khas land of about one bigha. They built two semi-pucca structure comprising 6 class rooms.

At present (1989) the residents of Anandanagar applied to WASA for sinking a deep tube-well in their area to overcome the water crisis. They are giving their voluntary labour for widening the road which will enable them to bring the vehicles for sinking deep tube-well. For gas connection the residents of Anandanagar have taken the initiative of widening the narrow kutcha roads. The development process is still going on in this area.

RESIDENTIAL DEVELOPMENT TILL 1972



LEGEND:

- I HAZI AKRAMUDDIN
- II KHABIR SHARKER
- III GIASUDDIN AHMED
- IV ISRAIL HAWLADER
- V SERAJ MIAN
- □ DEVELOPMENT FROM 1958-1972

FIG: 8

SOURCE: FIELD SURVEY, 1969

HAZI AKRAMUDDINS ROAD LAYOUT

LEGEND:

====HAZI AKRAMUDDINS ROAD LAYOUT 1972

FIG: 9

SOURCE : FIELD SURVEY, 1989

RESIDENTIAL DEVELOPMENT TILL 1975

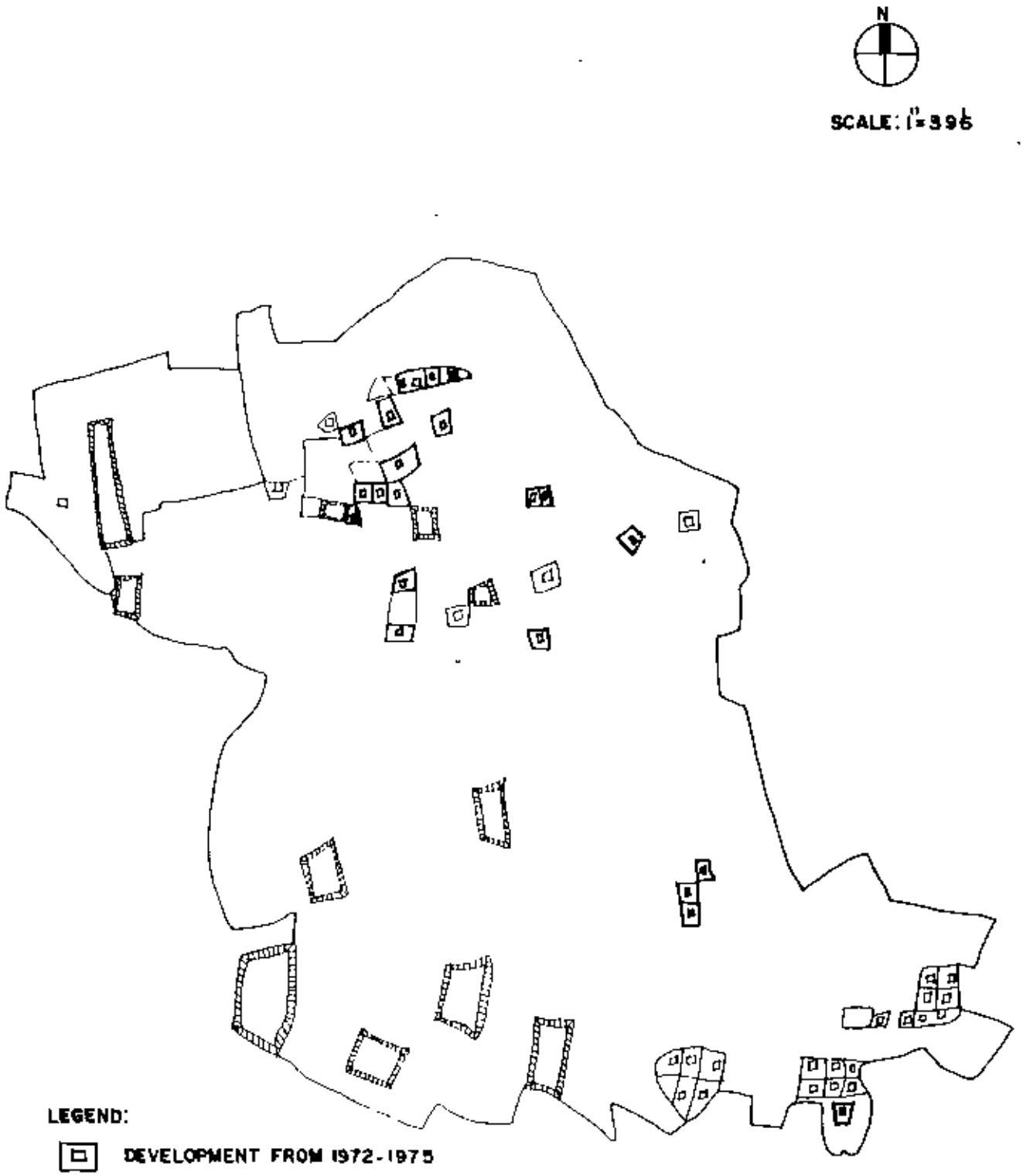


FIG: 10

SOURCE. FIELD SURVEY, 1989

RESIDENTIAL DEVELOPMENT TILL 1980

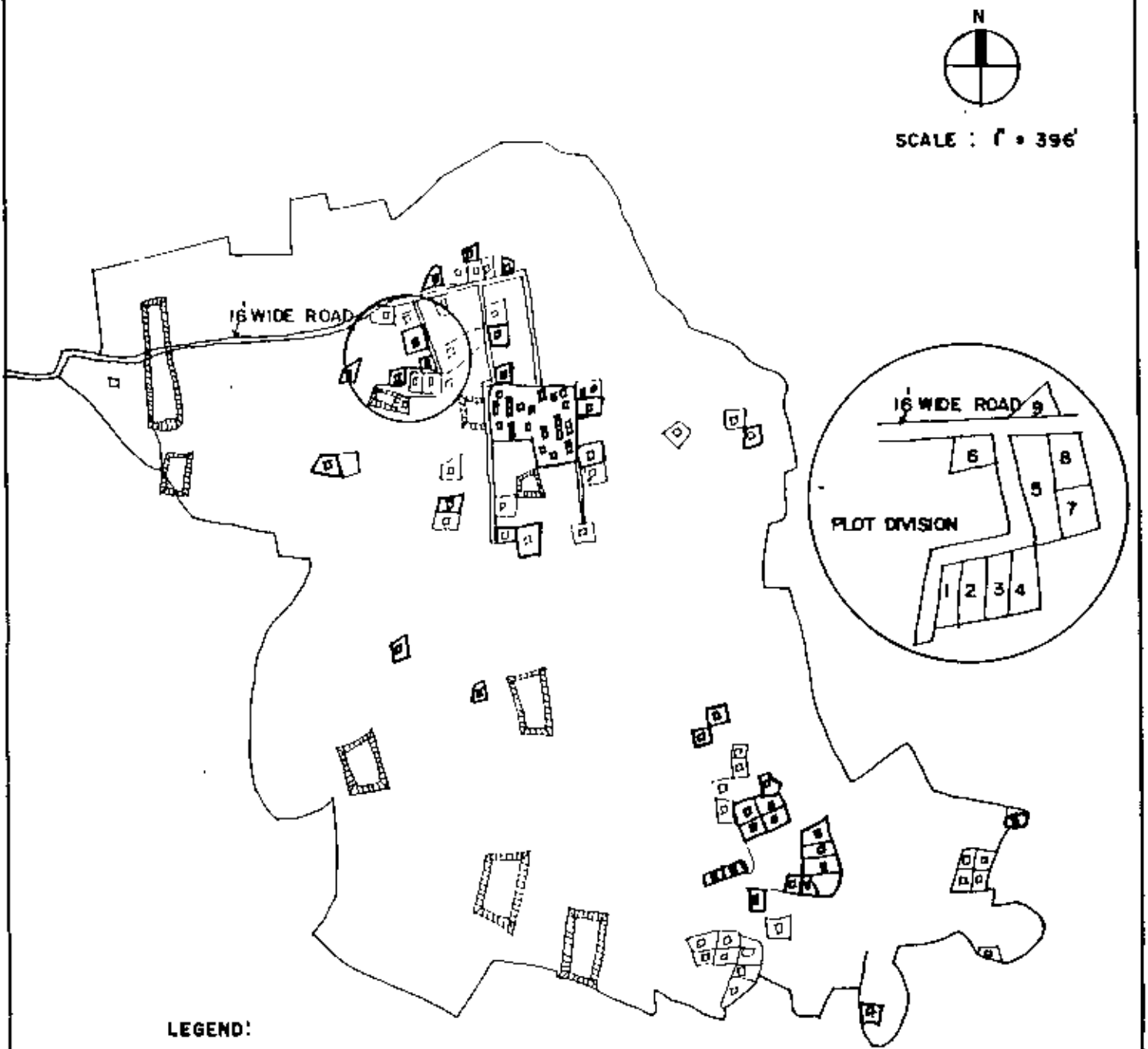
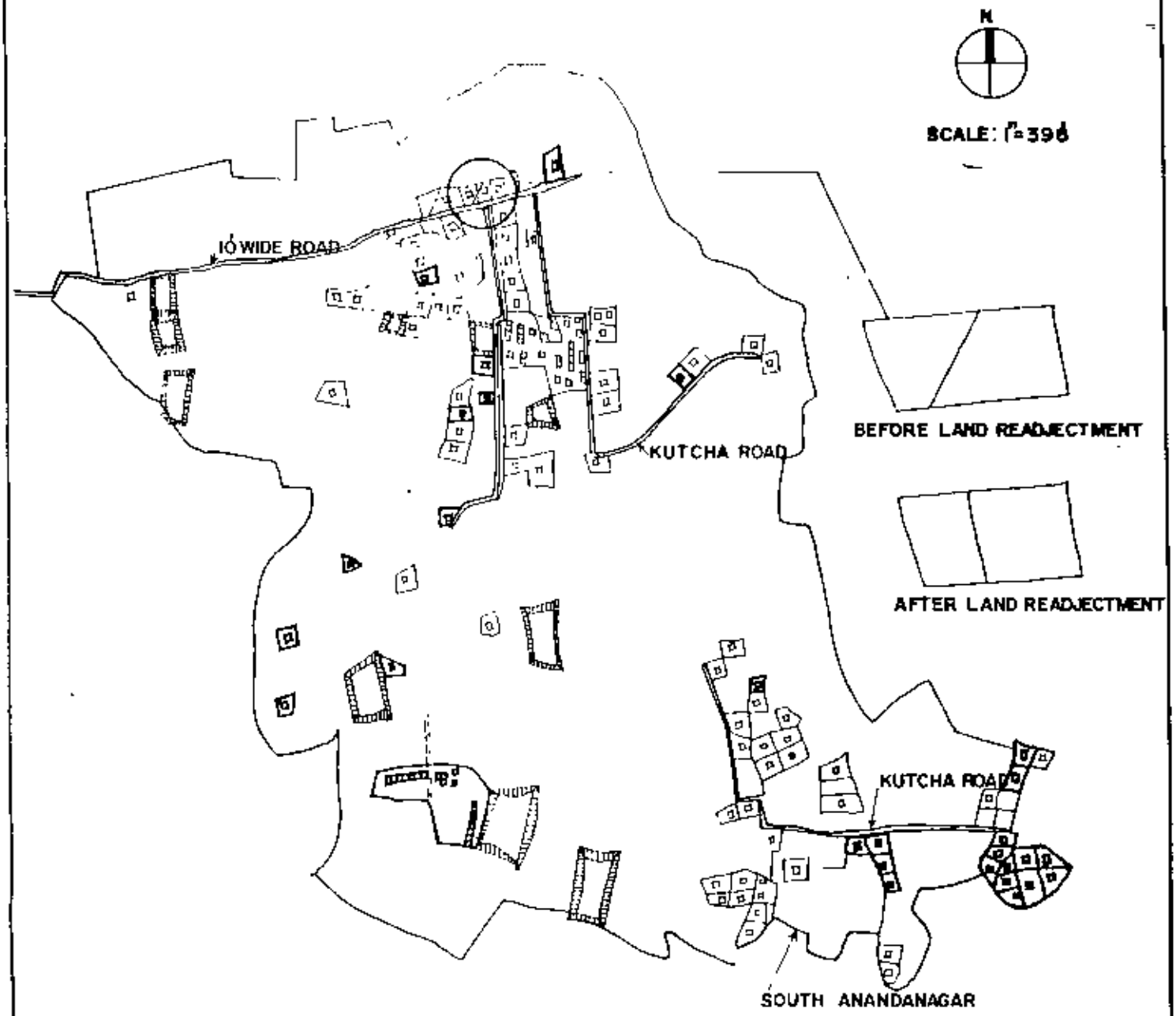


FIG : 11

SOURCE FIELD SURVEY, 1989

RESIDENTIAL DEVELOPMENT TILL 1985



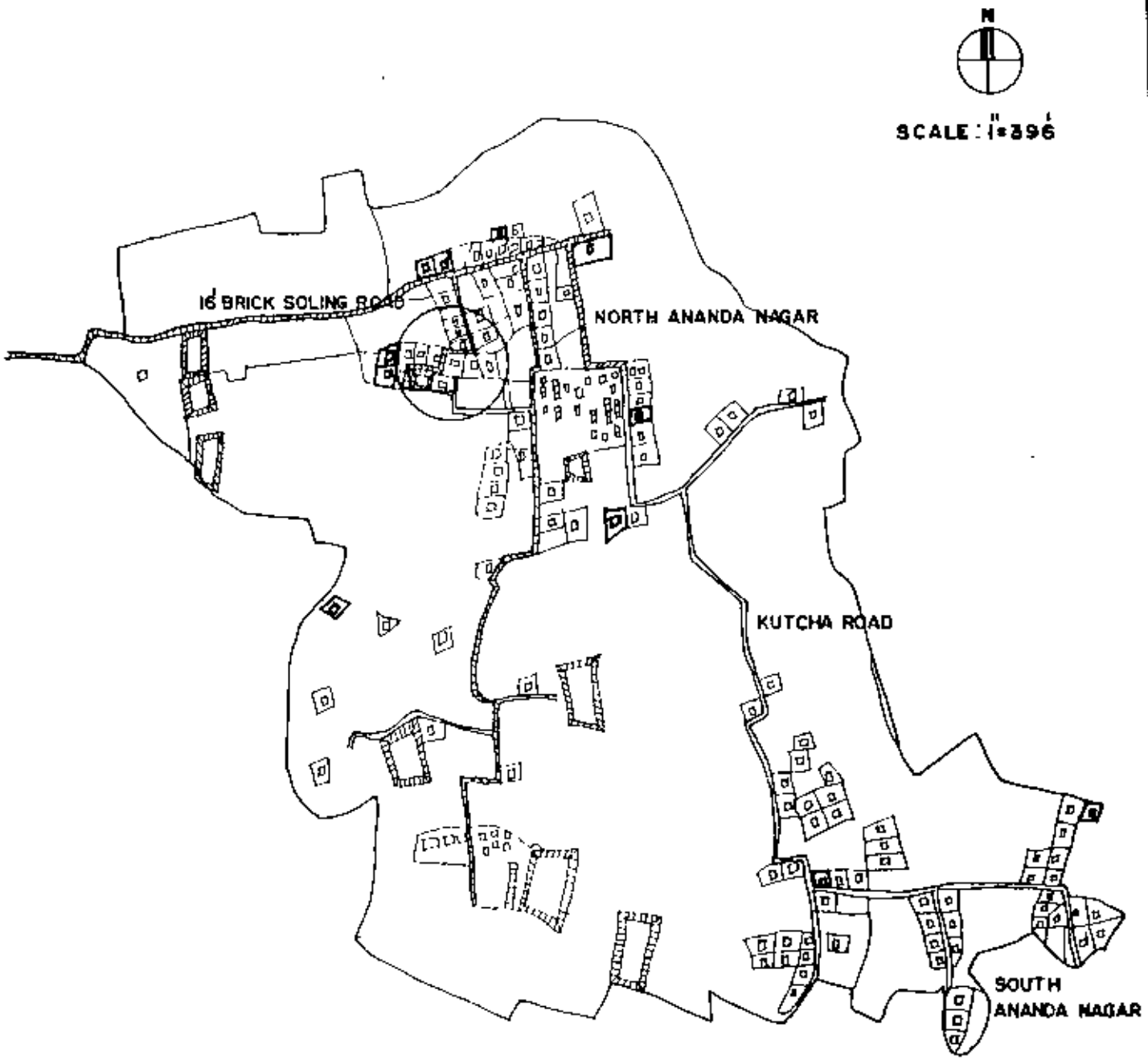
LEGEND:

RES, DEVELOPMENT FROM 1980-1985

FIG: 12

SOURCE: FIELD SERVEY, 1989.

RESIDENTIAL DEVELOPMENT TILL 1987



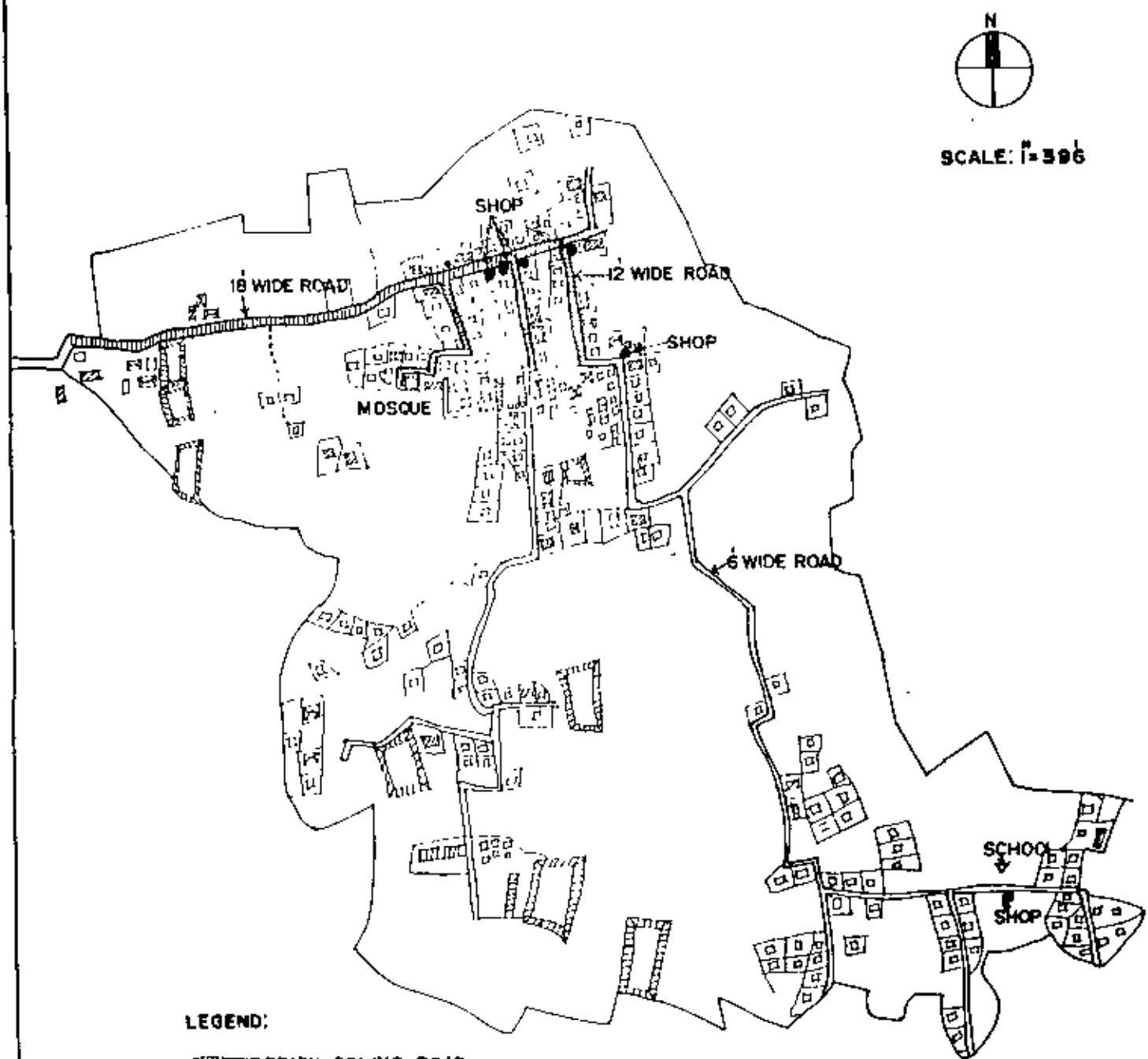
LEGEND:

RES, DEVELOPMENT FROM 1985-1987

FIG: 13

SOURCE: FIELD SURVEY, 1989

RESIDENTIAL DEVELOPMENT TILL 1989



LEGEND:

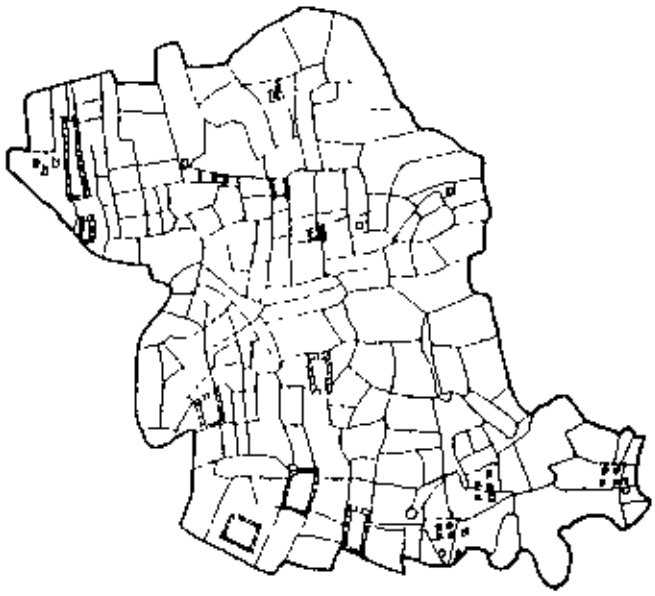
- BRICK SOLING ROAD
- KUTCHA ROAD
- PUCCA HOUSE
- SEMI PUCCA HOUSE
- KUTCHA HOUSE
- POND/DITCHES
- SHOP
- RES, DEVELOPMENT FROM 1987-1989

FIG : 14

SOURCE : FIELD SURVEY, 1989

LAND DIVISION BEFORE READJUSTMENT

SCALE : 1" = 792'



LAND SUBDIVISION AFTER READJUSTMENT PROCESS

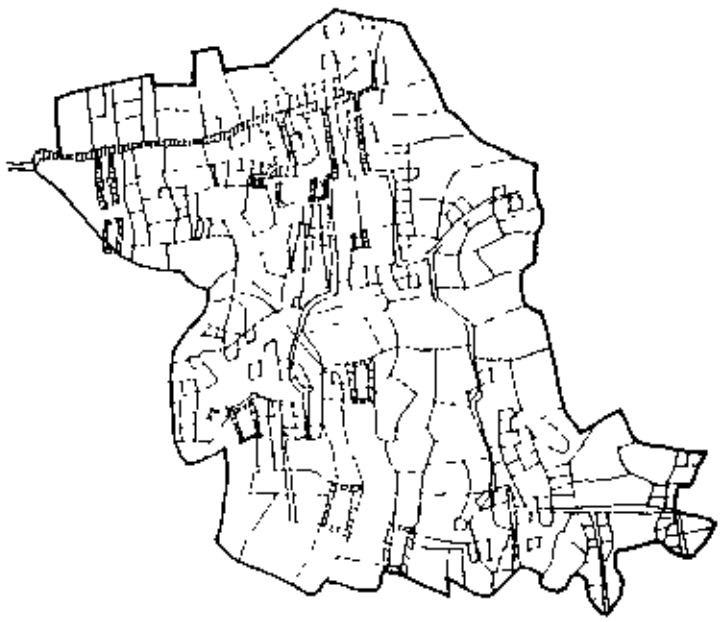


FIG : 15

FIG: FIELD SURVEY, 1989

Chapter 5

Analysis of the development process at Anandanagar.

5.1 Factors effecting the development of Anandanagar.

a. Late Hazi Akram Uddin acted as the main catalyst at the inception of development of Anadanagar. For the implementation of any land readjustment programme, some form of resources are required at the inception stage. In case of Anandanagar, Late Hazi Akramuddin's contribution of land, money and the capacity of inspiring early settlers was the prime force which helped to initiate such development activity.

b. As Anandanagar area was outside the jurisdiction of Dhaka Municipality there was no roads in this area. The earlier settlers decided to contribute their land for their own convenience and prepared a road layout between the boundary of two adjacent plots so that every landowner had to contribute half of the width of the road. The first 50 percent of the main road was contributed by the largest landholder, Hazi Akramuddin. The main reasons behind his contribution of land for the main access road was that he had bought land in the inner part of the area also. But these lands did not have access. So for his own interest of selling the land he contributed land for the main road. All the settlers who came later were compelled to follow the principle of leaving half of the width of roads because they had to use the main road as it is the only access to their household. With the guidance and inspiration of the early settlers the new comers also followed the principle of leaving half of the width of the road when they came to Anandanagar. And gradually a road pattern was evolved. Here a social pressure was acting to convince the new comers to follow the principle.

c. From the survey it is revealed that most of the settlers were first generation dwellers in Dhaka city (Table 13). At present only 13 Hindu families are still living in this area. As they were the newcomer to this city they started feeling the need of interaction with others. Out of which a community feeling started to develop.

d. Two group purchase of land, one among 9 members and other among 6 members occured in the earlier stage of the land readjustment process. As there was some degree of previous understanding among them, land subdivision after leaving space for roads became easier. To get individual access road they first introduced arterial roads in this area. These two groups expedited the land readjustment process in the earlier stage.

e. The price of land in this area was very low as compared to surrounding area, Badda, Gulshan, Khilgaon etc. But as the adjacent Badda area was acquired by Rajdhani Unnayan Kartripakha (RAJUK) and this area was delared by RAJUK as flooded zone, as the area was submerged under water for almost half of the year, only the middle income group, living in surrounding areas were interested to purchase this land. So land was purchased by the users for living not for speculative gain. So all the residents agreed to contribute their land and soil for earth filling for their own convenience. At initial stage one land holder who bought land for commercial purpose did not agree. Eventually he realised the benifits of road which helped land price appreciation. Then he agreed to the proposal of road layout and actively participated in the development activity.

f. As 60 percent of the landowners were service holder and 50 percent of them had educational qualification above intermediate level, some degree of of homogeneity in terms of economic, social and mental state was found in this area, which helps to create unity in any development decision in this area.

g. It is found that 80 percent of the landowners who live in Anandanagar area previously lived within Dhaka city. As a result most of th landowners had some degree of orientation in urban life. So while they started to live in Anadanagar, they wanted to have such urban facilities in their area.

h. As the area was lowlying the road played the most important role for year round communication. The need of a proper road was felt by every body which motivated the settlers to contribute their land for getting access.

i. The size of about 70 percent of the plots were between 3 to 6 Katha. Because of the homogeneous nature of plot size, subdivision into regular shape became easier. Only 11 percent of the land holdings were between 2 to 3 Katha and 19 percent of the land holdings were between 6 to 10 Katha.

j. As there was a regular pattern of plot size, their contributions of land were also in equal proportion. So dissatisfaction among large land holders and small land holders over contributing land proportionate to their plot size were minimum.

k. In general most of the landowners fell into middle income bracket. The monthly income of 61 percent of landowner varies between Taka 2,000 to 5,000. As a result their ability to finance the development activities are similar which ensure almost equitable participation in the development process.

l. The main factor behind this land readjustment process was that the compulsory contribution of landowners were land and physical labour, not money. Money was collected gradually from them in the form of donation according to their ability.

m. People's participation was the prime factor in this development process. 86 percent of the landowners were directly involved in the development welfare organizations formed by the settlers.

These were created to increase interaction among different age and income groups of the inhabitants. Youths of Anandanagar participated with the elderly people in the road construction activity. As a result sense of belongingness developed among every resident of Anandanagar.

n. The establishment of the mosque by Late Hazi Akramuddin also played a vital role in the formation of new community through regular informal interactions among the neighbours. Even now it plays a vital role in community level decision making. Although the committee or organization implement these devlopment activities, the informal interaction in mosque played a vital role.

5.2 Evaluatiou of the development activities of Anandanagar.

The final form taken by Anandanagar after the development activities is not considered as a planned development repicable in other Government initiated residential development projects as Banani, Gulshan, Uttara model town projects. Improper road layout, lack of social services did not confirm appropriate development process in this area. As the development work was done out of immediate need of the residents and due to absence of any formal planning laws and regulations some inherant problems were now evident which cannot be solved at present. The benefits they achieved through the development process were, individual access roads, electricity, a primary school and a mosque.

5.3 Problems and limitations in the development process of Anandanagar.

a. It took fifteen years for Anandanagar to reach the present stage of development. With the limited resources of the land owners they could only manage to get individual road access and electricity.

b. Due to absence of any Government intervention any programme taken by the organizer was done in an incremental process, as a result the process of implementation was very slow.

c. As the road layout was prepared between the boundary of two adjacent plots and due to absence of any expertise knowledge in road layout, the road pattern of the area did not follow planning standards for motorised vehicle The present road layout could only serve pedestrinans and slow moving vehicles (Rickshaw, Thela, Cycle etc.) only. The road width was also insufficient.

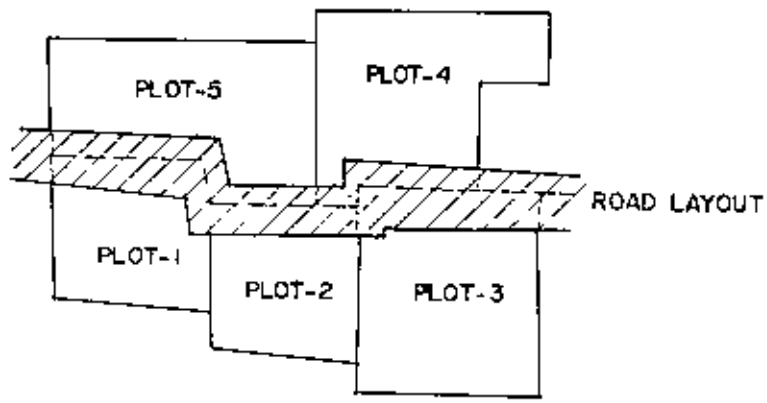


Fig : Land Readjustment technique at Anandanagar.

d. For further development of this area, to bring water connection, gas and to improve the road quality, huge amount of money is required. But as most of the inhabitants belonged to middle income group, and due to limited financial resources the process of development was very slow.

e. Other necessary urban facilities such as school, playfield, market, hospital were seriously lacked in this area due to absence of appropriate planning.

f. A rumour about acquisition of land by RAJUK created fear of loosing land among the landowners which also kept away the landowners form taking any further development activity in this area.

g. The home districts of most of the early settlers are Comilla, Faridpur and Dhaka. They were the organizers of the initial development activities. Now as the area is inhabited by settlers from other districts, silent conflict has arisen between the initial settlers and neo-settlers. And it is hampering the development process in Anandanagar.

h. As RAJUK did not approve plans for construction of buildings in this area, many substandard houses were erected which created bad environmental impact in this area.

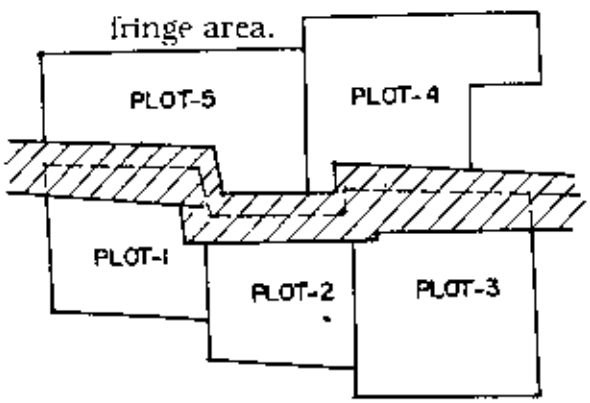
i. As the settlements were growing rapidly, the control of the organization of the new settlers has become less than the earlier stage of development which has created chaotic condition.

Chapter 6

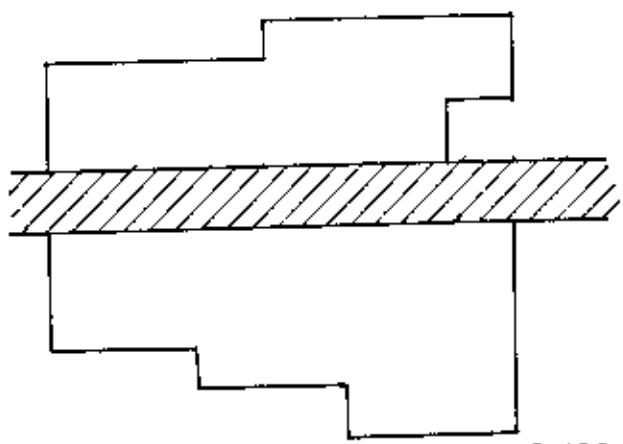
Recommendations and conclusion

Although there are some inherent problems in the development process of Anandanagar, the benefits the residents achieved through their own efforts can be a perpetual model for private sector residential development. As the Government cannot provide necessary services and infrastructural facilities to the fringe area of the large cities, unplanned growth is a common phenomenon. In this respect the people of Anandanagar successfully achieved some infrastructural development.

The low lying agricultural land surrounding the city should be filled in for roads and building construction to cope with the rapid urban expansion. But due to resource constraints the Government cannot provide these facilities accordingly. As a result, the private landowners have to wait until the extension of public road network which provide access to these lands. As excessive dependence on the Government resources reduce rapid development, here the landowners themselves tried to get infrastructural facilities. In this respect the landowners should form some institutional structure to undertake such development programmes properly. With limited resources to cope with such rapid urban growth , the Government can only provide necessary legal help to facilitate the land development process in fringe area.



ROAD LAYOUT CONSIDERING INDIVIDUAL PLOT
Fig: 17



ROAD LAYOUT CONSIDERING ALL INDIVIDUAL PLOTS AS A WHOLE
Fig : 18.

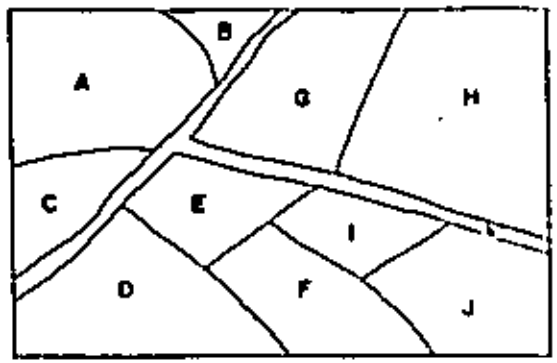
If the problem of this private development process can be solved then the residential development model of Anandanagar can be replicated at other underdeveloped fringe areas.

I. Although the principle of contributing half of the width of the road by each plot holder for land readjustment in Anandanagar apparently minimizes complications of unequal land contribution, it results into winding and haphazard road layout. To overcome this problem, at the initial land subdivision stage the land pooling/readjustment technique should be adopted. In this system all the small parcels of land are consolidated, then after proper servicing, planning and subdividing, the new plots are both distributed to the original land holders in proportion to the value of their land contribution and sold to interested buyers to recover all development costs / To minimize dissatisfaction among plot holders, the new plots should be allotted near to the original plots. This road layout and land readjustment process will be carried out under the guidance of local institutional body. The concept of land pooling/readjustment technique is described in the fig (19)

II. To overcome financial resource constraints the landholders could contribute land not for the road layout only, but to a greater proportion which can bring financial resources necessary for construction by roads, installation of water lines, gas connection, electricity, sewerage disposal, drainage etc.. This additional contribution cannot cause loss to the land owners as it increases land price substantially.

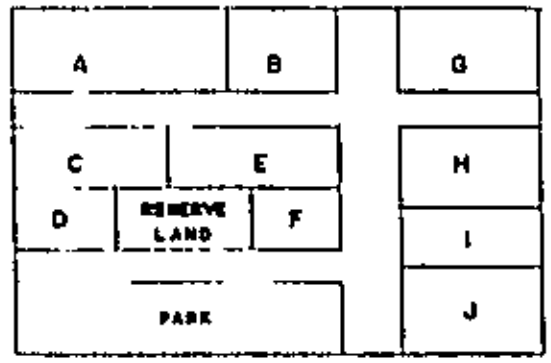
III. As the Anandanagar area was developed on an incremental basis according to the inhabitants' immediate needs, it lacks necessary facilities such as school, market, health facilities, play fields, parks etc. To provide these facilities both land and financial resources will be required. The land resource could be supplied by the large landholders which could be sold to bring financial resources from outside to support these facilities. It should be noted here that this process of land selling is not feasible where small land holders comprise the

CONCEPT OF GUIDED LAND DEVELOPMENT IN DIAGRAM



BEFORE THE PROJECT

FIG-2A



AFTER DEVELOPMENT

FIG-2B

REPRESENTATIVE PLOTS OF MR.X.Y.Z AND THEIR CONTRIBUTION AND DEVELOPMENT METHOD

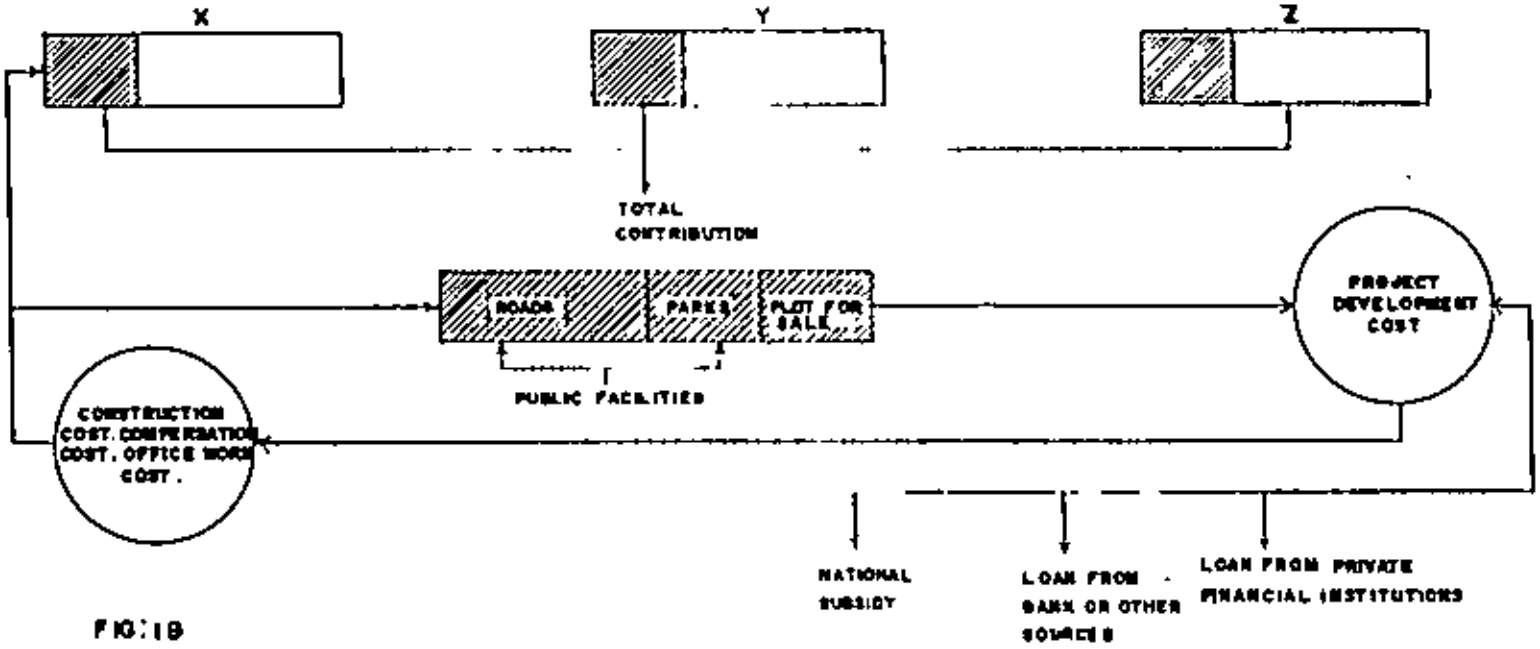


FIG:1B

SOURCE: KARIM, 1987.

greater portion. To overcome these constraints the Government should enforce some standards and guide-lines for the local institutions to control haphazard and unplanned growth.

In this respect Yasmin (1988) recommends 21.9 percent and Karim (1987) 30 percent of land for a land readjustment project to be given up for the road network, open space, mosque, school and community centre and about 10 percent of land for sale to recover the project cost. They recommend 66.85 and 60 percent respectively of their original area as serviced plots for reallocation to the original owners.

It should be noted that this private land readjustment scheme is only replicable in lowlying fringe areas as the road acts as the main means of communications for community.

So, it is found that the land readjustment technique for developing residential land is politically , financially and administratively feasible. This land development technique is politically feasible because it is usually supported by most of the land owners. It is financially feasible because the amount of land sacrificed by the land owners is recovered from the land value increasing generated by this technique (Karim, 1987). It is also administratively feasible because the development process of Anandanagar is an example which proves its feasibility. To understand its feasibility clearly some small scale readjustment technique can be demonstrated in the fringe areas of major cities.

In fine, it may be concluded that the residential development process of Anandanagar through land readjustment is a viable technique which can be replicated in other fringe area of rapidly growing large cities such as Dhaka, Chittagong & Khulna etc.

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APPENDIX

Table 46: Distribution of households according to housing cost

Housing cost	Frequency	Percentage
10,000 and below	2	3.6
10,001 to 25,000	6	10.9
25,001 to 50,000	12	21 8
50,001 to 75,000	8	14 6
75,001 to 1,00,000	5	9.1
1,00,001 to 2,00,000	11	20 0
2,00,001 to 4,00,000	9	16 4
Above 4,00,000	2	3 6
Missing	-	-
Total	55	100 0

Table 47: Year of house construction

Year of house construction	Frequency	Percentage
Less than two years	5	9 1
2 to 4 years	12	21.8
4 to 6 years	4	7.3
6 to 8 years	7	12.7
8 to 10 years	9	16.4
10 to 12 years	9	16.4
12 to 14 years	6	10.9
14 to 16 years	-	-
Above 16 years	3	5.4
Missing	-	-
Total	55	100.0

Table 48 : Residents opinion on existing condition of services

Service	Satisfied	Highly Satisfied	Not Satisfied	Neutral	Total
	Frequency	Frequency	Frequency	Frequency	
Road access	20	2	53	6	81
Road quality	6	--	75	--	81
Water	32	--	43	6	81
Drainage	7	--	43	6	81
Sanitation	56	4	14	7	81
Electricity	27	42	12	--	81
Fuel	3	--	73	5	81
Shop/Market	39	3	35	4	81
School	34	--	39	8	81
Medical facility	--	--	68	3	81
Communication	6	1	63	70	81
Play field	39	1	32	10	81
Religious centre	40	41	3	3	81
Understanding with neighbour	34	41	3	3	81
Security	31	38	2	--	81

Table 49 : Distance of facilities from the households

Facilites	Within $\frac{1}{4}$ mile	$\frac{1}{4}$ to $\frac{1}{2}$ mile	$\frac{1}{2}$ to 1 mile	1 to 2 mile	2 to 3 mile	3 to 5 mile	5 to 7 mile	Above 7 mile	Not applicable Missing
School	1	6	46	11	3	--	--	--	17
College	--	--	--	6	35	12	1	--	27
Medical	--	4	5	10	31	6	22	2	--
Religious facilities	64	8	3	--	--	--	--	--	1
Telephone	30	22	6	4	--	--	--	--	19
Post-office	--	30	26	14	10	1	--	--	--
Cinema	--	--	--	13	44	15	--	--	9
Bus Stopage	--	22	55	2	--	--	--	--	2
Rickshaw	52	19	9	1	--	--	--	--	--

Thesis Title : **Residential Developement Through Private Land Readjustment : A Case Study of Anandanagar, Dhaka.**

Department of Urban and Regional Planning, BUET.

i. Name of the Interview :

ii. Name of Respondent :

iii. Date of Interview :

iv. Name of the head of the household :

CARD NO

AREA CODE

SAMPLE No

1. INFORMATION CONCERNING HOUSEHOLD

1.1 Type of Family

Coding :

Nucleated	1
Joint	2
Extended	3

1.2 Household size

Coding :

1	Member	01	6	Member	06
2	"	02	7	"	07
3	"	03	8	"	08
4	"	04	9	"	09
5	"	05	10	"	10

1.3 Detail information about each of the members of the household :

Members / Information	1	2	3	4	5	6	7	8	9	
Age										10-27
Sex										28-36
Martial Status										37-45
Level of Education										46-54
Occupation										55-63

(Head of the household must be No.1)

Coding :

Age :

0-4	01
5-9	02
10-14	03
15-19	04
20-24	05
25-29	06
30-34	07
35-39	08
40-44	09
45-49	10
50-54	11
55-60	12
60 & above	13
Miss-ing	19

Sex :

Male	1
Female	2
Missing	9

Martial Status :

Married	1
Unmarried	2
Widow	3
Widower	4
Divorced	5
No. Answer	6
Missing	9

Occupation :

Service	1
Business	2
Retired	3
Housewife	4
Student	5
Unemployed	6
Artisan	7
Farmer	8
Not applicable	9
Missing	10

Level of Education :

Primary	1
Secondary	2
Intermediate	3
Degree	4
Masters	5
Illiterate	6
Not-applicable	7
Missing	9

1.4 Type of Service of head of the household : 64

Coding :

Officer (Professionals & Non-technical)	1
Secretariat	2
Ministrial	3
Businessman / Contractor	4
Student / Retired / Housewife	5
Farmer	6
Not applicable	7
Missing	9

1.5 Income / month of the head of the Household : 65

Coding :

Less than Tk. 1000	1
1001 - 2000	2
2001 - 3000	3
3001 - 5000	4
5001 - 7000	5
7001 - 10000	6
10000 & above	7
Not applicable	8
Missing	9

1.6 Distance of work place of the head of the household (Unit- mile) 66-67

Coding :

Less than 1/2 mile		01	7 - 10 mile		07
1/2 - 1		02	More than 10 mile		09
1 - 2		03	Missing		10
2 - 3		04	Not applicable		19
3 - 5		05			
5 - 7		06			

1.7 Mode of Transport :

Coding :

Walking	0	Walking and Tempoo	5
Rickshaw	1	Walking & Rickshaw	6
Bus	2	Walking and Bus	7
Tempoo	3	Office Transport	8
Cycle	4	Not applicable	9

1.8 Length of stay on the site :

Coding :

Less than	2 year	01
	3	02
	5	03
	7	04
	10	05
	15	06
	20	07
	20 +	08
	Local	09
	Not-applicable	10
	Missing	19

1.9 Where did you live before coming here ?

Coding :

Near Anandanagar(within 3 miles radius	1
Within Dhaka City (other than no.1)	2
Outside Dhaka	3
Not Applicable	9

1.10 Where is your home district ?

1.11 What is your tenure status ?

Coding

Owner	1
Rented	2
Sub-let	3
Shared	4
Others	5

1.12 Structure of the house

Coding :

Pucca	1
Semi-pucca	2
Kutcha	3

2.0 SERVICE FACILITIES OF THE HOUSEHOLD :

2.1 Drainage

Coding

Private arrangement : Pucca	1
Private arrangement : Kutcha	2
Nil	3

2.2 Sanitation :

Coding :

Private arrangement : Septic tank	1
Private arrangement : Pit latrine	2
Kutcha	3
Shared (Pit latrine)	4
No facility at all	5

2.3 Electricity :

Coding :

Yes	1
No	2

2.4 Water :

Coding :

Private tubewell	1
Shared facility (Tubewell)	2
Shared with other family(Tubewell)	3
Others	4

3.0 INFORMATION ON LAND

3.1 Land Tenure

Coding :

Private purchase	1
Inherited	2
Rented	3
Shared	4
Gift	5
Not applicable	9

3.2 to 4.17 (FOR LAND OWNERS ONLY)

3.2 Year of land acquisition :

Coding :

Less than 2 year	1	13 to 16 years	6
2 to 4 years	2	16 and above	7
4 to 7 years	3	Inheritance	8
7 to 10 years	4	Not applicable	9
10 to 13 years	5		

3.3 Plot size (Katha)

Coding :

Less than 2	01	6 to 7	05
2 to 3	02	7 to 8	06
3 to 4	03	8 to 9	07
4 to 5	04	9 to 10	08
5 to 6	05	10 and above	09
		Not applicable	19

3.4 Price of land at that time (Total Plot) :

Coding:

Less than 5,000	01	30,001 to 40,000	07
5,001 to 10,000	02	40,001 to 50,000	08
10,000 to 15,000	03	50,001 to 75,000	09
15,000 to 20,000	04	75,001 to 1,00,000	10
20,001 to 25,000	05	1,00,000 and above	11
25,001 to 30,000	06	Not applicable (Inheritance)	12
		Missing	13
		Not applicable	19

3.5 Source of Information about land availability of Anandanagar :

Coding :

Relatives	1
Colleagues	2
Brother	3
Friends	4
Own initiated / Lived nearby	5
Others	6
Not-applicable	9

3.6 **Housing cost (In Taka) :**

Coding :

10,000	and	below	0
10,001	to	25,000	1
25,001	to	50,000	2
50,001	to	75,000	3
75,001	to	1,00,000	4
1,00,001	to	2,00,000	5
2,00,001	to	4,00,000	6
Above 4,00,000			7
Mising			8
Not applicable			9

3.7 Year of house construction :

Coding :

Less than 2 years	0
4 years ago	1
6	2
8	3
10	4
12	5
14	6
16	7
Above 16 years	8
Not applicable	9

3.8 Floor area of the house :

Coding (Sq.ft.)

Less than	200	Sq.ft.		1
	201	Sq.ft. to	500 Sq.ft	2
	501	to	700	3
	701	to	1,000	4
	1,001	to	1,500	5
	1,501	to	2,000	6
	2,001	to	3,000	7
	3,000 and above			8
	Missing			9

3.9 Source of Finance for land (Consider 2 main sources only) :

Coding :

Saving	1
Selling assets	2
Loan from friends and relatives	3
Loan from private tenders	4
Loan from Bank	5
Loan from office	6
Inherited	7
No response	8
Not applicable / Missing	9

3.10 Source of finance for House Construction :

WRITE THE NAME OF DIST _____

4.0 LAND OWNERS PARTICIPATION IN THE DEVELOPMENT OF THE AREA :

4.1 How much land did you sacrifice for developing the area

4.1.1 For 16' wide road

4.1.2 For 12' wide road

4.1.3 For other activity :

Coding :

Nil		1
100 sq.ft.	to 200 sq.ft	2
200	to 400	3
400	to 500	4
500	to 700	5
700	to 1000	6
1000	to 2000	7
Not applicable		9

4.2 Did you know about this land readjustment process when you bought this land :

Coding :

Yes	1
No	2
Not-applicable	9

4.3 If yes :

Did you agree to this land readjustment process ?

Coding :

Yes	1
No	2
Do not know	3
No answer	4
Not-applicable	9

4.4 If no : After comming to Anandanagar, when you heard about this land readjustment process, what was your reaction ?

Coding :

Agreed	1
Do not know	2
Did not agree	3
At first hesitated but when realized the benefit, agreed to it	4
Not applicable	9

4.4 Type of land purchase :

Coding :

Individual purchase	1
Group purchase among friends	2
Group purchase among relatives	3
Group purchase among neighbours	4
Not applicable	9

4.5 In your opinion which facility is urgently required (Other than water and gas) :

Coding :

School	1
Hospital	2
Bazar	3
Not applicable	9

4.6 Change in housing situation from previous condition :

Coding :

Initially kutcha then semi-pucca	1
Initially kutcha then pucca	2
Initially semi pucca then pucca	3
No change (kutcha)	4
No change (semi-pucca)	5
No change (pucca)	6
Missing / Not applicable	9

4.8 What do you think about the development of the area ?

Coding :

Sufficient development has occured	1
Need for more development	2
Do not know	3
No Answer	4
Missing / Not applicable	9

4.9 Are you involved in any of the following organizations :

Coding :

Anandanagar Club	01
Samaj Kallyan Samity	02
Anandanagar Bhahumukhi Sanchayi Samity	03
Faridpur Samobay Samity	05
Others	06
Not involved	07
Missing	08
Not applicable	09

4.10 Degree of involvement :

Coding :

Previously more involved, now less	1
Not at all involved	2
Presently more involved than before	3
Same degree of involvement	4
Neutral	5
Missing	6
Not applicable	9

4.11 Do you think these organizations play a proper role in the development of this area ?

Coding :

Yes	1
No	2
Do not know	3
Not applicable	9

4.12 If no what are the problems with the organizations :

(CONSIDER TWO MAIN PROBLEMS)

Coding :

Disorganization	1
Lack of sincere efforts	2
Only a segment of the residents involved	3
Corruption	4
Not applicable	9

4.13 Are you in any way involved in the development of Anandanagar area :

Coding :

Yes	1
No	2
No answer	3
Not applicable	9

4.14 What are the benefits you have achieved through these development initiative (Consider only 4 answers) :

Coding :

Improvement of accessibility	1
Electricity	2
Regular shape of land	3
Increase of land value	4
Others	5
Good environment	6
Not applicable	9

4.15 Do you support this private development initiative :

Coding :

Yes	1
No, Govt. should provide these facilities	2
Do not know	3
No Answer	4
Missing	8
Not applicable	9

4.16 Why have you decided to stay at Anandanagar rather than other areas in the city ?

(Accept maximum 3 answers)

Coding :

Originally settled	1
Relatives / Friends are here	2
Near to the city centre	3
Near to the work place	4
Low land price	5
Gift from in laws	6
Others	7
Knowing the ongoing development activity here	8
Not applicable	9

4.17 Opinion of residents on change of housing situation from previous location :

Location

Tenure of land

Top opportunity

Infrastructure

Coding :

Better	**1**
No change	**2**
Worse	**3**
Missing	**8**
Not applicable	**9**

FOR BOTH LAND OWNER AND TENANTS :

4.18 Residents' opinions on existing conditions of services :

a. Road access

b. Road quality

c. Water

d. Drainage

e. Sanitation

f. Electricity

g. Fuel

h. Shop / Market

i. School

j. Medical facilities

k. Communications

l. Play field

m. Religious centre

n. Understanding with neighbours

Coding :

a.	Satisfied	1
b.	Highly satisfied	2
c.	Not satisfied	3
d.	Neutral	4

4.19 **Distance of the facilities from the household :**

Coding :

Within	1/4 mile	01
	1/4 to 1/2 mile	02
	1/2 to 1	03
	1 to 2	04
	2 to 3	05
	3 to 5	06
	5 to above	7
	Not applicable	8
	Missing	9

School

College

Medical facilities

Religious facilities

Telephone

Post office

Cinema

Bus stopage

Rickshaw

5. **IF THE HOUSE IS RENTED :**

5.1 How much is the rent :

Coding :

Less than	100	Taka		00
	101	to	200	01
	200	to	300	02
	300	to	400	03
	400	to	500	04
	500	to	700	05
	700	to	1000	06
	1000	to	1500	07
	Above 1500			08
	Not applicable			09
	Missing			10

5.2 Floor space :

Coding :

Below	100	Sq.ft.		0
	100	to	150	1
	151	to	200	2
	201	to	300	3
	300	to	500	4
	500	to	700	5
	700	to	1000	6
	1000	to	1500	7
	Above 1500			8
	Not applicable			9

5.3 Why have you selected Anandanagar rather than other away in the city (Consider 3 answer only) :

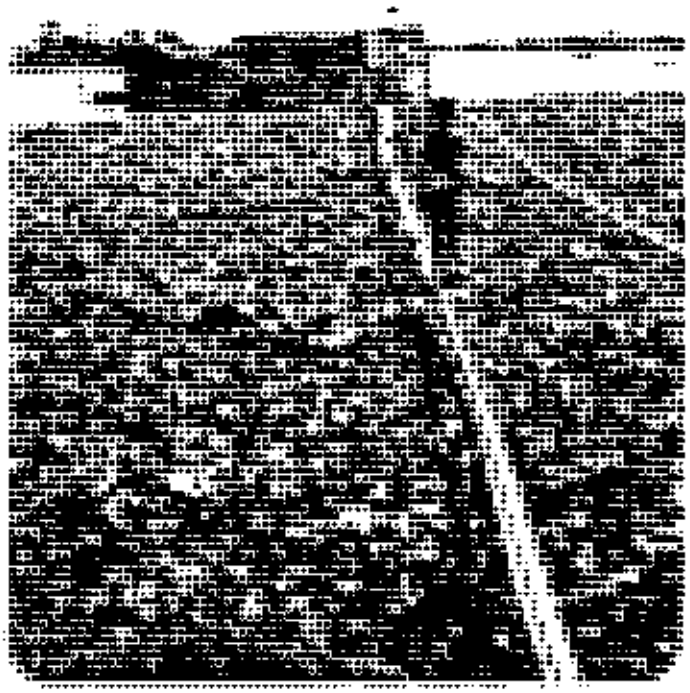
Coding :

Near to work place	1
Near to city centre	2
Low house rent	3
Relatives / friends are here	4
Others	5
Not applicable	9

The main approach road

The main approach road

Some rural characteristics are present in this area



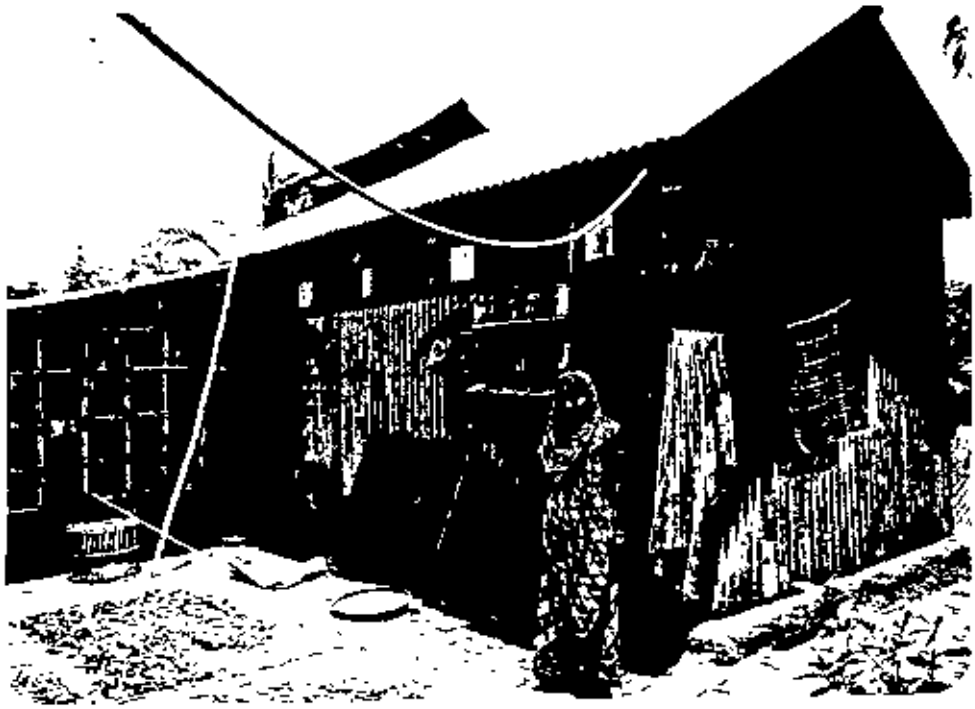
During monsoon bamboo shanco and boat are the only means of communications to some housholds

The main approach road

Branch road

Shops along the main road

Branch road



A interior courtyard of household

Shops along the main road

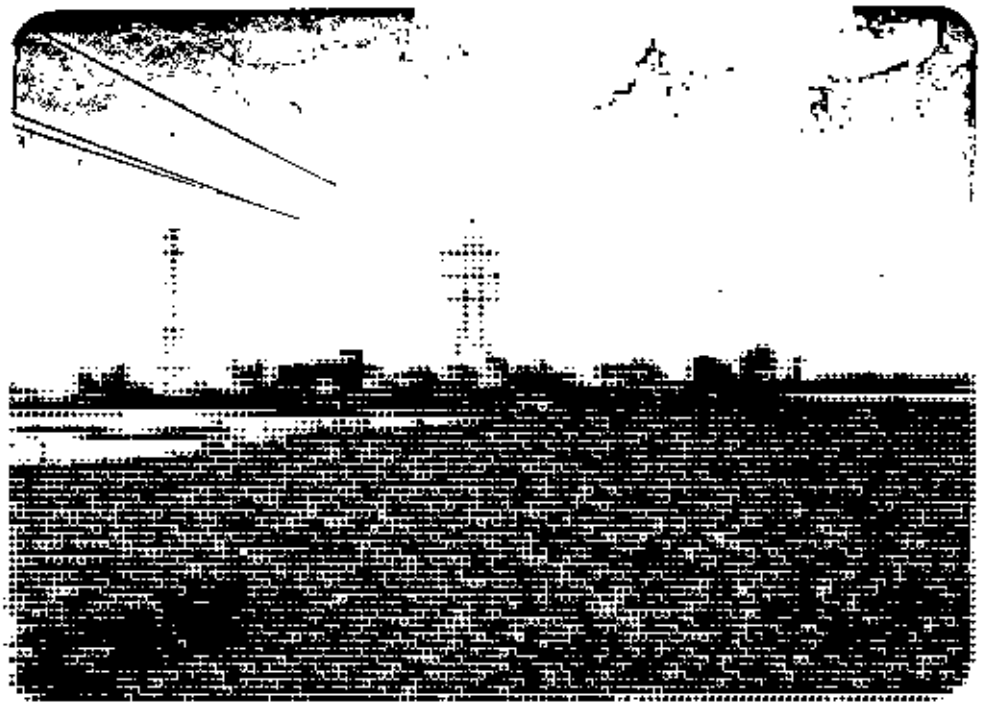
Low income residential area

Recreation among the tenant group

The Mosque

Road connecting to

South Anandanagar



During monsoon the surrounding low lying area gets flooded

The principle of subdivision by Late Haji Akram Uddin results in curved road layouts

A pucca house

One of the residence of Naya-bazar businessman group