INSTITUTIONAL DEVELOPMENT PROGRAM FOR FLOOD DISASTER MANAGEMENT AND RURAL DEVELOPMENT IN BANGLADESH

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GOLAM MUSTAFA

DEPARTMENT OF URBAN AND REGIONAL PLANNING
BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DHAKA - 1000, BANGLADESH.

THESIS ACCEPTANCE FORM :

INSTITUTIONAL DEVELOPMENT PROGRAM FOR FLOOD DISASTER MANAGEMENT AND RURAL DEVELOPMENT IN BANGLADESH.

BY : GOLAM MUSTAFA

THESIS
APPROVED AS TO THE STYLE AND CONTENT BY :

M A Mohit 08/02/93

(Dr. Mohammad A. Mohit)
Chairman of the Committee (Supervisor)

8/2/93

(Prof. Dr. Mir Shahidul Islam)
Head of the Department.

Sarwar Jahan 8/2/93

(Dr. Sarwar Jahan)
Member

K. Mahmood Elahi 8/2/93

Dr. K. M. Elahi
Member (External)

DEPARTMENT OF URBAN AND REGIONAL PLANNING
BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET).
DHAKA - 1000, BANGLADESH

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ABSTRACT :

Floods are common phenomena in Bangladesh. The people of this country has a long history of cooping with flood. They have demonstrated a variety of responses during the crisis to withstand the hazards of flood. However, such responses are basically uncoordinated, unorganized and are not well internalized with the rural development activities.

In such a circumstance this study has intended to unfold the institutional dimensions of flood disaster management in rural areas. For this purpose, the socio-economic condition of the people, flood vulnerability scenario and nature of responses of the people of a regularly flooded region of Bangladesh as well as the potentials /limitations of the local institutions to withstand those vulnerability of flood has been investigated.

The findings suggest that the flood vulnerability is mainly a function of socio-economic vulnerability. As such, there is a need for integration of flood disaster management activities with rural development. It has also been identified that the planning and implementation of rural development and disaster management activities should be done at the grassroots level with the provision for direct participation of the people concerned. While the local govt institution has more or less failed to attain this objective, some of the non-govt institution has made some remarkable examples. However the activities of the non-govt institutions are limited to a segment of the population.

The study, therefore, has recommended seven Model Responsibilities and an Institutional Arrangement composed of five components.

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INTRODUCTION

1.1 INTRODUCTION :

Natural Calamities such as floods, draughts, cyclones are common phenomena in Bangladesh. The occurrences of such natural hazards have catastrophic impacts on the millions of inhabitants of rural Bangladesh -- characterized by poverty, under development and inequality.

With regards to flood disaster only, as far as the historical records are concerned, during the present century, there are recurrent floods of devastating dimensions of which those in 1917, 1954, 1955, 1962, 1966, 1970, 1974, 1980 and more recently in 1987 and 1988 were widespread.

Because of its disaster prone nature, Bangladesh has comparatively long history of incorporating disaster mitigation into Govt. administration and development planning, both at the macro and micro levels. On the other hand, the people concerned, have always demonstrated unprecedented courage, fortitude and the inherent strength of their society for survival, through a variety of indigenous institutional responses -- although neither unfolded nor recognized yet in the true sense.

However the back to back widespread flooding of 1987 and 1988 and their devastating effects on the very sustainability of the nation have made flood a burning issue both in home and abroad, particularly among the policy makers in the Govt. as well as among donor agencies

Eventually by the end of 1989 the Government came out with the formulation of the ambitious multimillion dollar Flood Action Plan and "vows to control flood in Bangladesh". There are proposals for a series of structural measures like embankments, polders, reservoirs etc, without considering the possible negative impact on the ecosystem. This has, perhaps generated a larger debate among the intellectuals, professionals and policy makers both inside and outside the country, regarding its feasibility, basic policy measures and even the legitimacy. One such reservation from Dr. S. Adnan of ADAB would be relevant here :

> "It is important to recall that the FAP (Food Action Plan) was never ratified by a legitimate Parliament with bonafied elected representatives of the people nor has it ever been intellectually defended against the grave and disturbing reservation expressed by concerned academics and professionals from both home and abroad. There is no empirical basis for the practicability of some of the more heroic assumption made by the FAP in this respect" (Adnan, 1991).

Unfolding institutional matrix for Flood Disaster Management and Rural Development in Bangladesh depends principally on the

contextual setting of flood, flood vulnerability scenario, existing and potential resources (man, material and institution involved) available and above all the macro and micro levels of planning. As such this research has made an in depth search for the inherent dynamics of Bangladesh related with flood vulnerability management for the purpose of rural development through institutional responses in a systematic manner in order to explore the most feasible institutional framework for flood disaster management and rural development.

1.2 RATIONALE OF THE STUDY :

Despite the plethora of poverty alleviation programs of Bangladesh, one development expert has concluded, " The number of poor continue to swell in their ranks - every disaster only accelerate the rate of growth of the poor". (Rahman, 1992). Indeed, disaster like flood in Bangladesh haa become the most vital issue of the day. It is needed to be addresaed with care and rationality for the very sustainability of the uation.

The disaster management scenario of Bangladesh, at present, presents two different schools of thought. One advocate the structural solution like flood control through embankments, river training etc. While the other one is in favor of non-structural measures like development of mechaniama for living with flood. The proponents of the structural achool deem total flood control as necessary to secure agriculture and other economic activities in the flood plan. Non-structural solution aeekera has, on the other hand, strong reservation on those structural meaaure in term of their technical as well as financial viabilitiea. Moreover, they consider the measurea might create long term negative impact on the ecosystem system of the country causing larger disaster.

In reality, it is revealed that " out of 4.42 million hectors of land where auch measures are required for flood control, structural facilities already exist in 1.3 million hectors of land. However, the flood control performance of these structures did not yet produced expected results " (GoB and UNDP, 1989).

At this juncture of controveray, regarding the structural and non-structural solntion, there is a need to look at the flood context of Bangladesh. Historically, Bangladesh is prone to natural disaster like flood. Flooding up to certain extent is neceaaary for maintaing the ground water level, deposition of sediment to the flood plain (which is conducive to agriculture) and thus keeps the morphological balance between the flood plain and the river bed. On the other hand, through long experience with flood, the people and their society have demonstrated aome unique examples of indigenous mechanism for survival of flood. Obviously most of those mechanisms are non-structural in nature.

During the flood disaster of 1988, " People of all walks of life participated voluntarily in relief and mitigation activities with gratitude and fellow feelings " (Rahman, 1988). In order to unfold the peoples strength for addressing the evils of flood, the afforsaid study has suggested that " the disaster management policy at the Government level should ensure institutionalization of spontaneous participation of the people ".

An appropriate institutional framework based on tradition, culture and the ecosystem of the country at the grassroots level is, therefore, a vital issue for unfolding the inherent strength of the people for the purpose of disaster management and rural development.

1.3 THE CONTEXTUAL SETTING OF BANGLADESH :

PHYSICAL :
Bangladesh is located in the eastern part of the south Asian sub-continent bordering India and Myanmer. The total area of the country is 1,43,998 sq. km Most of this area is composed by the Ganges and Bhrambhaputra and Meghna rivers as well as their tributaries and distributaries throughout the sub-continent. A large portion of the country especially the coastal area is still at the formation stage.

Tectonically the Gangetic plain moves about 5cm a year under tibet side. This movement is a complex erosional processes carrying the mountains mass in the form of sedlment towards the valley and the sea. One study reveals that : the under sea fan of sediment from the Himalaya deposited in the bay by the Ganges-Brahmaputra rivers was 1,000 km wide perhaps over 12km iu depth, and 3,000km long-that is extending far south of Sri-Lanka (Rogers, 1989).

"The Ganga - Brahmaputra watershed is basically abundant in water, with an average of 1500 millimeters of rainfall a year. However annual rainfall decreaaes from east to west from 3000mm at the Bangladesh coast to 600 mm in Rajasthan in the extreme west and 450 mm in Lasha which is in the rain shadow of the Himalayas. The worlds highest rainfall is recorded at Cherrapunji in the Khasi Hill of Meghalay in India which is just north of Syhlet district of northeastern Bangladesh. Beaides, high rainfall there are large deposits of water in the form of ice covers in the Himalayas which is estimated to be of 30,000 km^2 (around 17 percent of the total area of the range) that give rise to the Ganges and Bhrambhaputra. These two rivers begin their very divergent eastward courses to meet within a few miles in the Bengal delta" (Rogers, 1989).

DEMOGRAPHIC :
Total population of Bangladesh is 108 million. On an average 11.6 number of people lives per hector of arable land compared with 1.3 in the USA. By the end of the year 2015 the population pressure on per hector of land will stood at 18 persons. Other statistics in this respect include (Rahman & Ahmed,1989) :

Population growth rate .....2.42 %
Population pressure on land .....699 persons/sq.km.
Population pressure on agri-land .....1,062 persons/sq.km.
Birth rate.....39 per 1000 persons
Death rate.....15 per 1000 persons
Infant mortality rate.....125 per 1000 live birth.

ECONOMIC :
Level of income of the inhabitants of Bangladesh is one of the lowest in the world. Moreover the distribution of income is also highly disappointing, the highest quintile receives 42% while the lowest quintile receives only 12% of national income. Land ownership in this agrarian country is also skewed: top 10% own 49% land while the bottom 10% own less then 2% of land. Other statistics related with economic condition of the people include (Rahman & Ahmed,1989) :

Per capita income	160 USD
G.N.P. growth during 1975-80	7.5 %
G.N.P. growth during 1981-85	3.8 %
G.N.P. growth during 1986-88	3.5 %

Growth rate by sector during 1984/85---1988/89

Agriculture	1.7 %
Industries	4.0 %
Electricity, gas and natural resources ..	17.4 %
Construction	7.1 %
Transport and Communication	5.9 %
Trade and service	4.9 %
Housing	3.3 %
Public administration	8.3 %

Bangladesh is a mixed economy with a relatively large public sector. Most of the public sector enterprises are loosing concern because of unprecedented irregularities, mismanagement and inefficiency.

ACCESS TO DEVELOPMENT :
Access of the people to different development services is severely limited. Some indications of development opportunities include :

Adult literacy rate	29 %
Calorie intake per requirement	84 %
Doctor patient ratio	1:5900
Hospital beds percent ratio	1:3600

PLANNING STRATEGY AND PRIORITY OF THE GOVT. :
The development activities of the country are carried out through sector wise planning of various five years plans. The main objective of the current five year plan include:

a. Acceleration of economic growth to 5%
b. Poverty alleviation and employment generation through human resources development.
c. Increased self - reliance.

1.4 NATURE OF FLOODS IN BANGLADESH :

CAUSES OF FLOOD :
The three great rivers of the sub - continent the Ganges, the Brahmaputra and the Meghna join in Bangladesh before entering the Bay of Bengal. " The above mentioned rivers drains a total catchment area of 1.785 million sq.km. throughout the subcontinent of which 8% lie within Bangladesh, 8% in Nepal, 4% in Bhutan, 18% in Tibet (China) and 62% in the Gangetic plain of India " (Rogers, et. el., 1989).

" At the monsoon period the combined annual flood flow from these rivers and their tributaries and distributaries passes through the single outlet of lower Meghna into the Bay of Bengal. Consequently the south west monsoon wind raises the mean tide levels in the bay reducing the slope and discharge capacity of the lower Meghna. As such, high water levels extend over most of the country causing a flood condition " (Elahi, 1989).

Other important natural factors contributing to flooding include :

a) Spill from main river systems of Ganga (Padma), Brahmaputra (Jamuna) and Meghna and their tributaries and distributaries.
b) Excessive rainfall over the entire country.
c) Relatively flat topography.
d) Reduced drainage capacity of the rivers by regular siltation.
e) Tidal blockage.
f) Storm surges.

Beside these localized and natural reasons there are some manmade reasons of flood, which include :

a) Deforestation in the entire catchment area.
b) Water structures in the upstream.
c) Global warming and green house effect.

TYPES OF FLOOD :
Four types of floods are generally encountered in Bangladesh (UNDP, 1989) :

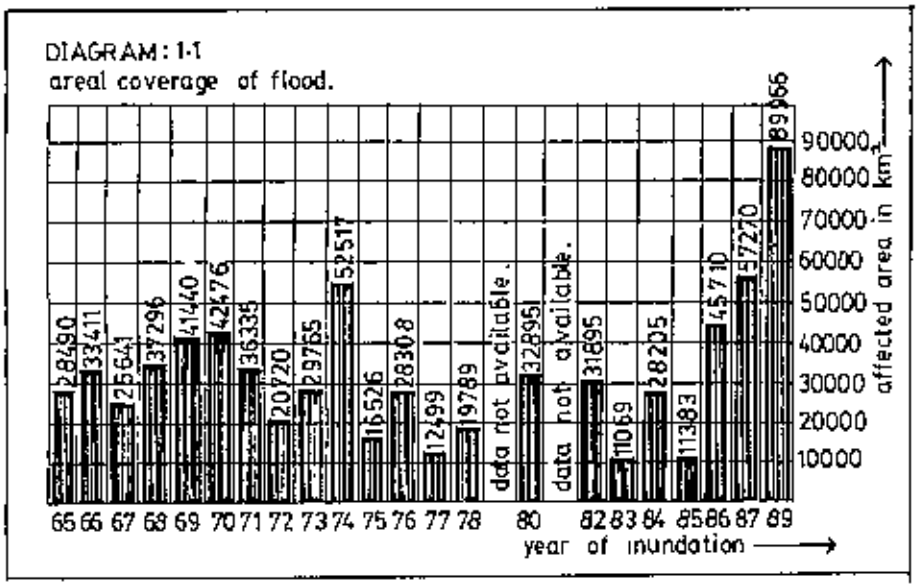
FLASH FLOOD : Occur along the eastern and northern rivers. These are characterized by a sharp rise followed by a relativity rapid recession in few days, causing high water flow velocities that damage crop and properties.

RAIN FLOOD : Appears all over the country due to high-intensity rainfall. The very high local rainfall intensities in the monsoon season often generate volumes in excess of the local drainage capacity, causing local floods.

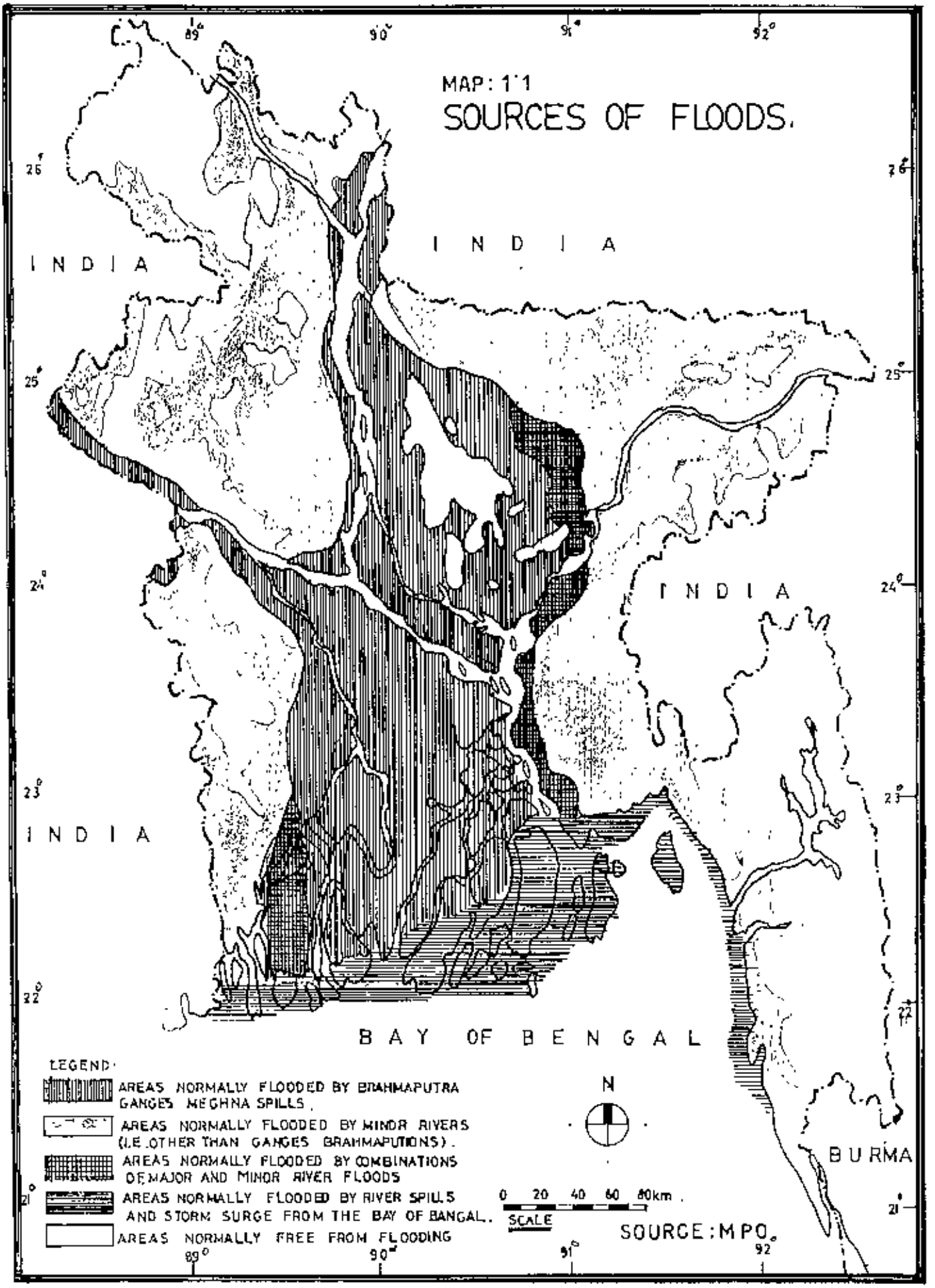
MONSOON FLOOD : Appears along the bank of the major rivers due to over spilling of water generally rise slowly over a period of time. Water spilling over the banks of these rivers and their tributaries causes the most extensive flood damage, particularly when all the major rivers rise simultaneously.

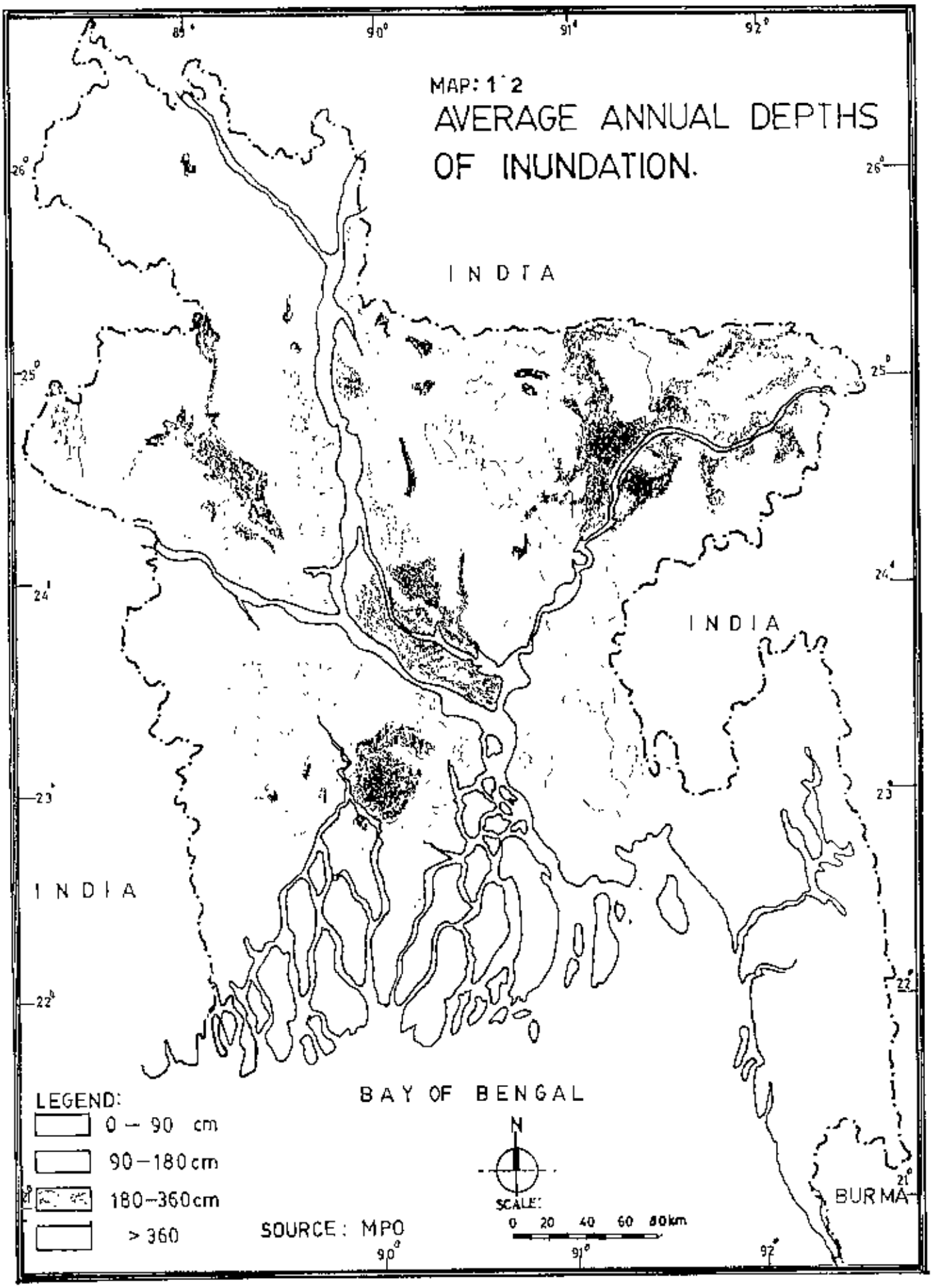
STORM/TIDAL SURGES : Appears along the coastal areas of the country that consist of large estuaries, extensive tidal flats and low-lying islands due to storm surges and tidal waves. Storm surges caused by tropical cyclones become responsible for extensive damage of life during the pre and post monsoon periods.

AREAL COVERAGE OF FLOODS :
The areal coverage of annual flooding in Bangladesh in the period of 1965 to 1988, as recorded by the BWDB is produced Diagram 1.1



It is revealed that floods are inundating some 29,000 km² of land in a year. Which corresponds to 20% of the country's total area. While severe floods inundate approximately 52,000km² or more. 1988 flood haveaffected 89.966 km².


MAP: 1'1
SOURCES OF FLOODS.
INDIA
INDIA
INDIA
INDIA
BAY OF BENGAL
BURMA
89°
90°
91°
92°
26°
25°
24°
23°
22°
21°
LEGEND:
AREAS NORMALLY FLOODED BY BRAHMAPUTRA GANGES MEGHNA SPILLS.
AREAS NORMALLY FLOODED BY MINOR RIVERS (I.E. OTHER THAN GANGES BRAHMAPUTRA).
AREAS NORMALLY FLOODED BY COMBINATIONS OF MAJOR AND MINOR RIVER FLOODS
AREAS NORMALLY FLOODED BY RIVER SPILLS AND STORM SURGE FROM THE BAY OF BANGAL.
AREAS NORMALLY FREE FROM FLOODING
N
0 20 40 60 80km.
SCALE
SOURCE: MPO.


MAP: 1·2
AVERAGE ANNUAL DEPTHS OF INUNDATION.
INDIA
INDIA
INDIA
BAY OF BENGAL
BURMA
LEGEND:
0 – 90 cm
90–180 cm
180–360 cm
> 360
SOURCE: MPO
N
SCALE:
0 20 40 60 80km
85°
90°
91°
92°
26°
25°
24°
23°
22°
21°

Although flood occur every year, the flooded areas differ spatially year to year. Different areas are inundated at different periods depending on the incidence of rainfall and coincidence of the river picks and tides. Total vulnerable area is estimated to be approximately 83,700km^2 which corresponds to 59% of total area of the country.

DEPTH OF INUNDATION :
The extent of flooding does not say much about the quality of the flooding. Shallow flooded land offers good potential for cropping while depth over 0.6m and above do not allow high yielding varieties.Two flood depth maps as prepared by the MPO are presented at the end of this chapter for discussion (See Map 1.2).

Average annual depth of inundation : This is the flood depth with a recurrence interval of 2.33 years and a duration of one day. Depth of flooding in Bangladesh are classified into the following categories :

1. Non flood (f0)..... 0.0m < flood depth < 0.3m
2. Shallow flood (f1).... 0.3m < flood depth < 0.9m
3. Medium flood (f2)..... 0.9m < flood depth < 1.8m
4. Deep flood (f3)..... 1.8m < flood depth < 2.7m
5. Very deep flood (f4).. 2.7m < flood depth.

The areas like f0 and f1 (non flood and shallow flood area) do not create any major damage to people, crops and infrastructure. While areas like f2, f3, f4 (medium, deep and very deep) are the potential regions for flood devastation.

1.5 RECENT FLOODS AND THEIR IMPACTS:

NATURE AND IMPACT OF 1987 FLOODS :
It was actually a series of floods caused by the excessive rainfall both in the upper catchment regions of India as well as within the territories of Bangladesh. The first signs of floods were seen in June, while flooding of larger areas began in July and continued through September. The first flush of water was observed in the northern part of the country, followed by the central areas. Before the water had barely receded, there were waves of floods a second, a third and a fourth -- always in the direction of south from the north.

The devastation caused by these series of floods was undoubtably staggering. The direct devastations as countered by a research team are presented here (Rahaman and Ahmed, 1990)

a) 50 out of 64 Zilas were affected
b) 347 out of 460 Upazilas were affected
c) 50,540 out of 1,47,867 sq. km. were inundated
d) 24 million out of 100 million people were affected
e) 4.5 million out of 20,15 million acre was damaged
f) 800 people died
g) 1,500 km. of roads and highways were affected.
h) 6,000 schools and institutions destroyed

The devastation of 1987 flood was largely visible in districts like Tangail, Pabna, Rajshai, Bogra Dhaka and Noakhali.

NATURE AND IMPACT OF 1988 FLOODS :

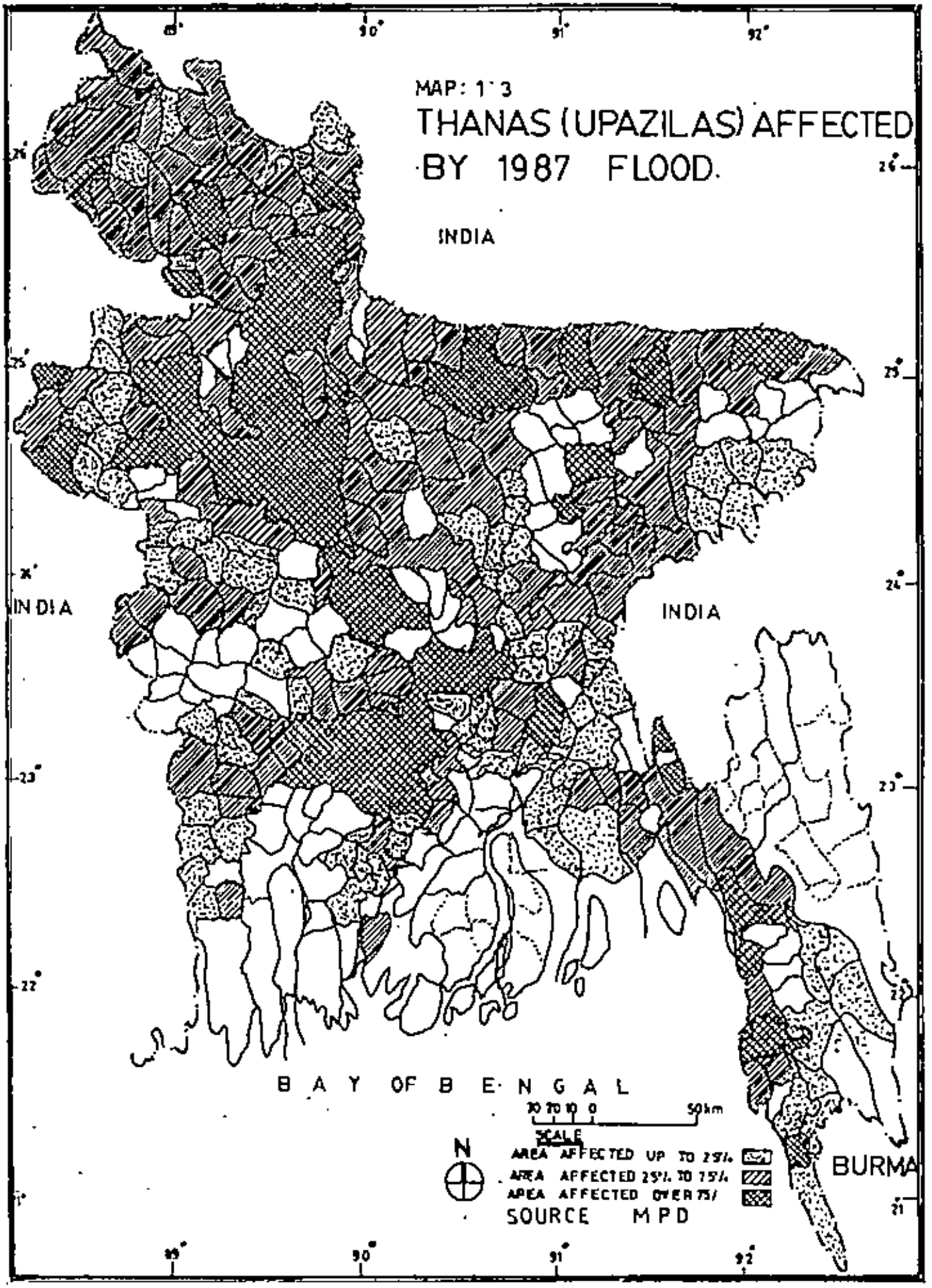
" This floods was the result of the synchronization of a late peak on the Brahamaputra (August 30) with the normal peak on the Ganges (September 2) in less than there days and this was aggravated by high tide in the bay of Bengal. The Brahamaputra reaches flood level stages in early July and had two early peaks on July 10 and July 30. The flood rose to great heights during August and September and equated or surpassed previous records in terms of extent and severity. About 90 percents of the flood water was reportedly carried into Bangladesh from across the national boundary but originated largely from torrential rainfall. Out of 34 water level stations monitored, the highest recorded floods were exceeded in 10 stations and the records of 1987 peaks exceeded at 22 stations." (UNDP, 1989)

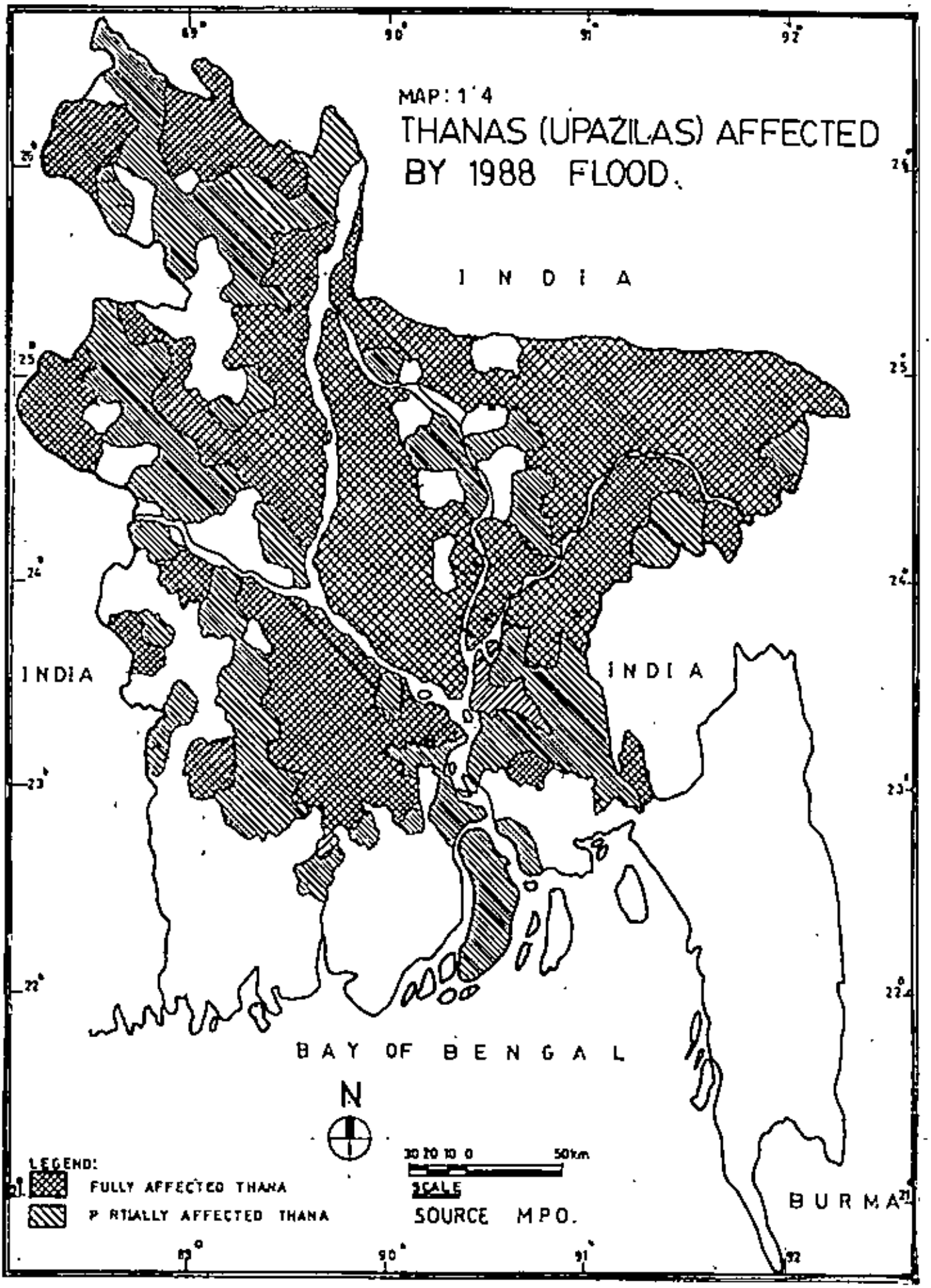
In terms of man and material destruction 1988 flood was the most serious natural calamity in the last 150 years. Different aspects of the destruction are produced in Table 1.1

Table : 1.1
Damaged caused by 1988 Flood in Bangladesh :

Aspects of Damage.	Extent of Damage.
Affected Zila (out of total 64 Zila)	53
Affected Upazila (out of total 460 Upazila).....	365
Affected area (out of 147867sq. km.) 98000	
Affected population (Out of total 100 million).....	50
Loss of life (Numbers).....1,600	
Damage to crops (Thousand acres).....	500
Destruction of crops (Thousand tons).....	320
Damage to highways (Thousand kms.).....	2000
Bridges Destroyed (Numbers).....	85
Culverts destroyed (Numbers).....	50
Damage to Railways (kms).....	640
Railways Bridge Destroyed (Numbers).....	44
Loss of livestock (Thousands).....	200
Loss of poultry (Thousands)	400
Total Damage in Million Tk	40000

Source : Elahi, K. M., 1988, Socio economic impact of flood and possibilities of co-existence with flood. Seminar on flood in Bangladesh : Geographic view point, Bangladesh Geographical society : Dhaka.


MAP: 1·3
THANAS (UPAZILAS) AFFECTED BY 1987 FLOOD.
INDIA
INDIA
INDIA
BAY OF BENGAL
BURMA
SCALE
50km
N
AREA AFFECTED UP TO 25%
AREA AFFECTED 25% TO 75%
AREA AFFECTED OVER 75%
SOURCE MPD


MAP: 1'4
THANAS (UPAZILAS) AFFECTED BY 1988 FLOOD.
I N D I A
INDIA
INDIA
BAY OF BENGAL
BURMA
N
LEGEND:
FULLY AFFECTED THANA
P RTIALLY AFFECTED THANA
30 20 10 0 50km
SCALE
SOURCE MPO.

SHORT AND LONG TERM EFFECTS :
Some of the immediate effects are reflected through local food shortage and prevalence of disease. But there is a number of long term effects like :

a) flow of large number of migrants from rural to urban areas, in search of employment opportunities.

b) Difficulties in restoration of disrupted transportation and communication and other infrastructure facilities.

c) Damage of arable land mostly by sand cores/deposits brought about by the flood. d) Problems of socio-economic rehabilitation of a huge number of affected people.

Flood Action Plan (FAP) document has identified the effects in the flowing manner (UNDP, 1989) :

" Production in much of the country come to a standstill, line of communication were disrupted for over one month, capital stock losses were well over USD 1 billion and GDP growth was set back severely. Ripple effects on hnman capital formation (education, health and family planning) and investors confidence on the pace of development project implementation have additional economic consequence which will only become apparent over time."

1.6 DISASTER MANAGEMENT INSTITUTIONS IN BANGLADESH, A HISTORICAL REVIEW :

PRE COLONIAL PERIOD :
Literally Bangladesh is composed of two words Bangla and Desh. 'Desh' means 'country' and according to Abul Fazal, the famous dignitary of the court of emperor Akbar of Delhi. 'Bangla' derives from 'Vanga-ails' which means 'Broken embankments'. Thus, 'Bangladesh' stands for the 'Country of broken embankments'.

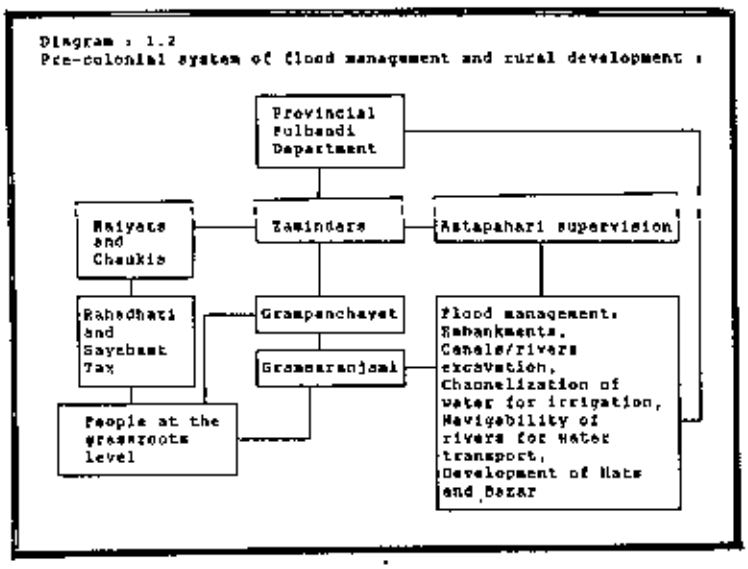
It is gathered from history that "before the colonial period, this part of the world had developed a rich and secured system of Agriculture through a network of low rise embankments all over the conntry which made it a major food exporter of the world and the richest province under the Sultans/Badshas (Emperors) of Oelhi (Chowdhury, 1990).

French tourist Barrier wrote, " during Sayasta Khans period the PULBANDI department (responsible for flood management) had developed an excellent system of natural drainage and distribntion of water to the farmers through an indigenous system of khals (canals) throughout the conntry ". (Chowdhury, 1990).

The Mughal Govornors had established a department called PULBANDI which was responsible for flood management, irrigation and drainage works of the province. This department had introduced a comprehensive and hierarchical system of decision making, execution and maintenance for flood disaster at the local level.

Under the provincial Pulbandi Department, the Zamindars (land lords) were the main co-ordinator of works within the jurisdiction of their Zamindari (locality of lordship). They were empowered to keep a major share of Khazna (Taxes) at their disposal, needed for the operation of the Pulbandi Department. The farmers, in exchange of getting the benefits of Pulbandi operations used to pay **Khaznas** (Taxes) as well as provide voluntary labours (when required) to the Zaminders. The Zaminders were found to execute their Pulbandi operations through **'Grampanchayet'** and **'Gramsaranjami'**. Grampanchayets were constituted by combining the elders of the villages and the Gramsaranjami was a team of workers (both voluntary and paid) under the leadership of village headman. These two grassroots level organizations were responsible for execution and maintenance of all the water management works like excavation and re-excavation of canals/rivers, erection of embankments etc. Such operations were executed by the Gramsaranjami under the order, guidance and supervision of the Grampanchayet. Some members of the Gramsaranjami were permanently appointed by the Zaminders. They were known as **'Astaprahari'** (eight hours duty man) and were responsible to take care of the embankments. As soon as they found any crack in the embankments, they were required to report to the Zamiders. The Zaminders in turn ordered the Grampanchayet to take appropriate actions with the help of Gramsaranjami.

Govt. orders also empowered the Zaminders to collect **'Rahadhari'** or **'Jalpath Kar'** (River ways tax) from the commercial boats engaged in transport through the riverain routes. For this purpose the Zaminders used to keep **Chaukis** (permanent vigilance team) in some suitable places of the rivers. Besides Rahadhari another type of tax called **'Sayebast'** (Business tax) were collected from the businessmen from "Hats and bazaars" (Markets) and were utilized for maintaining the navigability of the rivers and development of hats and bazaars. Diagram 1.2 has demonstrated the pre - colonial system of DM and RD in Bangladesh.



COLONIAL PERIOD:
During two hundred years of British rule, the colonial rulers stopped the operations of the "Pulbandi Departments". Activities of the "Grampanchayet" and "Gramsaranjami" on different aspects of flood management, irrigation and rural development totally came to a standstill. As such,no one was found afterwards, at the grassroots level, to keep active the irrigation channels, river routes, embankments, rural roads and reservoirs. Everything was made under the risk of the nature. In time the nature grasps all the achievements the people and the government together had built. As a result floods , draughts and poverty become the facts of life and Bangladesh turned into a beggar state from the richest province of the Mughal Empire.

PAKISTAN PERIOD:
After the 1956 flood the then East Pakistan Government conducted a broad based study on flood problem in the country with the help of UN sponsored mission headed by J.A. Crug. The mission after its one year long study, submitted a report which included the following recommendations (Sahahjahan and Hossain, 1990) :

a) Need for an autonomous body for planning and implementation of water resources development, irrigation, flood control and drainage projects.
b) Need for feasibility study for flood control embankments.
c) Need for development of rivers and canals.
d) Need for wide range of research regarding the rivers.
e) Need for implementation of small scale flood control, drainage and irrigation projects.

In accordance with these recommendations, East Pakistan Water and Power Development Authority (EPWAPDA) was created. In 1960 it had appointed IECO (International Engineering Company) for development of a Master Plan on water and power. In 1964 the IECO prepared such a Plan combining 58 projects of different magnitude with a target of flood protection for 5.8 million hectors of land by embankments and polders. This Master Plan had envisaged three types of projects (Sahahjahan and Hossain, 1990) :

a) Adoption of those flood control projects where water drainage is possible by self gravitation force.

b) Adoption of those flood control projects where water drainage is possible with the help of sluice gates.

c) Adoption of those flood control projects where drainage is only possible by pumps.

In 1960, the then Govt appointed Mr. H.J. Thesis, a famous Danish river expert for assessment of the Master Plan prepared by IECO. Mr. Thesis, in 1967, produced his findings to the Govt. and

categorized the IECO made Master Plan into three parts including (Sahahjahan and Hossain, 1990):

a) Projects with virtually no side effects which he recommended for immediate implementation.

b) Project that requires more studies before implementation.

c) Projects that should be altered or rejected.

Depending on the assessment made by Mr. Thesis, EPWAPDA had implemented several small medium, and large scale FCD and FCDI projects throughout the country. However, the vulnerability of these projects caused by floods of 1987 and 1988 have raised the basic question regarding their viability.

BANGLADESH PERIOD :
Before the back to back widespread flooding of 1987 and 1988 Govt. of Bangladesh had followed the same IECO made model for implementing different FCD and FCDI projects under the authority of BWDB (Bangladesh Water Development Board, the water wing of erstwhile EPWAPDA)

Some of these projects are quite successful in harnessing the planned benefits while some others have proved to be a total failure. However, the devastating floods of 1987 and 1988 have not only raised questions regarding the viability of these projects but also made imperative the need of overall assessment of the entire flood context of the country for appropriate flood management policies, programs and institutions.

1.7 FLOOD DISASTER IN BANGLADESH : REVIEW OF RELEVANT STUDIES / PUBLICATIONS :

The back to back devastating floods of 1987 and 1988 created a serious concern among the government, international community and agencies of Bangladesh. As a result, immediately after these floods different international organizations had sponsored and conducted some studies / research on the flood scenario of Bangladesh with the help of some hired professionals mainly from abroad. An investigative review of some of the studies is presented here:

Bangladesh flood policy study :

This study was conducted jointly by UNDP and GoB in May 1989. It has identified " **eleven guiding principals** " (see annex 01) as the possible policy measures for solutions of flood problems of Bangladesh. It is revealed from these guiding principles that this study was basically concerned with the structural solutions of the flood problem. As regards to the institutional matrix for the implementation of those policy measures it has envisaged "**two kinds of institutional support as prerequisite to its successful implementation. The first is the urgent need for cooperation of the activities of the concerned agencies, the second is the involvement of the beneficiaries** " (UNDP, 1989) . However , such visions are not new in Bangladesh. Their persistence only demonstrate that institutional problems are very difficult to overcome.

Prefeasibility study for flood control in Bangladesh :

This study was a joint study program of Govt of France and the Govt of Bangladesh published in May 1989. It has concluded that " **flood control in Bangladesh can be considered possible by systematic embankment of the major rivers, their tributaries and distributaries**" (GoB and GoF, 1989). Consequently, such conclusions lead to recommend construction of massive physical infrastructures, with an estimated cost of 5 to 10 billion dollar over a completion period of 15 to 20 years.

As a complementary requirement for this grand design it has recommended some supporting activities including : Preparation of topo map, study of soil mechanics and river morphology , study on socio-economic consequence of land acquisition , study on required administrative structure, setting up Geographical Information System, creation of public development office for land acquisition, strengthening existing environmental management agencies etc. However, first of all it has failed to recommend the possible guaranteed source of continued and sustained financing of its activities throughout the stipulated period. Secondly it has envisaged massive structural interventions to the ecosystem without giving due consideration to the possibility of adverse impacts on the environment. And lastly it has failed to identify appropriate institutional entity to deal with the flood problem at the grassroots level.

Eastern Water Study :

This study was sponsored and published by the USAID, conducted by ISPAN and edited by P. Rogers in April 1989. This report views " **Great expense, possibly serious environmental risk and little prospect of effectiveness from quick application of the highest engineering solution** " (Rogers, 1989) .

However, it does not say that " nothing can or should be done about the flood - a great deal should be done in a variety of direction to reduced flood vulnerability : from better emergency preparation and relief services, through international cooperation for flood warning and analysis, modest environment to protect high intensity land uses or to alleviate low flood damaged, to a range of flood proofing measures."(Rogers, 1989)

Regarding structural solution for flood control it has concluded that, " on a scale of decades, only tested combinations of interventions and adaptation will, for example, mitigate the threat of flood in Bangladesh without negative side effects on extremely important concern --- such as fish production. The search for single conclusive solutions, for example flood protection by embankment in the great delta is likely to a wasteful and ineffective."(Rogers, 1989)

Regarding immediate actions needed to be taken it has concluded that " out of eleven guiding principles adopted by the government as part of nations response to two years of disastrous flood, 7 suggests actions that can immediately help the population deal with future flood. However the four remaining principles imply confrontational approach to the flood that is certain to be costly and unlikely to be successful." (Rogers, 1989)

In support of its recommendations for flood proofing activities it has suggested immediate indepth studies on " how people in the rural areas live with flood, what kind of safety measure do they undertake at the family and community level before and during a flood, how are crop systems adjusted to flood expectations,..... such studies would enable better understanding of the flood context of Bangladesh and ensure dissimilation of successful strategies for flood mauagement." (Rogers, 1989)

Report of Survey of Flood Control Planning in Bangladesh :

This report was conducted and published by JAICA in 1989. It has investigated several conceivable structural measure to the merit of their technical and economic viability. Structural measures, such as " reservoirs are neglected because of the lack of such potential sites. Similarly, dredging of such large rivers will require huge amount of financing without no significant benefits, provision of large diversionary channel will be difficult because of extensive land acquisition requirement." (JICA, 1989)

It has provided "cautions against the constructions of large and continuous river environment without further careful study of the technical feasibility and economic viability of undertaking such large investment." (JICA, 1989)

Instead of large construction, it has recommended "a physical works plan which would enable stage wise implementation such as constructing embankment in limited areas where appropriate, in combination with the existing and / or plan road embankments, so that the flood protection areas can be expanded gradually."
In addition of the above recommended measure it has envisaged "non-structural measure such as flood forecasting and warning system and flood fighting as indispensable " (JICA, 1989).

Flood Action Plan (FAP) :

Preparation of this multimillion dollar actin plan (Jointly by Government of Bangladesh and World Bank) was the eventual outcome of the aforesaid studies.This plan covers a five years (1990- 1995) study period and consists of 26 study components (see annex 02) at an estimated cost of US$ 150 million. The broad aim of FAP is to set the foundation of a long term program for achieving a permanent and comprehensive solution of the flood problem provided by the Eleven Guiding Principle (see annex 01).

Since its inception, grave and disturbing criticism regarding the policy measure adopted as well as institutionalization of those policy measures exists among the intellectuals and professionals of the country. FAP, on its part, has attempted a little to provide a serious reply to it. Attempts are made here to summaries those critical aspects of FAP.

LEGITIMACY : One expert has observed "FAP was never ratified by a legitimate parliament with bonafied elected representatives of the people. Nor has it ever intellectually defended against the grave and disturbing reservation expressed by concerned academics and professionals" (Adnan, 1991).

To make FAP acceptable to the people Task Force Report has recommended, "anticipatory discussion encouraging the freedom of the wide spectrum of opinion on flood control issues should be encouraged prior to the taking up of any major decisions". (Sobhan, 1991)

INCONSISTENCY OF THE CONTENT : The plan document itself is full of inner inconsistencies, as well as explicit and implicit predisposition in favor of particular solution to the flood problem. Some of the guiding principle demonstrate pre judgement about the outcome of supposedly investigative studies of the Action Plan.

Task Force Report on FAP has observed this inconsistency in the following manner, " a high degree of priority to structural protection as a key element of the long term strategy for flood mitigation, lead to the fifth principle of the set of Eleven

Guiding Principles --- safe conveyance of the large cross border flows to the Bay of Bengal by channeling it through the major rivers with the help of embankments on both sides --- the adverse effect of such structural solution are proposed to be mitigated through controlled flooding as embodied in the first guiding principle. Some of the principles are such as to be presupposed the solution to the country's flood problem." (Sobhan, 1991)

ENVIRONMENTAL ISSUES : Environmental concerns are shown throughout the Action Plan, but in reality, it is quite brusquely treated. Incorporation of environmental safeguards in all relevant studies fail to be convincing because the essential strategy of constructing compartments based on polders and embankments is not main contingent on the findings and outcomes of the vital investigative studies. To defend against the public consent, during the second FAP conference, irrigation minister said " We do not want to live with flood, we want a solution to have better agriculture for increasing food production" (Rahman, 1992).

The objective of increasing the food production can not be an end in itself. Because "flood control measures of the past three decades, based on the objective of growth in agri output,could not solve the question of distribution and sustainable use of resources" (Majumder, 1992). Man who is at the centre of all development activities could not be overlooked. Much of the flood problem is human and ecological in nature but " strangely enough, the proposed models (of FAP) considered this human ecological issues in their range of parameters to be considered " (Sobhan, 1991).

Consideration should be broadened in terms of conflicts of interest between paddy farmers , fisherman and boatman, conflicts between high land farmers and low land farmers, marginal farmers and landless peasants and the interest of those living outside the embankments. To address those critical issues there is a need for grassroots level institutions for popular participation from all concern.

PEOPLES PARTICIPATION : People participation is considered in the eleventh point of the Eleven Guiding Principles saying " encourage popular support by involving beneficiaries in the planning, design and operation of flood and drainage works". But in reality this principle is not followed in the preparation of FAP. In fact "examples of past flood control, drainage and irrigation project suggest that those projects were imposed upon the people without taking their opinion and then they are expected to participate in managing the project. There is no evidence to believe that this tendency was absent during the preparation of FAP" (Chowdhury, 1991).

The Task Force recommendation on this issue would be important here " from formulation to execution of any project under FAP local

participation of the beneficiary is essential and that their consent should be sought so that in the long run operation and maintenance cost will be recovered from them to make the project self financed" (Sobhan, 1991) . The flood response study conducted under FAP itself has shown " people of flood prone areas do not want to have totally flood-free condition. They favor interventions with a view to ensure that the floods do not threaten their crops and homestead " (Sobhan, 1991).

In order to materialize such common interests of the people, it is imperative that there is a need for institutionalization of peoples participation at the community level.

TECHNICAL AND ECONOMIC ISSUES : FAP has envisaged massive construction of compartment based on embankment. The compartment concept is similar to the polders in the coastal areas. The polder of Beel Dakatia were built in the early sixties. "Initially the polder brought benefits in terms of higher crop yields. But in the long run, such compartment has resulted in water logging due to excessive siltation in the surrounding rivers. Soil fertility has also deteriorated to a level that presently no crop production is possible. The socio-economic condition of the people has deteriorated to such an extent that anger and frustration as made news headlines. Ultimately the people cut the embankment ceremoniously in 1990 " (Chowdhury, 1991). The embankments of Meghna Dhonagoda project, a well supervise project in Bangladesh , breached in two consecutive years, one in 1987 and other in 1988, and has caused complete destruction of crop and infrastructure and brought immense measery to the people. "Because of technical and socio-economic limitation of Bangladesh , it is not possible to ensure that the embankments will not fail " (Chowdhury, 1990) .

Rivers of Bangladesh carry huge sediment along with flood flows, "a load of an estimated 2.5 billion tons of silt a year " (Majumder 1991). A significant amount of silt is deposited on the inundated flood plain. Embankment along a river prevents deposition of silt on the flood plain which is also beneficial to soil fertility. FAP has suggested regular dragging of river to keep them siltation free. But " the deposits of silt caused each year on the river beds is so immense that the rivers of Bangladesh can not be kept siltation free even by engaging all the draggers that are now available in the world " (Majumder, 1992).

Besides technical concerns the economic return of such massive structural works is a real questions. Construction of such embankments should be consistent with the future prosperity of Bangladesh. FAP should address questions like sources of fund and guarantee of uninterrupted flow of that fund required for the schemes under the long term program up to the year 2015, as it is proposed in the FAP document. One expert has observed " A monster embankment may well succeed, but what about half monster or a monster we can not adequately feed with maintenance and repairs.

Embankment scheme in Bangladesh must address and resolve the following outstanding issues :

a) Potential interference with the environment,
b) Impeded drainage of local runoff,
c) Morphological changes in main river course ,
d) Social attitudes ,
e) High capital and running cost ,
f) Constraints in implementation , O & M and management " (Rashid, 1991) .

On the other hand , Task Force Report has recommended "to see FAP consistent with core objectives of FFYP and peoples choice , before contemplating structural measures following studies be taken up :

1) land cost to embankments or related construction ,
2) the economic and social returns to be accrued out of the total FAP,
3) linkage with agri-development,
4) linkages with environmental issues,
5) studies of flood hazard perception and choice of adjustment,
6) prospects of mainteuance and operation of the structure if and when the international aid / support ceases " (Sobhan, 1991).

As such,it can be concluded that FAP has failed to ensure institutionalized participation of the people concerned in technical and financial issues.

NON-STRUCTURAL MEASURES : FAP has envisaged non-structural activities as "essential component of a flood plan, required for areas both awaiting protection and areas already protected. Flood forecasting, early warning and flood preparedness provisions should be in place at the outset. Other measures include :

Institutional rearrangements and upgrading.
Beneficiary mobilization and participation.
Master planning and supporting study for flood management modeling and control.
Operation and maintenance provisions and Legislation." (UNDP, 1989)

However, Task Force Report on FAP has given more emphasis and broadened the scope of non-structural measures in the following manner " since non-structural measure are needed anyway with or without structure, it is important that the highest priority should be accorded to non-structural measure including :

Flood adjustment measures.
Flood loss minimizing technique.
Folk / Pre-industrial flood mitigation measures.
Integration of improve flood forecasting network.

Post flood rehabilitation program.
Prospects of alternating agricultural strategies in various flood zones.
Land use and land control policy in flood prone areas.
Disaster management education program to inform the public about the flood hazards and illustrate what can be done to prevent a disaster.
Preferential land for management and animal grazing to increase absorption and reduce runoff.
Flood insurance.
Establishment of cost and food reserves." (Sobhan, 1991)

INSTITUTIONAL MATRIX : Several institution / agencies___ viz. National Flood Council, Implementation Committee, Technical Committee, BWDB, MPO, RRI etc. held authority over the various components of FAP, while World Bank and FPCO (Flood plan coordination organization) held key position of coordination. It is easily predictable that there would be areas of conflict on institutional division of labor authority and resource distribution among these large number of agencies. " There was lack of coherence and co-ordination among the programs undertaken by both national and international agencies" (Adnan, 1990).

To avoid areas of conflict, it has been proposed that FPCO will act as an apex body for supervision, co-ordination, maintenance and avaluation. This would be dysfunctional and self-defeating. Because, in that case FPCO would have to monitor and evaluate its own functions.

Task Force Report on FAP has the following conclusion on this aspect " FPCO has been set-up as a unit of the Ministry of Irrigation, Flood Control and Water Development to co-ordinate the fact component. It is not clear while MPO or BWDB was not assigned to this task. How FPCO will co-ordinate the activities between varions concern Ministries / Agencies / Organization. Similarly co-ordination among various components (FAP-20,21,22) needed to be sorted out. Fnrther, thus FPCO have the institutional strength and capability to co-ordinate the 26 proposed activitias at present " (Sobhan, 1991).

CONCLUSION : The above discussion regarding different critical aspects of FAP reveals, firstly, that there is serious need for critical and independent reappraisal of the FAP regarding its environmental, technical, financial and institutional viability ; secondly, there is a need for development of grassroots level institution to ensure popular participation of the concerned people in all the future activity related with flood disaster management.

Disaster and Development : a Case study in Institution Building in Bangladesh :

This report was prepared for UNDP, Dhaka by Atiur Rahaman and Chowdhury Saleh Ahmed in September, 1990. It has assessed the current natural hazards and their impacts, documented the perceptions of the Governmentt and other organizations engaged in disaster relief /mitigation and development, evaluated the strength and weakness of current mitigation measures and finally prepared recommendations to UNDP with regards to disaster mitigation in Bangladesh. Recommendations are made for both at the national and sectoral level.

The national level recommendation has given emphasis on "integration of mitigation attempts into the national planning process", creation of "disaster fund to allow sustained development of the economy unaffected by disaster". and provided "higher priority on the institutionalization of disaster preparedness." At the sectoral level it has recommended for:

> "extension of mitigation attempts to reduce
> damage in the crop sector,
> development and management of aguaculture in the flood plains,
> raising dikes of fish pouds to avoid escape during flood,
> construction of godowns and silos in safe place ,
> raising the standard of construction of rural roads,
> continuatiou of cluster village program,
> transfer of part of local govt investment in Annual Development Program to relieve Govt of the counterpart local currency resource used,
> to ensure higher standard of construction of local schools so that they can serve as flood shelter in future,
> installatiou of hand pump tubewell at the school premises to ensure uncontaminated drinking water,
> adequate local storage of contraceptives and emergency items for uninterrupted health care activity and minimizing human suffering after disaster,
> and above all
> implementation of National Water Plan after careful examination." (Rahman and Ahmed, 1990)

However, this study has failed to identify and recommend the appropriate institution at the local level to carry out the above recommended measures.

MEDIA COVERAGE ON FLOOD:

Different national and regional dailies, weeklies have given extensive coverage to the flood problem. 23 editorials in flood and related problems appeared in the newspapers during May-October, 1990.

Such press-reports/ editorials/ commentaries provides a sense of public concern in the country on flood and their consequences. It demonstrate that the flood affected people of Bangladesh are not indifferent, ignorant or inactive about their predicament caused by flood.

Peoples in different parts of the country were found to have held protest meetings and processions in making the Administration and concerned Agencies respond to their demands. On the other hand, they have demonstrated the inherent strength and tradition of their society of becoming united for helping the distressed masses through creation of several voluntary organizations.

One study reveals that "630 organizations (scanned through different national dailies) involved themselves in relief and rehabilitation activities during September and October, 1988. These organizations were of all types: social, professional, private voluntary, cultural, political, commercial, educational, religious etc. The largest proportion were social organizations (26% of total) , followed by professional bodies 18%, NGO's 16%, political parties and their affiliated fronts 12% and business houses 5% " (Rahman and Ahmed, 1990).

However, most of these organizations are found to be involved primarily to provide emergency services like distribution of food and drug. Above mention study reveals, " 21% provided food and medicine, 14% distributed only food items and 4% gave only medicine".

Such demonstration of mass participation at the time of national crisis reveals that the people of Bangladesh has the rich tradition of coping up with the natural calamities unitedly. However, because of the sheer scale and magnitude of the problem, there are structural limits to how far they could go. Nonetheless, it can be concluded that "there are spaces for judicious policy interventions which could be directed at augmenting the organizational and co-ordinating capabilities of these popular institutions on a much larger scale" (Adnan, 1991).

1.8 OBJECTIVES OF THE STUDY :

The purpose of this study include:

a) To investigate into the nature of the problems in different phases of flood disaster.

b) To identify the existing rural institutions responding to different phases of flood disaster management.

c) To assess the efficiency of these institutions in terms of their contribution to disaster management and rural development activities.

d) To find out the existing and potential areas of participation of the people in disaster management and rural development activities.

e) To identify the problems of institutionalizing the potential areas of peoples participation and to formulate alternative strategies for future courses of action.

f) To suggest appropriate institution incorporating Disaster Management and Rural Development with peoples participation.

1.9 METHODOLOGY OF THE STUDY :

SELECTION OF THE STUDY AREA :
To understand the flood vulnerability context and the traditional means of responses of the people towards flood disaster, parts of Kanchanpur Union under the jurisdiction of Basail Thana of Tangail Zila was selected. The criteria of this selection include:

a) Kanchanpur is one of the most low lying region of Bangladesh and is, therefore, subject to regular floods. As such, it represents the real situation of regularly flooded area.

b) Kanchanpur is an ideal rural region of Bangladesh in terms of its communication system and way of life of the people.

SAMPLE SURVEY IN THE STUDY AREA :
A through reconnaissance survey and three types of questionnaire surveys were planned and conducted during the regular flood period of 1990 : .

a) Direct discussion with the local level institution heads and investigation into their nature and functions from recorded documents regarding disaster and development.

b) Three types of pre-coded questionnaire (see annex 03) survey was conducted among the local people regarding:

Study on the socio-economic condition of the people within the study area.
Study on the flood vulnerability in the region and the way people respond to it.

Study on the peoples perception regarding the possible measures & institutions for community based flood diester management and rural development.

Total number of questionnaire administered was 225.

c) Discussion with the concerned people of the locality regarding the services that has been reported to be provided by the different local institutions.

In case of sample selection this survey was conducted with the decision to chose the following Para/Mohalla of Kanchanpur giving priority to the severely affected region. Selected localities include :

HALUAPARA
CHANKAPARA
ADAJAN
DAKHAINPARA
SAKNAICHAR

Instead of taking into consideration the entire households within the study area the questionnaire survey was conducted in the following manner for each of the Para :
First - Third - Fifth houses and So on.

LITERATURE SURVEY :
An extensive survey of all the available and relevant Iiterature was made to understand the prevailing expert opinions in this aspect.

INVESTIGATION INTO THE RECORDED DOCUMENTS :
An indepth investigation into the recorded documents of the local institutions engaged in disaster management and rural development activities were conducted to understand their nature, functions, roles and responses in disaster management and rural development of the locality. These institutions include:

a) Thana establishments.

b) Union Parishad establishments.

c) Non-Govt. organizations (Grameen Bank, Proshika, CARE)

d) Local clubs societies etc.

e) Local school, Masjid, Maktab committee.

DATA ANALYSIS :
All the data / information received through questionnaire survey were analyzed by using SPSS/PC+ Software.

1.10 TERMINOLOGIES OF THE STUDY :

INSTITUTIONS :
Institutions are the fundamental building block of any social activity which encompasses the dynamic chain of Policy-Action Plan -Implementation - Feedback stages. One expert has rightly defined:

> "Institution Development Planning (IDP) is the process of building, developing, using and strengthening of this vital building block at each stage of this dynamic chain. IDP calls for both structures and strategies appropriate to the policy Action Plan and implementation - feedback stages as well as for their linkage" (Raghavan, 1991).

FLOOD DISASTER MANAGEMENT :
Flood itself can not be a disaster rather a calamity or hazard. However, it produces disastrous consequences when hits a community which is vulnerable to nature in terms of its capacity to withstand the hazards. This is why the impacts of floods of equal magnitude is different in Bangladesh than in America or anywhere else.

In case of Bangladesh, Borsha (normal flood) and Bonnaya (Severe flood) are facts of life and integral part of the ecosystem. The impacts of Bonnaya like that of 1987 and 1988, however, assumes

disastrous magnitude, because the prevailing socio-economic-political forces together are contributing to make the people vulnerable to flood. " Vulnerability is not only a consequence of floods but also an attendant affect of a distorted societal system. Those who are free from forces and factors which enhance vulnerability find themselves unaffected by severe floods in Bangladesh " (Haqe, 1991).

Vulnerability of the millions of rural inhabitants is the product of poverty and under development. The central cause of poverty in Bangladesh is the differential nature of power structure as well as the lack of access of the majority poor class people in the development process. Dr. Sazanami has rightly demarcated the following major factors in disaster processes:

> " Human vulnerability is resulting from poverty and inequality. Environmental degradation owing to poor land use and rapid population growth, especially among the poor" (Sazanami, 1991).

Vulnerability is different from country to country, place to place and person to person. In rural areas, the landless farmers, day labors and various types of craftsmen are more vulnerable to crop failures than small farmers who can own a small plot of land.

In such a situation, "Attempts to bring the victims back to normal with temporary disaster relief does not make much sense in such a context as it plays only a marginal role" (Sazanami, 1991).

However, "disaster have the potential of retarding progress by diverting scarce resources, men, material and money from development process to immediate requirements of relief and rehabilitation" (Raghavon, 1991).

As such, flood disaster management measures (mitigation, prevention & relief) needs to be incorporated with the integrated rural development process.

RURAL DEVELOPMENT :

Literally Development means "unfolding" or "revealing". The obvious questions that is important here is, what is to be unfolded ? for whom ? and how ? As far as flood disaster in rural Bangladesh is concerned, the appropriate answer is the unfolding of inherent capabilities/potentials of the ecosystem in general and the vulnerable group people in particular, while everything should be done for the well being of the rural people with their active/popular participation.

As such Development with regards to flood disaster is more than controlling floods by embankments, infusion of capital and technology and the like; rather, it is the empowerment of the

distressed people with knowledge, income and organization "to bring about structural changes from within rather than structural adjustment from outside" (Shailo, 1991)

On the other hand development without popular participation of the people is meaningless.

POSSIBLE FOCUS :
The above understanding reveals that **Institutional Development Planning (IDP)** for Flood Disaster Management in rural Bangladesh, stands for such an establishment which would ensure :

Elimination of vulnerability of the people through poverty alleviation.

Integration of disaster management measures (mitigation, prevention & preparedness) with other development practices.

Provision of peoples participation at all levels of planning implementation and feedback stages.

2.11 LIMITATIONS OF THE STUDY:

This research study has encountered the following major constraints:

a) Field investigations were conducted after two years of the devastating flood of 1988. As a result, the local people's response was mostly from recall data as to what happened during that devastating floods.

b) Field survey was conducted only on a regularly flooded typical rural area. On the other hand, the vulnerability context, socio-economic and existing infrustructural conditions of different rural areas of Bangladesh differ from place to place - perhaps upto a certain extent. As such, the institutional matrix that could be developed through this investigative study may differ from place to place.

c) This study could not cover the entire flood affected population of the study area for questionnaire survey. Rather a sample was selected at random basis from five most low lying localities of the Union. As much, there are possibilities of

variation of flood vulnerability may exists in other of Basail Thana as well as in other parts of Bangladesh.

2.12 ORGANIZATION OF THE STUDY:

The present study has been divided into five chapters. Chapter one presents rational of the study, background of disaster management in Bangladesh from historical perspective, state of art/review of literature along with understanding the terminologies of the study.The objectives, methodology and limitations of the study are also discussed in this chapter.

Chapter two deals with the flood vulnerability scenario of the study area. The regional setting of the area along with the extent of flooding, socio-economic conditions of the people and their responses to flood are also discussed here.

Chapter three has investigated the different institutions in terms of their nature, functions, roles and responses to flood disaster management of the locality.

Chapter four has identified firstly, the disaster management needs of the locality and has established the essential criteria for selection of suitable institutions to ensure those disaster management needs. Secondly, the peoples choices which are needed to be institutionalized for the purpose of disaster management and development. Lastly, this chapter has developed some alternative strategies for selection of appropriate local institution to ensure the disaster management needs and peoples choices of the locality.

Chapter five has come up with a wide range of recommendations as a general guide line and conclusions of the study.

CHAPTER : TWO

STUDY AREA AND ITS FLOOD VULNERABILITY

This chapter intends to explain and analyze the flood vulnerability scenario and socio-economic condition of the people of the study area (parts of Kanchanpur Union).

2.1 THE REGIONAL SETTING :

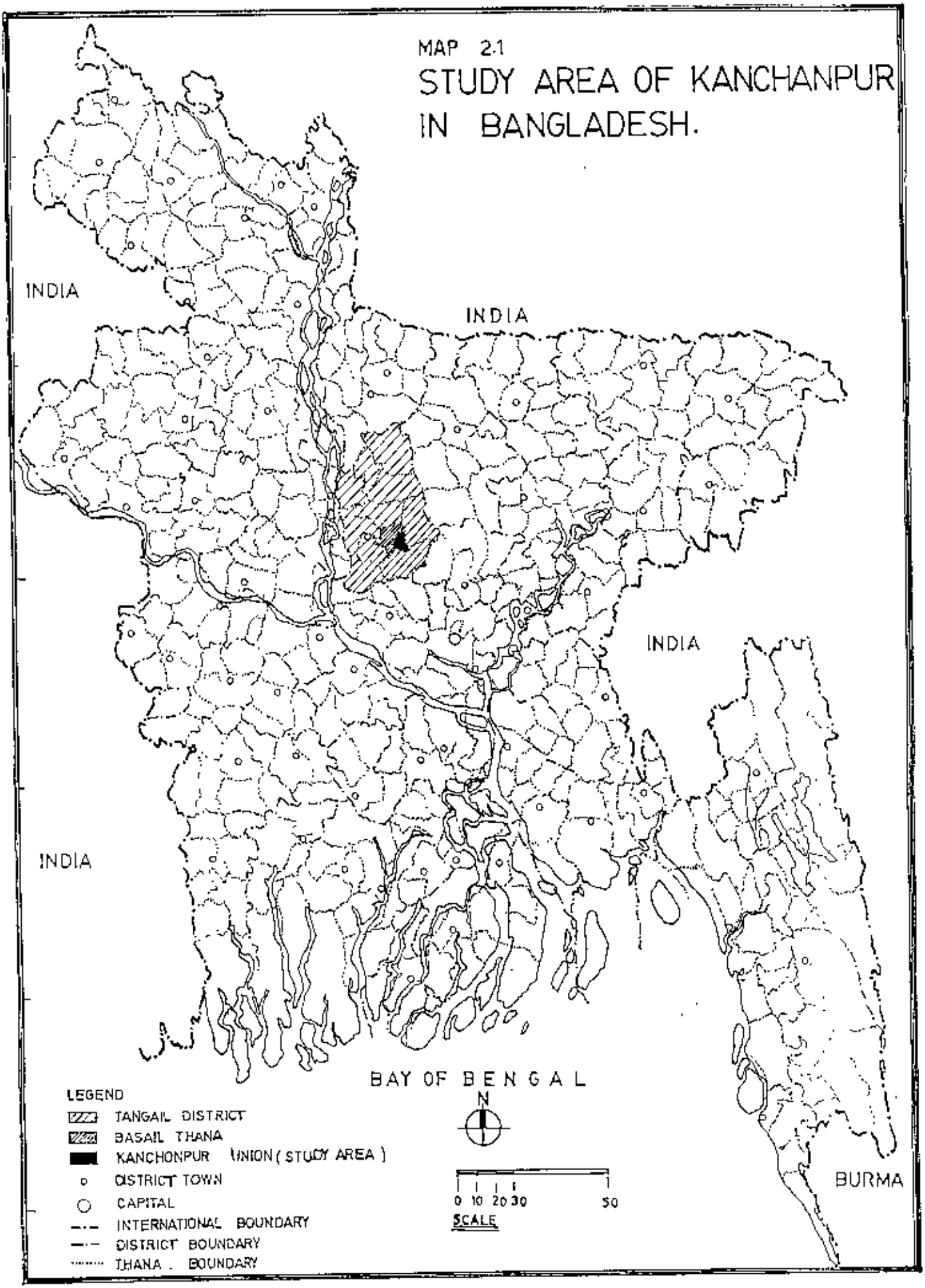
Kanchanpur Union is under the administrative jurisdiction of Basail Upazila (Thana) of Tangail Zila (district), see Map 2.1, 2.2 and 2.3. It is located between 90^0-30/ to 90^0-35/ north latitude and 24^0-10/ to 24^0-15^0 east longitude. There is no metal road in the region. Three narrow earthen roads maintaining connections with the Thana HQ of Basail which is approximately 4 km from the study area in the north direction . One more earthen road is connecting it with the Dhaka-Tangail road at Natiapara point which is situated approximately 4km away from the study area.

The Tangail District HQ is the major urban center of the region. The study area is situated at a distance of 15 km from it . While from Karatia and Mirzapur , two medium sized urban centers of the region, the distance is around 10 km and 13 km, respectively. However , it is revealed that except the Thana HQ at Basail, the people of the study area has major interaction with Natiapara (a market place) and Karatia (a market place cum education center).

Ecologically the study area constitutes of low lying plain land subjected to annual inundation upto 1 to 3.5 m for around 4 months during the wet seasons. Most of the communicating lines (i.e. the earthen roads) become inundated by flood water every year. As such, country boat becomes the only means of communication for several months during the wet seasons. While average annual depth and duration of inundation of the agri-lands is around 2.25 m and 4 months, respectively, average annual depth and duration of inundation over the communicating lines is 0.5 m and 1 month, respectively.

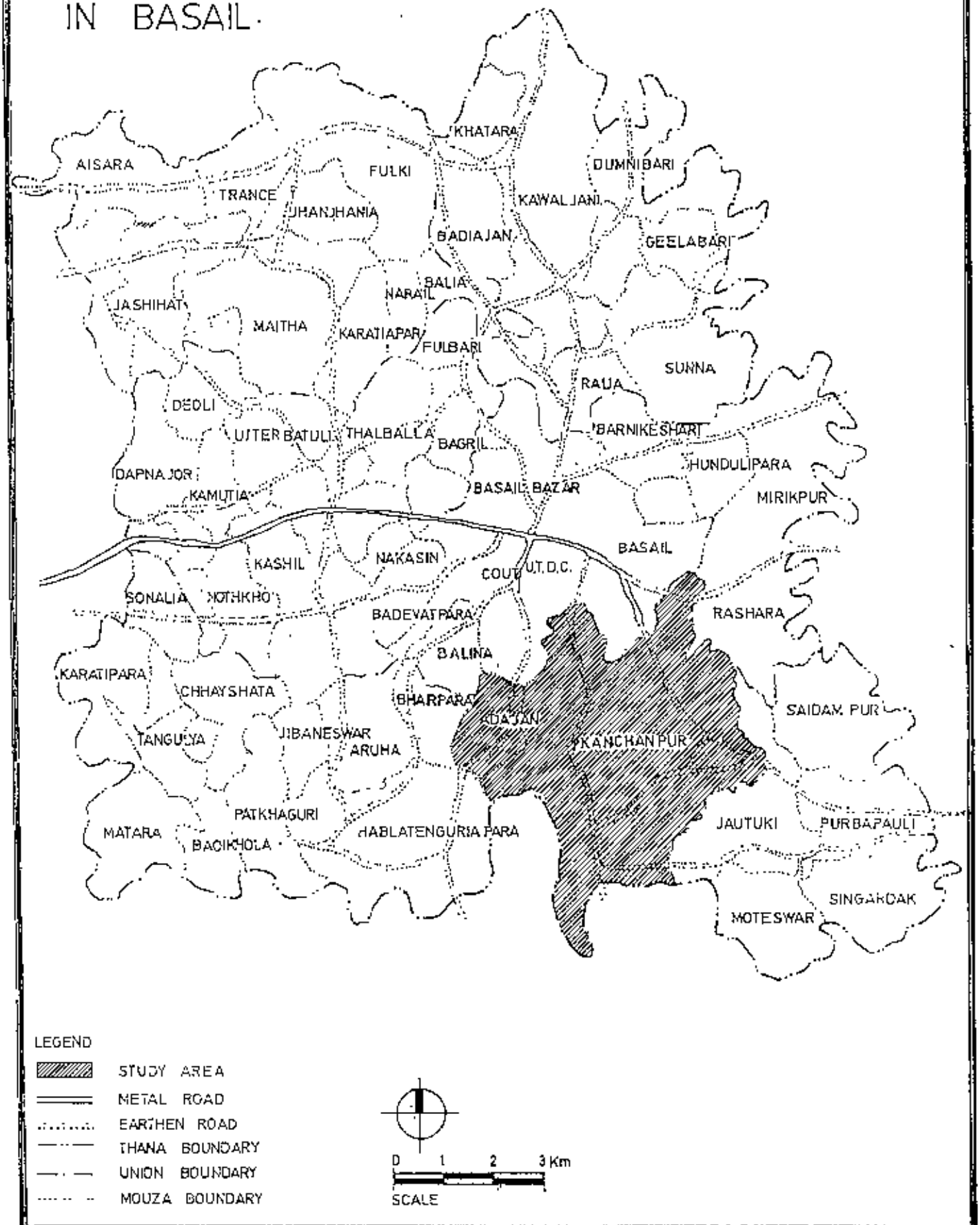
2.2 SOCIO-ECONOMIC CONDITION OF THE PEOPLE :

DEMOGRAPHIC :
Average household size in the study area is 6.33 persons. Sex ratio Male : Female = 7.32 : 5.44. Diagram 2.1 reveals that while around 25% of both male and female population are below 10 years of age, more than 90% of the population are less than 50 years old.


MAP 2.1
STUDY AREA OF KANCHANPUR
IN BANGLADESH.
INDIA
INDIA
INDIA
INDIA
BAY OF BENGAL
BURMA
LEGEND
TANGAIL DISTRICT
BASAIL THANA
KANCHONPUR UNION (STUDY AREA)
DISTRICT TOWN
CAPITAL
INTERNATIONAL BOUNDARY
DISTRICT BOUNDARY
THANA BOUNDARY
N
0 10 20 30 50
SCALE

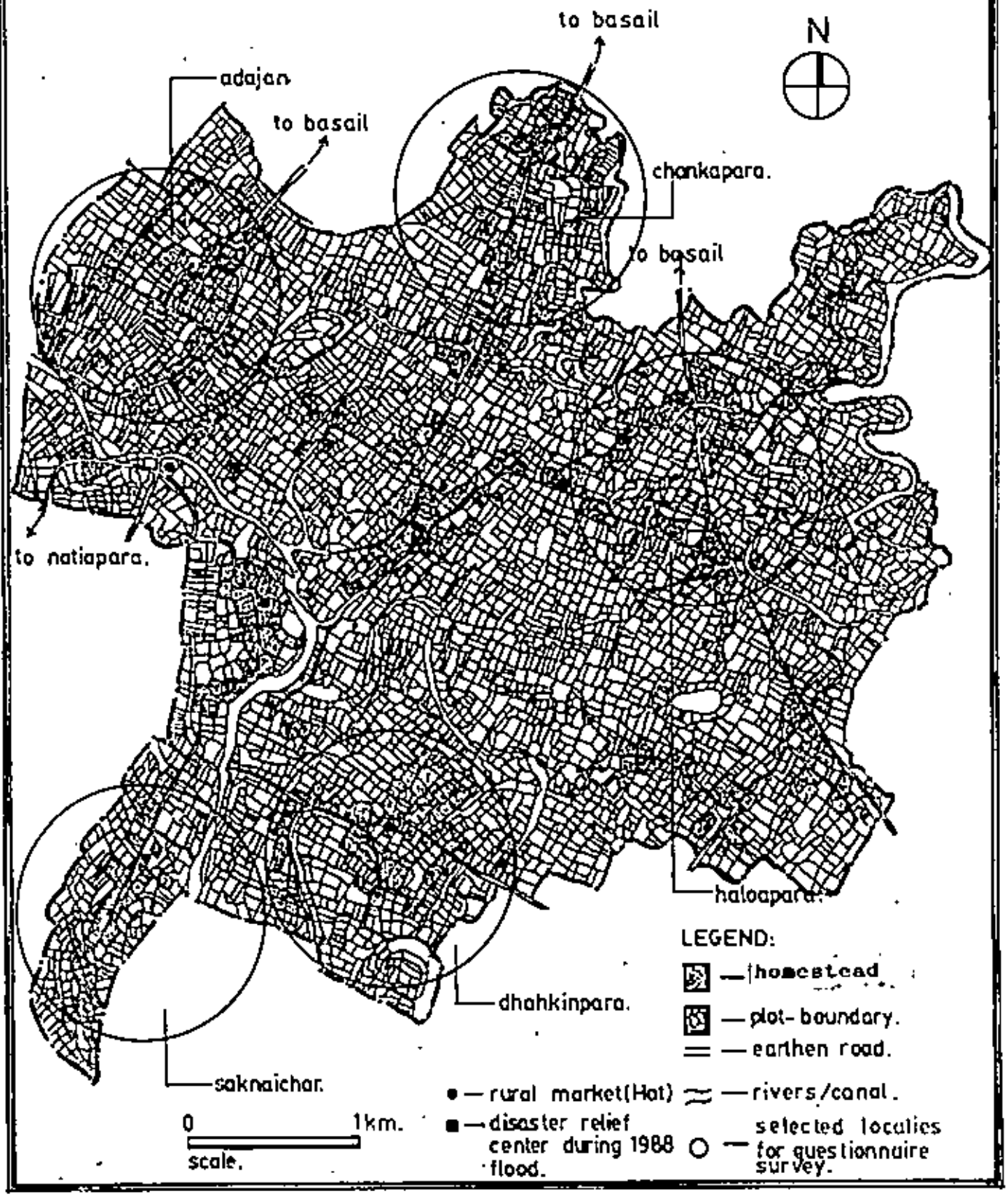
MAP 2.2

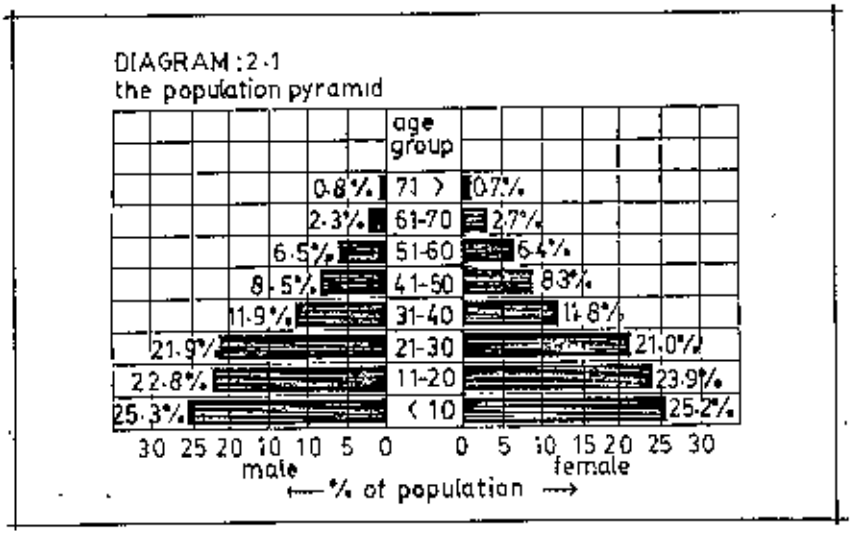
STUDY AREA OF KANCHANPUR IN BASAIL.



MAP 2.3

THE STUDY AREA OF KANCHANPUR.

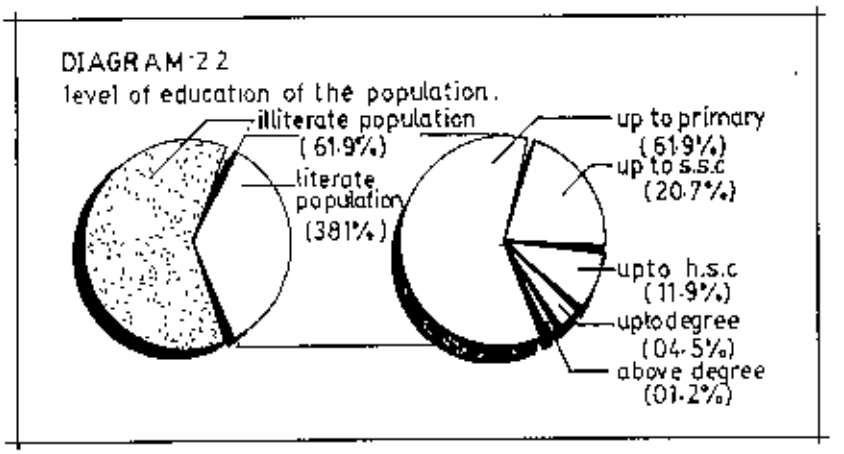




Childrens are normally more vulnerable to flood. As such, it can be concluded that around 1/4 th of the entire population are naturally vulnerable to flood.

EDUCATIONAL:

Diagram 2.2 reveals that around 62% of the entire population are illiterate, ie. only 38.1% are literate population. While among the literate population have education up to primary level, only 14% of the literate population have completed secondary school certificate exam.



Illiterate people are normally less convinceable and are more vulnerable to natural calamities in terms of taking decisions during emergency situation. It can be concluded that without improving the literacy level of more than 2/3 of the population it would be difficult to motivate them to participate in the process of reducing vulnerability of flood.

OCCUPATION, INCOME AND EXPENDITURE:

Diagram 2.3 reveals that while 30% of the entire population has access to earning. 15% of them are solely dependent on day labour, 31.4% on day labour plus farming. While 11% depend on petty business and individual occupation. Income from day labour, petty business, individual occupation are vulnerable to flood. As such, sources of income of more than 86% of the population are existing at risk of flood.

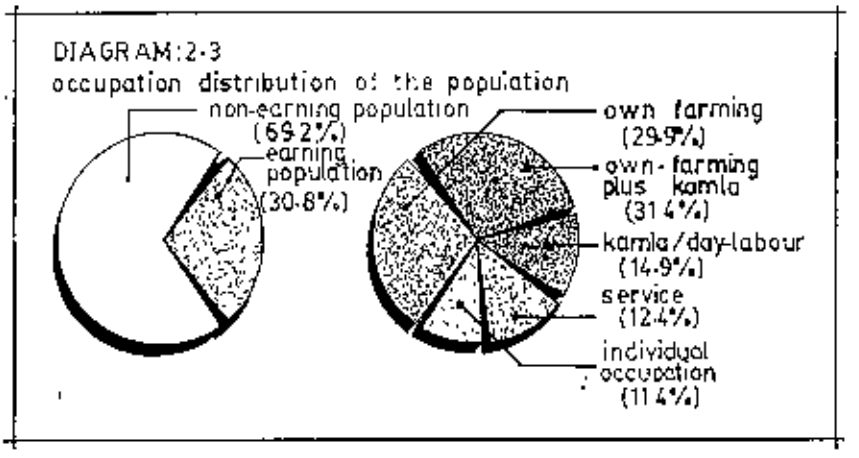
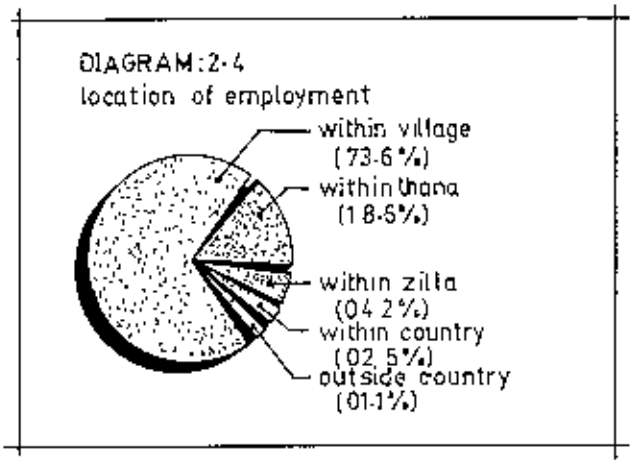


Diagram 2.4 reveals that while places of occupation of more than 73% of the population are within the village, 18% earn their livelihood within the jurisdiction of upazila, and only 7.8% earn from outside the upazila.



Source : Field survey 1991

Table 2.1
Source of income according to land ownership :

Land Category		Sources of Income									
		Agricu-lture	Fishe-ries	Live-stock	Indepen-dent occupa-tion	Service	Business	Lease paddy	Others	Labour	Total
Below-50	Avg.HH income (Tk)	1772	90	1049	2829	1470	3176	-	1078	5523	16,987
	% of HH income	10.44%	0.5%	6.18%	16.66%	8.66%	18.70%	-	6.34%	32.52%	100%
51-250	Avg. HH income (TK)	7100	-	1958	3344	6406	595	246	861	2548	23,058
	% of HH income	30.79%	-	8.49%	14.50%	27.78%	2.58%	1.08%	3.73%	11.05%	100%
251-500	Avg. HH income (TK)	12764	528	2500	2842	7714	642	1535	-	707	29214
	% of HH income	43.69%	1.81%	8.56%	9.72%	26.4%	2.02%	5.25%	-	2.42%	100%
501-high	Avg. HH income (TK)	26980	-	3203	-	6000	2200	9100	1900	-	49383
	% of HH income	54.63%	-	6.48%	-	12.14%	4.45%	18.43%	-	-	100%

Source : Field survey 1991

Table 2.1 reveals that average household income of the landless group (having land up to 50 decimals) stand for TK.16987 per annum. While the average household income of 2nd, 3rd, 4th category of land holding groups are 35.73%, 7.98% an 190.71% higher than the landless group. Which indicate that same amount of loss of income caused by flood has different impact on different groups.

Table 2.2
Nature of expenditure according to land ownership:

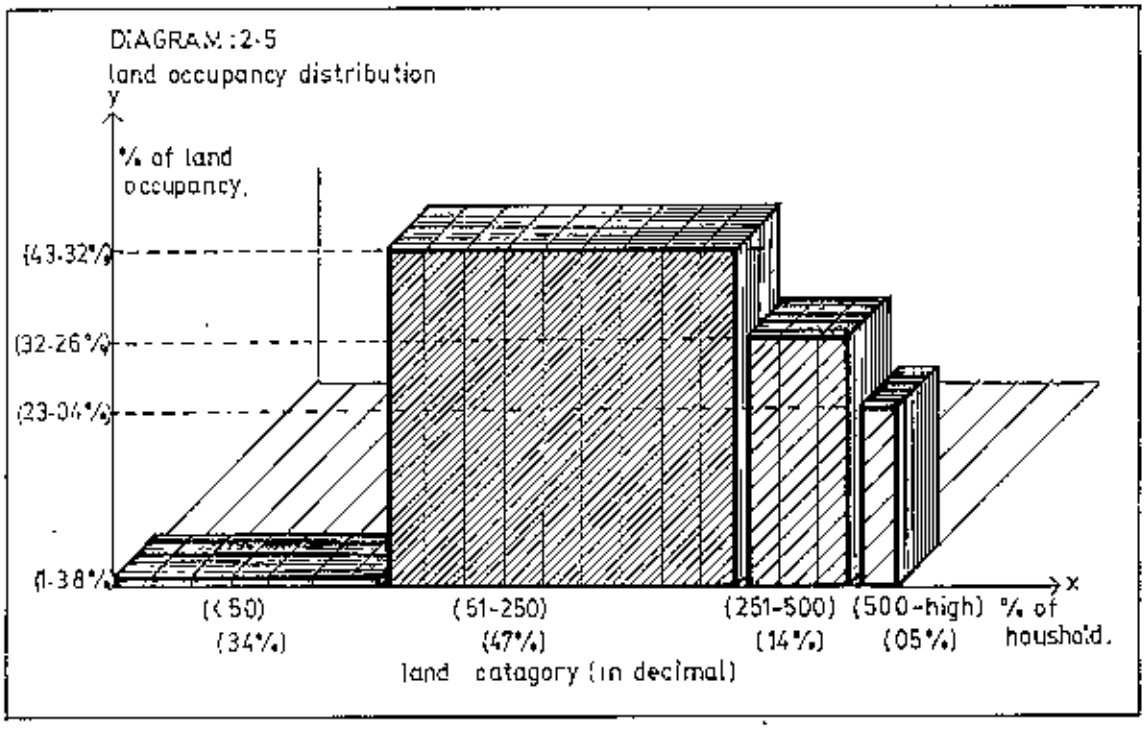
Land category		Food	Kerosin /Electri -city.	Clothing	Education	Medicine	Others	Avg. M.H. Exp.	Avg M H I/C	Avg HH. Exp. as % of Avg HH Inc.
Below 50	Amount (Tk)	14439	650	1206	212	907	-	17414	16987	102.5%
	%	85.00%	3.87	7.10%	1.23%	5.34%	-			
51 - 250	Amount (Tk)	15116	941	2408	1205	1240	600	21510	23058	93.29%
	%	70.27%	4.08%	10.44%	5.23%	5.38%	2.605.			
251 - 500	Amount (Tk)	15247	1045	3010	1560	1245	1050	20214	23157	79.27%
	%	52.19%	3.58%	10.30%	5.34%	4.26%	3.59%			
501 - high	Amount (Tk)	16279	1212	5036	3430	1588	3012	29557	49383	59.85%
	%	32.96%	2.45%	10.20%	6.92%	3.22%	6.10%			

Source : Field survey 1991

Table 2.2 shows that average household expenditure of the landless group surpluses the average income of that group by 2.51% while it decreases to 93.29%, 79.27% and 59.85% respectively in case of second, third and fourth category of land ownership group. This indicates that except the landless groups all other have certain degree of financial sustainability in case of emergencies.

LAND OWNERSHIP :

Diagram 2.5 shows that while around 34% of the households of the study area are found to be landless, 47% are marginal farmers, 14% are medium and only 5% are rich farmers. It is interesting to observe that while 34% landless group holds only 1.38% of total land, 14% medium farmers and 5% rich farmers possess 32.26% and 23.04% of total, land respectively.



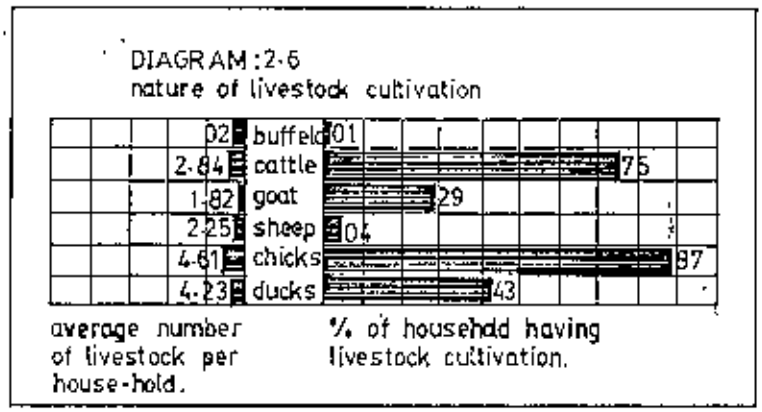
Such inequalities in land holding reveal that more than one third of the population has no income from agriculture which is the traditional source of income for the rural people

ECONOMIC PRODUCTION :

Dry season IRRI cultivation is the main Agri-crop of the locality. AUS and AMAN cultivation (which are the wet season crop) are not widely practiced because of their high risk of flood and low yield. As a result, employment opportunities of the land less group people from the agri-sector during the wet (ie. during the flood period) season is almost absent.

Again the entire area remains inundated for around five months of the year. As such, regular aquaculture through development of ponds are very rare.

Diagram 2.6 shows that around three-fourths of the households are engaged in cattle raising and the average no of cattle heads in those households are 2.89. Only 29% and 4% of the households practice goat and sheep raising, the reason might be the inundation of grazing land for a long time during the wet season. Again whilechick cultivation is reported by 87% of the households, only 43% of those households has



duckeries, the reason might be the fact that during the dry season almost all of the ponds and water bodies become dry.

Diagram 2.7 Demonstrate that the problem of low land emerged as the most crucial issue for agri-development which is followed by lack of capital and other necessary inputs. In case of aquaculture development lack of capital for excavation of ponds and overflow of water by flood has emerged as the principal issue for the development of these sectors. However, income from livestock cultivation, lack of grazing land and quality food was identified as the major problems.

DIAGRAM:2-7

problem of agri-aqua-livestock production.

sector	problem	% of responset
agriculture	lack of capital	30.85
	lack of s.f.w	31.22
	regular inundation	34.20
	problem of soil	2.97
	others	.76
aquacultu	lack of capital	36.95
	lack of qulity fish-	19.58
	regular innundation	34.78
	others	8.69
livestock	lack of capital	28.03
	lack of grazing land	34.75
	lack of quality cattle	32.26
	others	4.96

Source : Field survey 1991

HOMESTEAD:

Table 2.3
Area and cost of construction of houses according to land ownership

Land category (in decimal)	Area (in SFT)					Cost of construction (in TK.)					
	Below 100	101 -200	201 -400	401 -800	801 - High	Below 100	1001 -5000	5001 -10000	10001 -50000	50001 -100000	100001 -high
Below 50	8	28	28	4	-	2	20	26	14	4	2
51 - 250	-	14	52	28	-	-	8	36	44	4	2
251 - 500	-	-	12	16	-	-	-	2	22	2	2
501 -high	-	-	4	4	2	-	-	-	6	4	-
Total	8	42	96	52	2	2	28	64	86	14	6

Source : Field survey 1991.

Table 2.3 shows that 73% (146 out of 200) of the houses has built up areas less than 400 sft, followed by 26% within the range between 401 to 800 and only 01% has built-up areas greater than 800 sft. In case of landless group population 94% (64 out of 68) houses fall under the range of below 400 sft.

Again 47% (94 out of 200) of the houses have construction cost less than 1,000 TK. followed by 43% between Tk.10,000 and Tk.50,000, 7% between Tk.50,000 and Tk.1,00,000 and only 3% are over Tk.1,00,000. While in case of the landless group more than 95% (48 out of 68) houses have construction cost less than 10,000 TK. and 20% (14 out of 68) have cost ranging from Tk.10,000 to Tk.50,000 aud only 8% havc more than TK.50,000.

Table: 2.4
Construction material of individual houses:

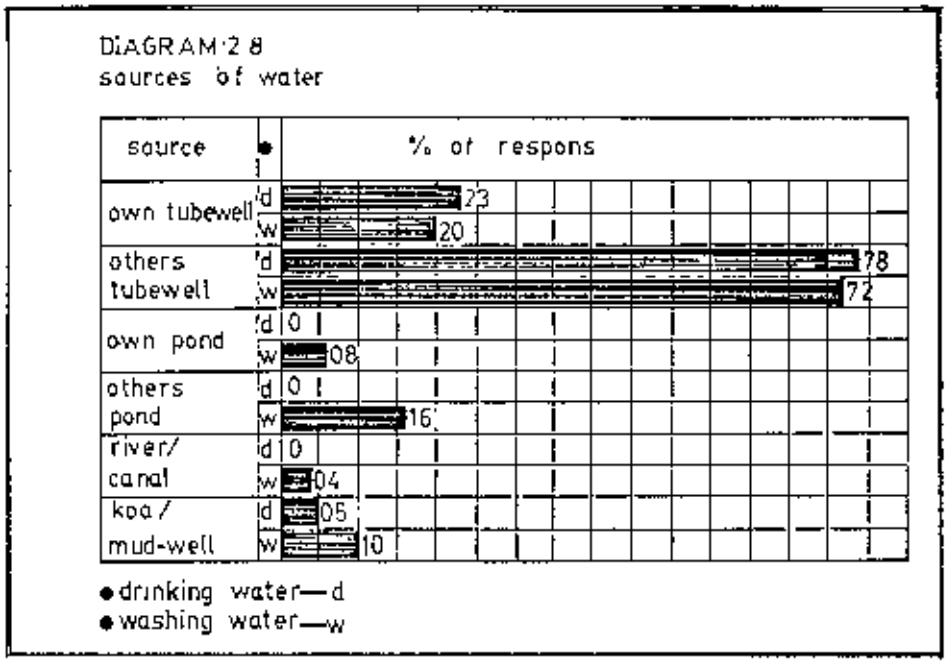
Material	Roof	Wall	Floor	Door/Window	Column
Chan/Khari	62.5%	81.1%	-	-	-
Tin	34.4%	15.1%	-	-	-
Bamboo	-	03.8%	-	13.7%	54.3%
Wood	-	-	-	86.2%	42.3%
Mud	-	-	99.7%	-	-
R.C.C./C.C.	1%	2%	0.3%	-	3.4%
Other	02.1%	-	-	-	-

Source : Field survey 1991.

Table 2.4 reveals that construction materials of 62.5% of roofs, 81.1% of walls of the individual houses are made of Chan or Khari which are easily vulnerable to flood.

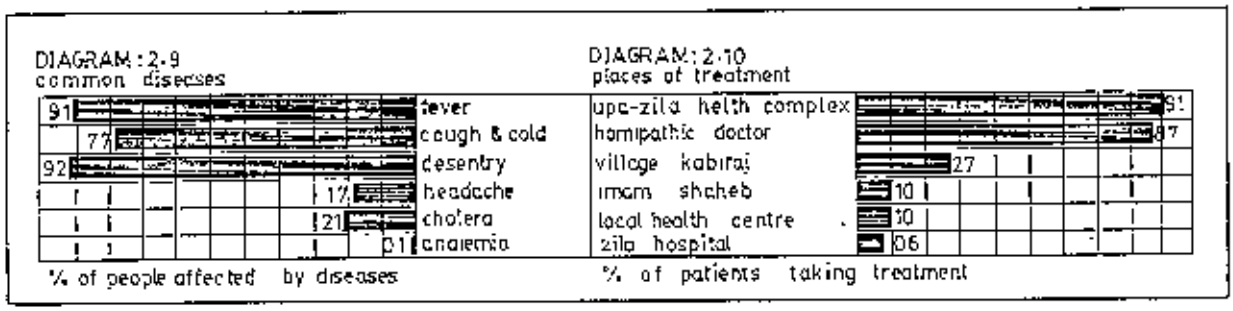
HEALTH CONDITION :

Diagram 2.8 indicates that more than 78% and 72% of the households are dependent on neighbours tube well for drinking and washing water, respectively. While 5% and 10% of the population are dependent of Koa (mud well) for drinking and washing water respectively - because during the dry seasons water becomes very scarce although it is abundant during the wet seasons.



Source : Field survey 1991.

Diagram 2.9 and 2.10 shows the nature of common diseases. Desentry, Fever , cough and cold, and cholera appears as the main diseases While Upazila Health Complex and homeopathic doctors provides the major medical services for the people of the study area.

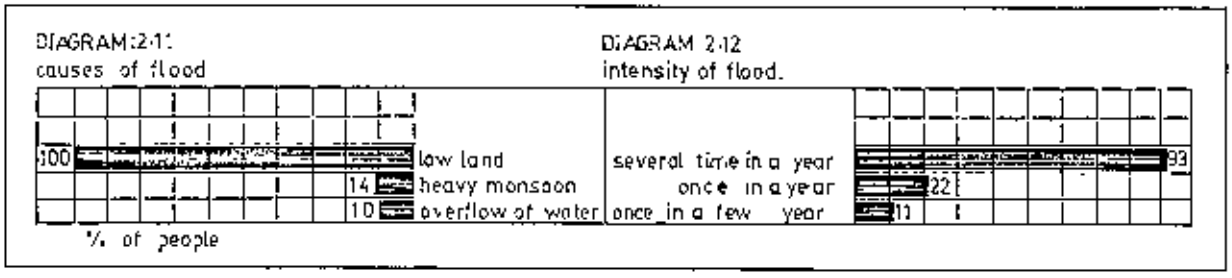


Source : Field survey 1991.

2.4 NATURE AND EXTENT OF FLOODING :

The study area is situated in one of the most low lying regions of the country. As such it becomes vulnerable to flood every year. This section has investigated into the nature and extent of flooding in this locality.

CAUSE AND INTENSITY OF FLOOD:
Diagram 2.11 and 2.12 reveals that all the respondents consider low lyingness of the locality as the principal reason of flood. While 76% of the respondents do not know the other possible reason of flood. Again 93% of the respondents reported that the intensity of flood in the locality is several times in a year.



Source : Field survey 1991.

HEIGHT AND DURATION OF FLOOD:

Table: 2.5
Height and Duration of Flood:

Types of flood	Height (in meter)		Duration (in month)	
	above land	above road	above land	above road
Regular flood	2.25	0.5	04	01
Severe flood	4.50	1.5	05	1.5

Source : Field survey 1991.

Table: 2.5 shows that the height of severe flood double of regular flood. While the duration of flood situation (above the ground level) in severe flood is one and half month, it is equal to one month in case of regular flood.

2.4 IMPACTS OF FLOOD :

The vulnerability of the people and their belongings caused by flood in the locality are presented here :

VULNERABILITY OF HOMESTEAD IN 1988 FLOOD:

Table: 2.6
Whether the homestead was affected and vacated or not:

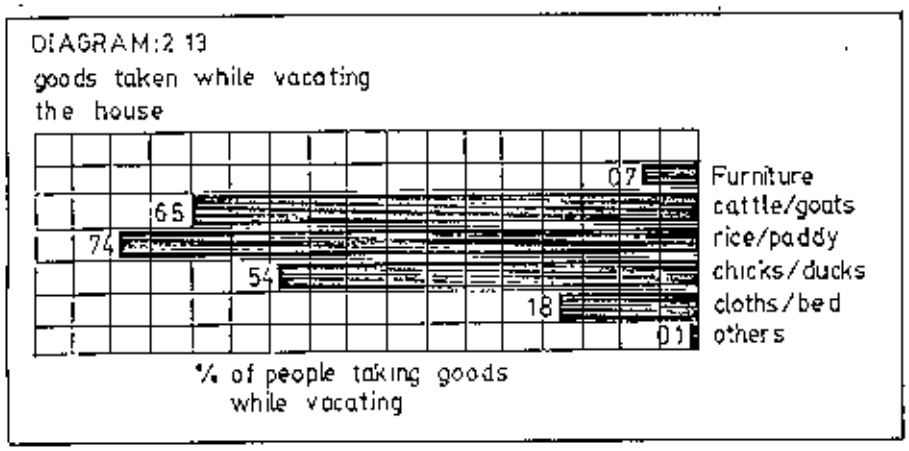
Land Category (Decimal)	Affected				Vacated			
	Yes	%	NO	%	Yes	%	No	%
Below - 50	66	97.5	2	2.9	52	76.5	16	23.5
51 - 250	94	100.	-	-	60	63.8	34	36.2
251 - 500	28	100.	-	-	16	57.2	12	42.9
501 - high	10	100.	-	-	10	100	-	-
Total	198	99.0	2	1.0	138	69.0	62	31.0

Source : Field survey 1991.

Table 2.6 reveals that while 99% of homestead of the locality were affected by flood, 69% of the respondents vacated their house during flood. However, among the landless group, percentage of households reported to be vacated their homesteads is relatively high (around 76.47%)

EXTENT OF VACATING THE HOUSE:

Diagram 2.13 reveals that while vacating the house 74% of the households took rice and paddy with them followed by cattle (65%), chicks and ducks (54%), clothing and bedding (18%) and furniture 7%.



Source : Field survey 1991.

IMMEDIATE LOSSES DUE TO FLOOD:

Table: 2.7
Losses due to flood according to land holding size:

Land Category (Decimal)	Types of flood	Stored food		Standing crops		homestead		Livestock & poultry		Fisheries		Plant & Veg.		Labour, Indiv Business etc.		Total
		Taka	%	Taka	%	Taka	%	Taka	%	Taka	%	Taka	%	Taka	%	Taka
Below-50	R	-	-	1280	38.9	225	6.8	134	4.1	-	-	60	1.82	1564	47.6	3289
	S	197	1.8	1933	17.8	3162	28.6	1870	16.9	476	4.3	809	7.32	2891	26.2	11046
51 - 250	R	-	-	2734	58.8	2124	4.6	164	3.52	-	-	113	2.4	1424	30.7	4646
	S	663	5.3	4266	34.5	3202	25.9	1699	13.8	510	4.12	809	6.55	1200	9.7	12349
251 - 500	R	-	-	5035	77.8	100	1.54	190	2.93	-	-	36	0.05	1106	17.1	64670
	S	964	6.7	6057	42.5	3143	22.1	2183	15.3	500	3.5	936	3.76	857	6.0	14240
501 - high	R	-	-	8500	41.1	142	1.55	305	3.34	-	-	133	2	-	-	9130
	S	4100	23.2	9600	54.4	2604	14.8	790	3.96	200	1.1	443	2.5	-	-	17647
Entire population	R	-	-	2850	61.1	197	4.22	139	3.4	-	-	87	1.86	-	-	4664
	S	718	5.8	4007	32.2	3150	25.3	1775	14.3	481	3.9	752	6.05	1667	13.4	12436

Source : Field survey 1991
Note : R = Regular flood, S = Severe flood.

Table 2.7 reveals that for entire population, during regular as well as severe flood standing crop is the major area where damage usually occur. But in case of severe flood homestead, livestock /paultry and income from day laobur/individual occupation etc. appear as the principal areas where flood damage is widespread.

However, it is important to note that in case of landless group households, income from day labour / individual occupation etc. appear as the major areas of damage in both regular and severe flood. While in severe flood significant damage also occur in areas like homestead, livestock / paultry cultivation and standing crops.

LOSSES VS. INCOME:

Table: 2.8
Losses due to flood with respect to income

Land Category (Decimal)	Average household income	Average household damage at regular flood		Average household damage at severe flood	
		Damage (TK.)	% of HH income damaged at regular flood	Damage	% of HH income damaged at severe flood
Below - 50	16987	3289	19.3	11046	65.0
51 - 250	23058	4646	20.1	12349	53.6
251 - 500	29214	6467	23.1	14240	48.8
501 - high	49383	9130	18.5	17647	35.8
Entire population	23172	4664	20%	12436	53.7

Source : Field survey 1991

Table 2.8 demonstrates that average household damage of the respondent population during regular flood equals to 20% of their average annual household income. But this figure increases to 53.7% of their average annual household income in case of severe flood like 1988. However, in case of landless group, although average household damage in regular flood remains around 20% of income average, household damage in severe flood increases more than 65% of the income. While in case of richer landholding group, damages from regular flood remain around 20%, but damages from severe flood decrease to 35.8%. As such, it can be concluded that while in regular flood damages tend to increase with land holding, the same appears to have an inverse relationship for damages from severe. This indicates that the poor peasants are more vulnerable to flood disaster than their rich counterparts.

LONG TERM IMPACTS :

Table: 2.9
Time required for reconstruction of homesteads after flood

Land Category (Decimal)	Up to 1 month		Up to 2 months		Over 2 months	
	Yes	%	Yes	%	Yes	%
Below - 50	36	52.9	28	41.1	4	5.9
51 - 250	62	65.9	32	34.4	-	-
251 - 500	20	71.4	08	28.5	-	-
501 - high	8	80.0	02	20.0	-	-
Total	120	63.0	70	35.0	4	2.0

Source : Field survey 1991

Table: 2.9 demonstrates that 63% of the respondents were able to reconstruct their houses within a month after the flood. Another 35% were able to reconstruct their houses within two months and only 2% required more than two months. However, among the landless group households around 47% required more than one month to reconstruct their houses after flood.

Table: 2.10
Recultivation of land after flood

Land category (Decimal)	Normal Flood				Severe Flood			
	Yes		No		Yes		No	
	case	%	case	%	case	%	case	%
Below 50	16	25.5	52	76.5	16	23.5	52	76.4
51 - 250	68	51.1	46	48.9	08	8.5	86	91.5
251 - 500	18	64.3	10	35.7	04	14.3	24	85.7
501 - high	04	40	06	60.0	02	20.0	08	80.0
Total	86	43	114	57.0	30	15.0	170	85.0

Source : Field survey 1991

Table 2.10 reveals that while 57% of the respondents were not able to recultivate their land after normal flood, this percentage increases to 85% in case of severe flood.

Table: 2.11
Nature of selling or mortgaging assets due to flood

Land category (Decimal)	Mortgage or sold				Able to return						Got proper price					
	Yes		No		Yes		No		No response		Yes		No		No response	
	case	%	case	%	case	%	case	%	case	%	case	%	case	%	case	%
Below 50	6	25.5	52	76.5	06	8.8	20	29.4	42	61.8	06	8.8	08	1.76	54	79.4
51-250	20	21.3	74	78.7	08	8.5	06	63.8	80	85.1	02	2.2	14	14.9	78	82.9
251-500	04	14.3	24	85.8	02	7.1	06	21.4	20	71.4	-	-	04	14.3	24	85.7
501-high	09	--	10	--	--	--	05	50.0	05	50.0	-	-	-	-	10	33.3
Total	40	20	160	80	16	8.0	37	18.5	147	73.5	8	4	26	13	166	83

Source : Field survey 1991

Table:2.11 reveals that around 20% of the respondents had to sell or mortgage assets because of flood. However, this percentage increases to 25.50% in case of the landless group. Again it is significant to note that among those who have mortgaged assets only 8% of them were

able to return those assets, and among those who had sold assets only 4% got proper prices.

Table 2.12
Types of assets sold or mortgaged during flood

Land Category (Decimal)	Mortgaged				Sold assets							
	land property		ornaments		land property		ornaments		cattle		Ducks & chickens	
	case	%	case	%	case	%	case	%	case	%	case	%
Below 50	04	66.7	02	33.3	02	8.33	06	25	12	50	04	16.7
51 - 250	08	100	-	-	06	37.5	04	25	02	12.5	04	25
251 - 500	02	100	-	-	02	33.3	-	-	04	66.7	-	-
501 - high	-	-	-	-	-	-	-	-	-	-	-	-
Total	14	87.5	2	12.5	10	21.7	10	21.7	18	39.13	8	17.4

Source : Field survey 1991

Table 2.12 reveals that among those who had mortgaged assets 87.5% had mortgaged their land and 12.5% mortgaged ornaments. While among those who have sold assets majority 39% had sold cattle followed by 21.7% land, 21.7% ornaments and 17% chicken and ducks.

2.6 RESPONSES OF THE PEOPLE TO FLOOD :

The inherent strength of the society and the traditional means of responses of the people to withstand the vulnerability of flood are investigated here :

TRADITIONAL MEANS OF FLOOD FORECASTING:

Table: 2.13
Existing sources of flood forecasting:

Land Category	From other persons		From radio		From papers		From market places		Not aware properly	
	Case	%	Case	%	Case	%	Case	%	Case	%
Below 50	62	91.1	40	58.8	-	-	2	2.9	68	100.0
51 - 250	42	44.7	92	97.9	8	8.5	6	6.4	90	95.7
251 - 500	16	57.4	28	100	-	-	4	14.3	26	92.9
501 - high	4	40.0	10	100	2	20.0	-	-	08	80.0
Total	124	62.0	170	85.0	10	5	12	6	192	96

Source : Field survey 1991

Table: 2.13 reveals that while more than 85% of the respondents became aware of the coming flood from Radio, 20% receive the news of flood indirectly from other persons. But the majority of 96% of the respondents reported that they were not fully aware of the coming flood. However, among the landless group, while the percentage of respondents receiving news of flood indirectly from other persons is 91.1 % , percentage of respondents receiving the news directly from Radio is 58.8 %.

NATURE OF FLOOD PREPAREDNESS:

Table: 2.14
Traditional nature of preparation for flood:

Land Category	Husking of paddy		Construction of raised platform		Transportatio n of goods		Others		Not adequately prepared	
	Case	%	Case	%	Case	%	Case	%	Case	%
Below - 50	38	55.7	62	91.2	10	14.7	6	8.8	68	100
51 - 250	58	61.7	78	83.0	14	14.9	4	4.3	80	85.1
251 - 500	16	57.2	28	100	2	7.1	2	7.1	18	64.3
501 - high	08	80.0	06	60.0	2	20.0	2	20.0	05	50.0
Total	120	60.0	174	87.0	28	14.0	14	7.0	171	85.5

Source : Field survey 1991

Table 2.14 reveals that 87 % of the respondents constructed raised platform to store household goods over it as a preparatory measure, 60 % had taken steps for husking of paddy to save them from coming danger of flood and 14 % arranged transport of various goods to safer places. But it also indicates that 42% could not take adequate preparatory steps. However, among the richer land holding groups husking of paddy received highest priority followed by construction of raised platform and transportation of household goods.

ASSISTANCE WHILE VACATING THE HOMESTEAD:

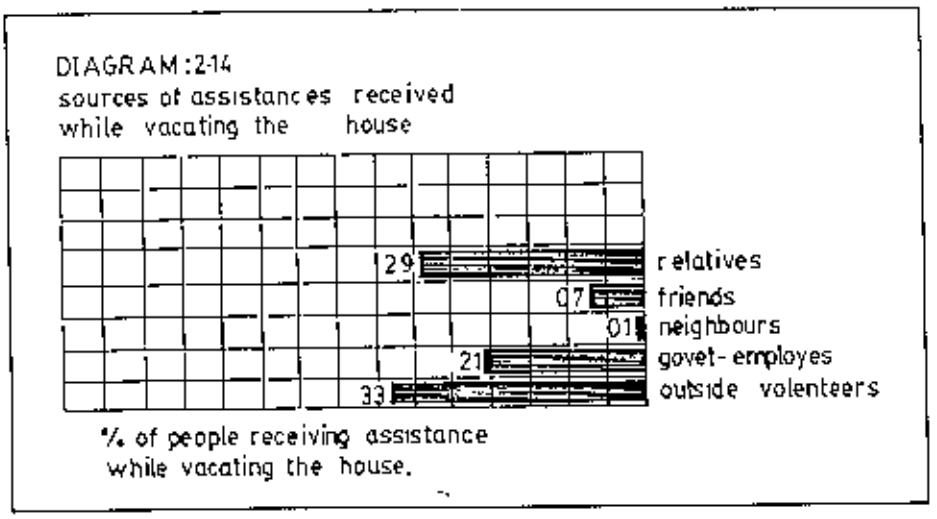
Table: 2.15
Availability of assistance while vacating the house:

Land Category	Received			
	Yes	%	NO	%
Below 50	48	70.6	20	29.4
51 - 250	52	55.3	42	44.7
251 - 500	16	57.1	12	42.8
501 - high	08	80.0	02	20.0
Total	124	62.0	76	38.0

Source : Field survey 1991

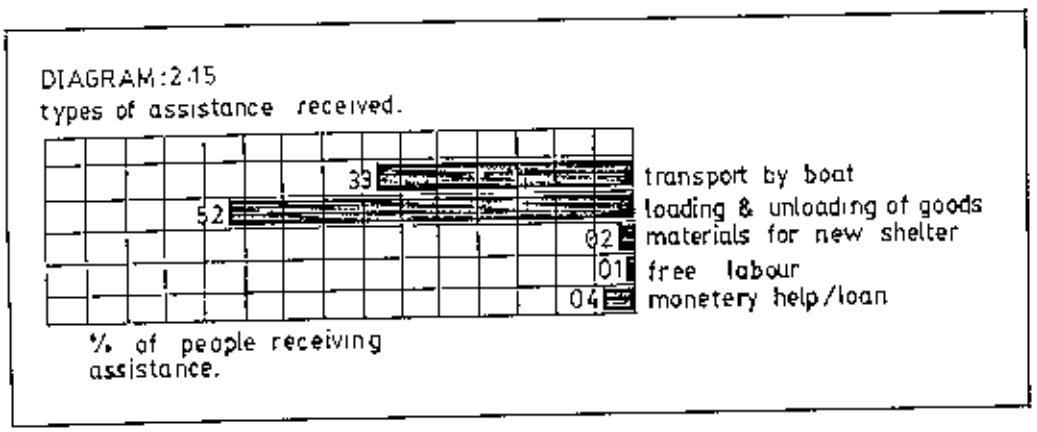
Table: 2.15 demonstrates that 62% of the respondent households recognized receiving assistance while vacating the house.

Diagram 2.14 shows that most of the assistance received by the respondents came from outside volunteers (33%) followed by relatives (29%), Govt. employee (21%), friends (7%) and neighbors (1%). So the indigenous sources (i.e. relatives, neighbors and friends) constitutes 37% of assistauce combinedly.



Source : Field survey 1991

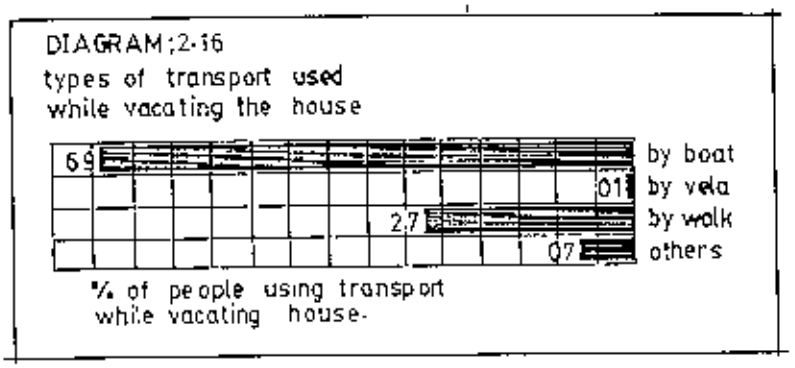
Diagram 2.15 shows that 52% of the respondents recognized loadiug aud unloading of goods constitute the major type of assistance received by the respondent household, followed by transport by boat (33%), monetary help (4%), material for new shelter (2%) and free labour (1%).



Source : Field survey 1991

As such it can be concluded that during flood disaster of 1988 , although help like transport by boat was reasonably good availability of some important assistance like flood and transport is very scarce.

TYPE OF TRANSPORT USED WHILE VACATING THE HOUSE:
Diagram 2.16 reveals that country boats were the major means of transportation while vacating the house. It constitute around 69%. The other significant means was walking on foot (27%).



Source : Field survey 1991

TYPE OF SHELTER SELECTED AFTER VACATING THE HOUSE :

Table: 2.16
Types of shelter selected during flood :

Land Category	Did not vacated the house		Relatives house		Temporary shelter		Under open sky		Others		No response	
	No	%	No	%	No	%	No	%	No	%	No	%
Below 50	8	11.8	28	41.2	9	13.2	14	20.6	3	4.4	6	8.8
51 - 250	30	31.9	55	58.5	-	-	-	-	5	5.3	4	4.3
251 - 500	12	42.8	14	50.0	-	-	-	-	-	-	2	7.1
501 - high	07	70.0	03	30.0	-	-	-	-	-	-	-	-
Total	57	28.5	100	50.5	9	4.5	14	7.0	8	4.0	12	6.0

Source : Field survey 1991

Table 2.16 reveals that more than 50% of the respondents took shelter in their relatives house, 7% under open sky, 4.5% in temporary shelter and 4 % in other places.

However, among the landless group, percentage of respondents taking shelter in existing temporary structures under open sky category increase to 13.2 % and 20.6 % respectively, while percentage of respondents taking shelter to relatives houses are found to be decreasing.

Table: 2.17
Locality of new shelter during flood :

Land Category	Within village		Within Union		Within Upazila		Adjoining Upazila		Others		No response	
	No	%	No	%	No	%	No	%	No	%	No	%
Below 50	10	14.7	2	2.9	4	5.9	46	67.6	-	-	6	8.8
51 - 250	4	4.3	-	-	6	6.4	82	87.2	-	-	2	2.1
251 - 500	-	-	-	-	-	-	23	82.1	1	3.6	4	14.3
501 - high	-	-	-	-	-	-	9	90.0	1	10.0	-	-
Total	14	7.0	2	1.1	10	5.0	160	80.0	2	1.0	12	6

Source : Field survey 1991

Table: 2.17 shows that 80% of the respondents took shelter in the adjoining Upazila followed by only 7% within village, 5% within upazila and 1% within union.

Field study reveals that the nearby shakhipur upazila is a high land region not affected by the flood. Most of the respondents of Kanchanpur Union have relatives in this locality. As such, most of the distressed people of Kanchanpur took shelter in their relatives houses in Shakhipur.

ARRANGEMENT FOR DAY TO DAY LIFE DURING FLOOD:

Table: 2.18
Arrangement for day to day life during flood:

Item	Arrangement	Case %
Arrangement for Cooking	Separate cooking with relative's oven	38
	Combined cooking with relative's oven	34
	Cooking with own oven	25
	Cooked foods were served	05
	Pressed or fried rice	14
	Others	02
Type of food available	Rice	99
	Bread	76
	Pressed or fried rice	23
Quantity of food available	Only one time in a day	41
	Two times in a day	90
	Used to fasting	12
Arrangement for sleeping	With relatives	66
	All in new shelter	15
	Part with relatives, part in new shelter	05
	Did not leave the house	14
	Others	16
Arrangement for drinking water	With relatives	60
	Nearby tube well	24
	Boiled flood water	11
	Flood water mixed with purifying tablets	05
	Raw flood water	03
	Others	04
Arrangement for toilets	With relatives	47
	Special arrangements	07
	No special arrangements	33
	Others	03

Source : Field survey 1991

Table 2.18 demonstrates that while only 25 % of the respondents had own cooking arrangement, 72% (38% +34%) of the respondents had arrangements with their relatives either separately or combindly. Again a significant 14% respondents reported that they often used to take pressed or fried rice during flood.

It is also revealed that rice, bread and pressed or fried rice were the major food stuff of during flood. However, it is significant to

note that around 12 % of the respondents reported that they often used to fast during flood, while 41% used to take one meal during flood.

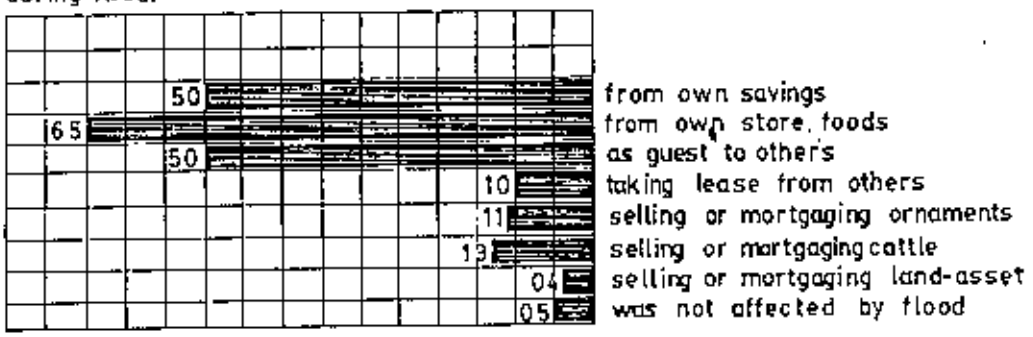
Regarding the sleeping arrangement, 56% of the respondents reported that they had sleeping arrangements together with their relatives. Regarding arrangement for drinking water, 60% reported that they had such arrangement with their relatives, 24% got it from nearby tube well, 11% used to take flood water by mixing with purifying tablets, while 3% reported that they took raw flood water.

Regarding arrangement for toilets it is found that only 7% of the respondents had special arrangements for toilets.

SOURCES OF EXPENDITURE DURING FLOOD :

Diagram 2.17 shows that 50 % of the respondents dependent on theirrelatives as guest for their day to day expenses. While 11% respondents had sold or mortgaged ornaments, 13% sold or mortgaged cattle and over 4% of the respondents sold or mortgaged land assets.

DIAGRAM:2·17
source of expenditure during flood.



% of the people having expenditure.

Source : Field survey 1991

ALTERNATIVE EMPLOYMENTS DURING FLOOD:

Table: 2.19

Types of alternative employments undertaken during flood

Land Category	Fish catching		Rickshaw driving		Boat riding		Wood cutting /selling		Day labour		No specific employment		No satisfactory employment	
	case	%	case	%	case	%	case	%	case	%	case	%	case	%
Below 50	-	-	-	-	10	14.7	14	20.6	18	26.5	24	35.3	68	100
51 - 250	06	6.4	04	4.3	10	10.6	08	8.5	14	14.9	20	21.3	22	97.9
251 - 500	-	-	-	-	-	-	-	-	-	-	08	28.5	18	64.3
501 - high	-	-	-	-	-	-	-	-	-	-	02	20.0	02	20.0
Total	6	3	4	2.0	20	10	22	11	32	16	54	27	180	90.0

Source : Field survey 1991

Table 2.19 reveals that most of the respondents (90 %) were not engaged with any suitable alternative employments. However, 27 % of the respondents replied that they were engaged with some unspecified employment opportunities like boat riding, wood-cutting and day labour.

Table: 2.20

Locations of alternative employments during flood

Land category	Within upazila		Adjoining Upazila		Within zila		Outside zila		No response	
	case	%	case	%	case	%	case	%	case	%
Below 50	06	8.82	02	2.94	10	14.67	12	17.65	38	55.88
51 - 250	02	2.12	02	2.12	12	12.76	36	38.29	42	44.68
251 - 500	-	-	-	-	-	-	12	42.85	16	57.14
501 - high	-	-	-	-	-	-	02	2	08	80
Total	8	4	4	2	22	11	62	31	104	52

Source : Field survey 1991

Table: 2.20 shows that while 52% of the respondents could not specifically answer the exact locality, another 31% employment seekers had to leave the zila. It is interesting to note that although most of the distressed people took shelter in the adjoining upazila, 2% of the respondents got employment in that locality.

ASSISTANCE RECEIVED DURING FLOOD:

Table: 2.21

Assistance received by the household during 1988 flood

Assistance Type	Relative	Neighbor	Local volunteer s	Local NGO	Union Parishad	Thana Parishad	Total
Transport	40	01	10	05	04	01	61
Cash help	08	--	--	--	--	--	08
Cash loan	15	--	--	--	--	--	15
Food help	08	--	--	--	--	--	08
Free food	04	--	05	02	01	--	12
Clothing	--	--	--	--	--	--	--
Fire wood	51	--	--	01	02	--	54
Counselling	22	01	02	06	12	02	45
Security	56	--	--	01	01	--	58
Shelter	65	--	--	01	--	--	66
Storage	52	--	--	01	--	--	53
F.F.W	03	--	--	01	--	--	04
Medicine etc	--	--	--	03	04	--	07

Source : Field survey 1991

Table 2.21 reveals that most of the respondents received assistance from their relatives followed by the NGO's and Union Parishad. Major types and frequency of getting such assistance include: shelter 66%, transport 61%, fire wood 54%, Storage 53%, counselling 45% cash loan 15%, free food 12% and F.F.W. only 4%.

Table: 2.22

Assistance received by the household after 1988 flood.

Assistance Type	Source of Assistance (case %)						
	Relative	Neighbor	Local volunteers	Local NGO	Union Parishad	Thana Parishad	Total
Building material	60	--	--	10	03	--	73
Cash help	04	--	--	04	01	--	09
Cash loan	02	--	--	05	02	--	09
Agri-loan	01	--	--	05	--	06	12
Non-agri-loan	02	--	--	--	--	--	02
FFW	01	2	--	--	16	--	19

Source : Field survey 1991

Table: 2.22 reveals that most of the respondents received assistance for after flood rehabilitation from their relatives which is followed by Union Parishad and local NGO's . While the major types and frequencies include: building material 73%, F.F.W 19%, cash help 9%, Cash loan 9%, agricultural loan 12%, non-agricultural loan 2%.

2.7 PEOPLES' CHOICE ON POTENTIAL MEASURES :

The field survey on the peoples choice regarding the potential avenues of disaster management have shown some interesting features. These features are expressed here:

FLOOD TIME ACTIONS NEEDED FOR FLOOD FIGHTING:

Table: 2.23

Emergency measures needed during flood:

Land Category	Flood loan		Awareness		Easy Transport		Food & Medicine		Security		Shelter		Others	
	case	%	case	%	case	%	Case	%	case	%	case	%	case	%
Below 50	38	55.8	2	2.94	34	50.0	44	64.7	68	100	16	23.5	02	2.9
51 - 250	76	80.8	54	57.4	52	55.3	14	14.9	94	100	36	38.3	14	14.9
251 - 500	22	78.5	18	64.3	14	50.0	-	-	24	85.7	10	35.7	-	-
501 - High	--	--	8	80.0	8	80.0	-	-	08	80.0	02	20.0	-	-
Total	136	68.0	82	41.0	108	54.0	58	29.0	194	97.0	64	32.0	16	8.0

Source : Field survey 1991

Table 2.23 reveals that 97% of the respondents sought for protection of life and livelihood as the most favored choice, followed by flood time loan 68%, easy transportation 54%, proper awareness 41%, proper shelter 35%, food and medicine 29%. However, among the landless and near landless group households although demand for protection of life and livelihood remains the most important priority, food and medicine, flood loan and easy transport got considerable priority.

POST FLOOD ACTIONS NEEDED FOR REHABILITATION :

Table: 2.24

Works needed after flood for rehabilitation.

Land Category	House Loan		Agri Loan		Cattle Breeds		Chicks /Ducks		New employment		Others	
	case	%	case	%	case	%	Case	%	case	%	case	%
Below 50	51	75.5	44	64.7	28	41.2	26	38.2	60	88.2	2	2.1
51 - 250	74	78.7	56	59.6	30	31.9	28	29.8	74	78.7	-	-
251 - 500	12	42.8	20	71.4	18	64.3	14	50.0	10	35.7	2	7.1
501 - high	05	50.0	08	80.0	2	20.0	2	20.0	02	20.0	-	-
Total	142	71.0	128	64.0	78	39.0	70	35.0	146	73.0	4	2.0

Source : Field survey 1991

Table 2.24 reveals that new employment opportunity and house loan is the most favored demand of the respondents among all the post flood rehabilitation measures, they counts for 73% and 71% of the choices respectively and are followed by agriculture loan 64%, cattle breed 39% , new chicks and ducks 35%. However in case of landless group households demands for all those types of measures have increased.

LONG TERM ACTIONS NEEDED FOR FLOOD MITIGATION :

Table 2.25

Works needed for long term flood fighting.

Land Category	Reexcavation of rivers/ canals		Raising of road		Flood Shelter		Embank-ments		Raising of homestead		Raising of pond embankment		Others	
	case	%	case	%	case	%	Case	%	case	%	case	%	case	%
Below 50	42	61.7	68	100	60	88.2	06	8.8	52	76.5	14	20.6	2	2.9
51 - 250	44	46.8	88	93.6	44	46.8	20	21.3	66	70.2	36	38.3	10	10.6
251 - 500	14	50.0	26	92.5	04	14.3	08	28.6	22	78.6	14	50.0	-	-
501 - high	04	40.0	10	100	01	10.0	02	20.0	04	40.0	-	-	-	-
Total	104	52.0	192	91.0	109	54.5	36	18.0	144	72.0	64	32.0	12	6.0

Source : Field survey 1991

Table 2.25 state that among all the respondents 91% favored raising of existing roads as the main choice for long term flood fighting, followed by raising of homestead 72%, flood shelter 54.5%, raising of pond embankments 32%. However it is interesting to note that demand for flood shelter, raising of roads and homesteads has been considerably increased in case of land less households.

2.8 SUMMARY :

The socoi-economic condition of the people and the flood vulnerability of the study area reveals that it is prone to regular flood and the people are very much accustomed to it. However, both regular and severe flood has specific dimensions which are responsible for long lasting damages to the quality of life of the local people. Some specific actions/interventions depending on the contextual setting of the locality are revealed to be required for disaster management of the locality. The problems and the corresponding necessary actions/interventions for flood disaster management are summarized in table 2.26, while the institutional inputs which are revealed to be essential to ensure those actions /interventions are presented in table 2.27.

Table 2.26

Flood Problems vs Required Actions /Interventions.

Problems		Required actions /interventions	
NATURE	TYPE	NATURE	TYPE
1. Some of the existing homesteads being situated below the regular flood elevation are naturally vulnerable to it.	RP	1. Raising of existing homestead which are vulnerable to regular flood up to the requited level	LTA
2. Existing communication liner remain submerged by regular flood for two to three months during the wet reason creating a revere problem of communication with the surrounding market places and education-health-admin centres.	RP	2. Raising of existing roads to ensure uninterrupted communication with the surrounding market places and education-health-admin centre.	LTA

3. Most of the public places are affected by regular flood. Causing disruption of public life including education, health, marketing etc.	RF	3. Raising of all the existing public places above the regular flood elevation.	LTA
4. Most of the people being illiterate are less convinceable and less proactive to community participation for flood disaster management.	RF	4. Emphasis on increasing the level of general education on disaster management issues.	LTA
5. Sources of income of most of the people are existing at the risk of flood. However, the poorest segment of the population are economically more vulnerable to flood. Disruption of agriculture by regular flood make them jobless. On an average 1/5 th of the annual household income exist at risk of regular flood.	RF	5. Creation of gainful alternative employment for those who are dependent on day labor or on farm or non-farm activities that exist at the risk of regular flood.	LTA
6. Earning from day labor on agriculture is very nominal because of existence of more surplus labor. As such exploitation exist in the wage market. More than 1/3 rd of the population being landless have no income from agriculture.	RF	6. Reorganization of land use and rural labor policies to ensure more intensive use of land during wet season and less exploitation of land labor.	ISA
7.The age old Canals and water channels of the locality are being filled up by regular siltation, causing more devastation in the wet season and less availability of surface water during dry season.	SF	7. Excavation of canals and public water ways for storage of water for dry season and quick passage of flood water during wet season.	LTA
8. During severe flood like that of 1988 the entire area along with its homestead became inundated by flood water up to 5 meter. Evacuation of the entire population and their belonging to safer places became inevitable.	SF	8.Reorganization of existing public places with required facilities to make them centre of refuge during severe flood.	ISA
9. Children are found to be more vulnerable to severe flood. They constitute around 1/4 th of the entire population.	SF	9. More emphasis on health care and family planning activities be made to reduce percentage of under age population.	ISA

10. Most of the houses of the locality are made of either Chan or Khani which is more vulnerable to flood. But the poor people use it for construction because it is readily available and less costlier.	SF	10. Encouragement for use of durable material /technique for construction of house, which would be consistent with the flood ecosystem.	LTA
11. On an average more than 1/2 of the annual household income of the entire population is affected by severe flood. As a result mortagazing and selling of household goods, land property or ornaments became necessary at lower prices. Such losses due to flood have severe inpact on the poor.	SF	11. Creation of social security fund at the local level to ensure financial assistance /loan to the affected people during flood.	ISA
12. More than 1/2 of the households were found to be unable to recultivate their land after flood making the employment situation more vulnerable.	SF	12. Arrangement for adequate amount of agri-loan and inputs for recultivation of land.	APA
13. More than 1/3th of the households took more than two months to reconstruct their houses after severe flood.	SF	13. Arrangement for house building loan and building material specially to the poor for reconstruction of the damaged houses.	APA
14. Most of the earthen roads and public buildings were damaged or destroyed by severe flood.	SF	14. Arrangement be made for rehabilitation of damaged or destroyed roads and public buildings as quick as possible.	APA
15. More than 3/4 th of the population were not well articulate /aware regarding the cause, nature and possible impacts of severe flood.	SF	15. Special program for education of the people on cause, nature and impacts of flood as well as measures needed to be adopted during severe flood be ensured.	ISA
16. Because of the rich social heritage the people have demonstrated unique examples of fellow filling and mutual cooperation during the crisis of 1988 flood. But those Cooperations were largely unorganized and uncoordinated.	SF	16. Arrangement for Coordinated and organized actions for the management of flood evacuation centers and flood mitigation measure.	FTA

17. During the severe flood, security of vacated houses, transportation of man and material, need for suitable evacuation place, need for alternative employment, need for emergency medicine /service and food stuff for livestock were the most favored demand of the people.	SF	17. Arrangement be made for the security of vacated houses and provision for transport, emergency medicine and food stuff for livestock be ensured timely and adequately.	FTA
18. Recognition of receiving external assistance was poor although sizeable amount of external assistance was reported to be available during crisis of 1988 flood.	SF	18. Accountable system of reception and distribution of all external assistance at the grassroots level.	FTA

Note: SF = Severe Flood, RF = Regular Flood, LTA = Long Term Actions, ISA = Immediate Special Action, FTA = Flood Time Actions, AFA = After Flood Actions.

Table 2.27

Observed deficiency of the local institutions vs. required institutional inputs.

General deficiencies of the local institutions to ensure the required actions, as revealed from the discussion with the local people and the concerned officials.	Identified institutional inputs required to overcome those deficiencies
01. People are found to be unaware and most of the cases reluctant to the on going development activities conducted by different organizations for their development.	01. Provision for direct participation of the beneficiary in the planning process.
02. On going development and disaster management plans of different organizations are found to be un-coordinated and unsystematic in most of the cases.	02. Provision for integrated planning, implementation and monitoring of rural development and disaster management at the field level.

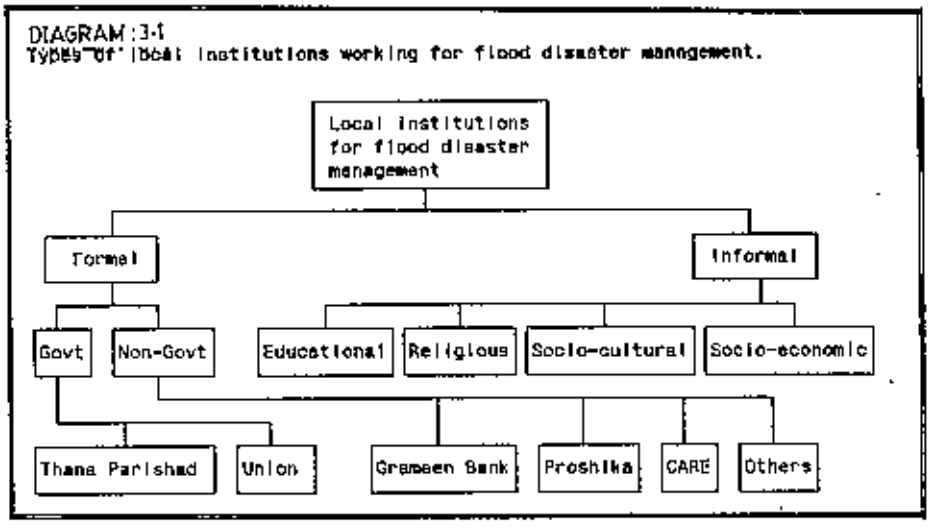
03.	Financial resources for development and disaster management at the local level is very scarce. But people have shown their readiness for providing voluntary labor and support for their common causes.	03.	Capacity to ensure maximum voluntary support of the people at the field level for development purposes.
04.	Generation of more local fund is found to be possible in many cases. Some non-govt institutions have demonstrated very good examples in this aspect.	04.	Capacity for generation of local fund and less dependence on external assistance for development.
05.	Development plans conducted under CARE assistance are serving mainly the objective of providing rural work opportunities only --this resources could have otherwise been utilized in more productive way.	05.	Capacity to ensure maximum productive use of available resources.
06.	Although most of the development and disaster management activities are meant for the rural poor, in reality the actual benefit goes to the elites	06.	Provision of ensuring maximum benefit to the poor out of the development activities.
07.	In most of the cases disaster management responses performed by the local formal institutions are found to be inadequate and not timely. Although informal institutions responds timely their performance are not well recognized.	07.	Capacity to ensure spontaneous, adequate and specific actions before, during and after the crisis like flood of 1988 at the field level.
08.	Most of the local institutions have legal and managerial inabilities to interact with other development institutions during crisis.	08.	Capacity to co-ordinate /interact with other development organizations in disaster management and rural development activities.

CHAPTER : THREE

INSTITUTIONAL ARRANGEMENT IN THE STUDY AREA TO COPE WITH FLOODING

3.1 TYPES OF LOCAL INSTITUTIONS :

To understand the institutional matrix of different local based organizations, working for flood disaster management and rural development in the locality, an investigation into the types of those institutions has been in Diagram 3.1. It has identified two types of such institutions ie. Formal and Informal.



Formal Institutions are identified as those which have some short of formal arrangements for flood disaster management. Informal Institutions, on the other hand, have no formal arrangement for disaster management but have shown considerable responses or have the capacity to respond during crisis like the flood of 1988.

While Formal Institutions include both government and non-government Organizations, Informal Institutions cover different educational, religious, socio-cultural and socio-economic development agencies. The nature and functions of these institutions and their roles and responses in 1988 flood is investigated in the following sections.

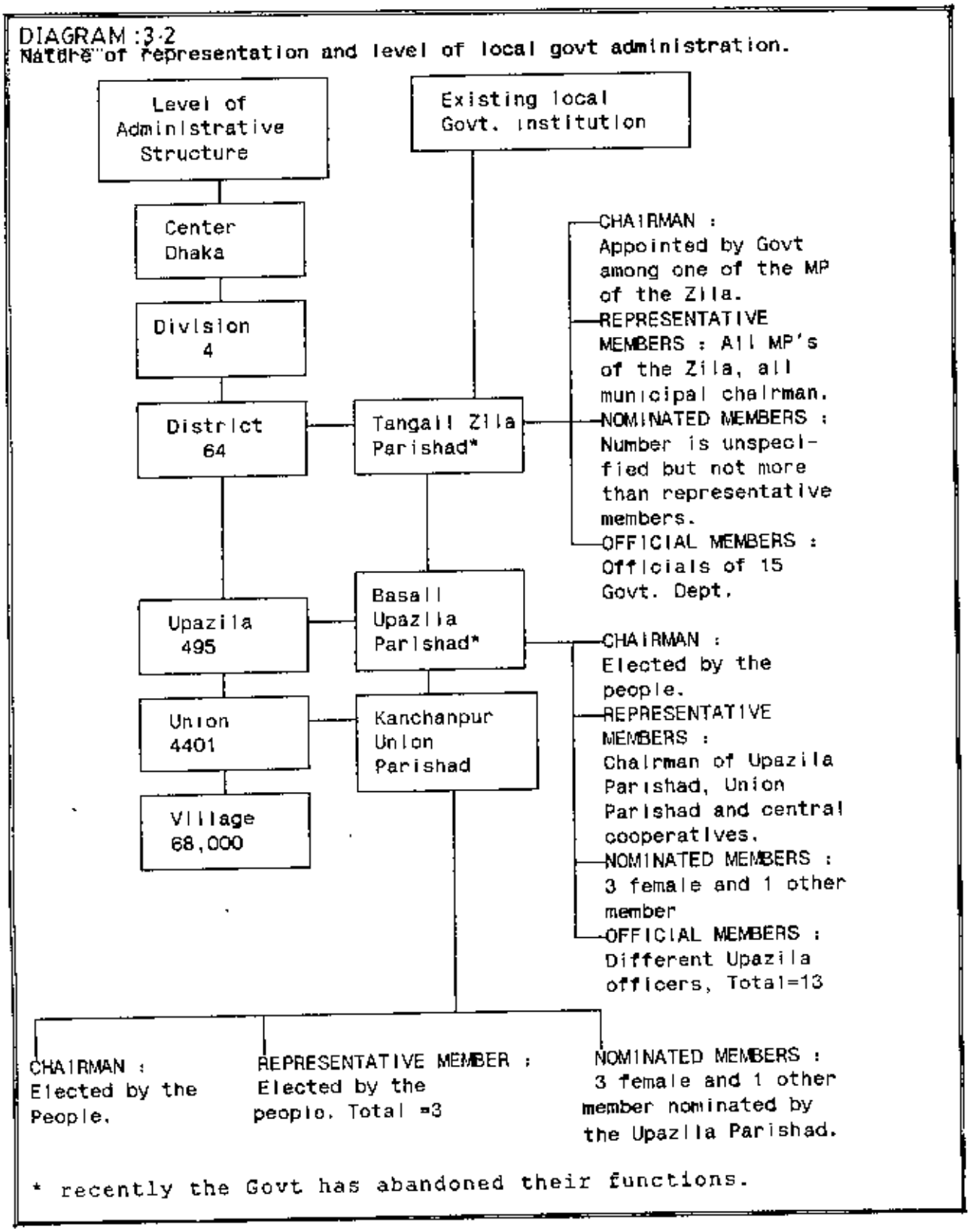
3.2 GOVT INSTITUTIONS :

Diagram 3.2 has demonstrated the nature of representation and level of administrative structure of local govt organizations functioning at the locality till June 1992.

The diagram reveals that the Govt has envisaged the position of some peoples representatives (Union Chairman and Members) to head the development activities at the lowest vertical level (ie, at the Union level) But the existing power structure, status-quo and mass illiteracy in the locality are facilitating the rural elites to come to the power who are not the real representatives of the

common poor people. On the other hand, recently the concept of peoples representations at the Thana (Upazila) level has been abandoned altogether.

DIAGRAM :3.2
Nature of representation and level of local govt administration.



3.2.1 : KANCHANPUR UNION PARISHAD (KUP) :

Kanchanpur Union Parishad is the lowest vertical level of local Govt, functioning at present in the locality for disaster management and rural development purposes. The term of the Union Parishad office is three years. The Chairman is the chief executive of the Union Parishad aud is assisted by a Secretary, 3 Dafadars and 6 Chowkidars in the discharge of his executive responsibilities. The members of the Union Parishad are entitled to participate in the decision making process as well as in the discharge of the functions of the Union Parishad.

Although there is a provision for peoples representative to become the key figure at this lowest vertical level of local administration and planning, it is learnt from discussion with the UP Chairman of Kanchanpur that the actual authority of project approval is made under the jurisdiction of Thana (Upazila) Parishad.

FUNCTIONS OF KUP:
Like other union Parishads of the country, Kanchanpur haa the responsibilities of preparing development plans and can levy taxes, rates and fees which are, however, required to be approved by the Thana Parishad. The detail responsibilities of the Union Pariahads of Bangladesh under the Union Parishad Ordinance is presented in Annexure-03.

Union Parishad's development activities include infrastructure building under the IFFW, RMP or VGDP schemes. These schemes are virtually seen as the post flood disaster rehabilitation measures to generate employment opportunities for the poorer segment of population. The RMP (worth up to Tk. 30,000) and all FFWP are entitled to be implemented by the Union Parishad. While fund approval, sanctioning and evaluation is made at the disposal of the Upazila.

While certain functions have been transferred to the Upazila Parishad (now Tbana) in totality, no such transfer of functions to the Union Parishad has been made in the true sense. "Preparation of liat of functions does not specify its role in initiating and implementing development projects under RMP,IFFW and VGDP" (Ahmed, 1987).

The Union Parishads are actually functioning in a framework of delegation of responsibilities from the national government and Upazila Parishad rather than a true local level institution ensuring peoples participation / representation for all shorts of developments including disaster management.

FINANCING OF KUP :
Like other Union Parishads, Kanchanpur receives cash allocation out of ADP grants and wheat allocation out of wheat grants from the Ministry of Relief and Rehabilitation through the Upazila Parishad's approval.

In reality, UP Chairman and Members are very reluctant to levy taxes because of political reasons. "The election to the position of chairman and members is very much lucrative to the individual concerned. Hence they do not want to antagonize the people (voters) by levying taxes on them" (Ahmed , 1987).

On the other hand Jalmahals, Hats and Bazars are important and less sensitive sources of local taxation but these sources have now been transferred to the Upazila Parishad (Now Thana). As such, Union Parishads are mostly dependent on national govt allocations for its fund. Local financial contribution for local level flood disaster mitigation and development is almost nil.

Allocation of funds through the Thana establishment largely depend on the capacity of the UP chairman to pursue the Thana officials. Under hand dealing in the process is a very common phenomenon. It is reported by the UP Chairman that even during the devastating flood of 1988 they suffered a lot in getting approval from the then Upazila.

ROLES AND RESPONSES OF KUP IN 1988 FLOOD:
The following table reflects disaster mitigation exercises, conducted by the Union Parishad at different phases of 1988 flood and the peoples responses to those exercises:

Table 3.1
Roles and responses of KUP in 1988 flood.

Services as reported to be provided by the Union Parishad.	Expected out put /purposes.	Findings from peoples perspective.
PRE FLOOD : 1. Provided information regarding the coming danger.	1. To help the people taking preparatory measures.	1. Recognition = 18% of the GP*. 50% of which consider the information was useful.

DURING FLOOD : 1. Provided counselling on different emergency issues. Upazila (Thana) chairman and members were personally present with the people for this purpose.	1. To assist the distressed masses with courage and to play the due role of peoples representative.	1. Recognition = 8% of GP.*
2. Arranged preventive medical services like distribution of water purifying tablets among the people.	2. To prevent out break of flood born diseases.	2. Recognition = 2% of GP.*
3. Arranged the transport facilities from the Union Parishad's own resources. Six country boats were made engaged for transportation for 15 days.	3. To provide free transport services to the people.	3. Recognition = 6% of GP.*
4. Arranged "**Langar Khana**" (Free food services) for the distressed poor as per the Upazila assistance.	4. A total of 4980 meals were distributed in 15 days with 18,700 kg of rice and other materials received from the Upazila office	4. Recognition = 16% of TGP.**
5. Conducted a follow-up VGDP with CARE assistance. Each of the 52 distressed woman (selected throughout the entire Union) were provided with 31.25 kg of wheat in a month by the Union.	5. In exchange of this wheat assistance the beneficiary families were required to save 4 Tk. each day, so that in feature they became self reliant.	5. Govt. assessment made by the D.C. office reveals that 50% of the TGP ** were made self reliant. However, only 23% of the respondents consider VGDP as a useful for rural maintenance.
6. Arranged security of household goods of vacant homesteads.	6. To ensure protection of household goods.	6. Recognition = 6% of GP*.
POST FLOOD : 1. Conducted reconstruction of three rural roads under IPRW program with CARE assistance. The then Upazila Parishad played the role of supervisor and CARE made surprise visits.	1. Generated a total 39,700 man days of employment opportunities. Amount of wheat allocated = 113.46 metric ton. Length of road reconstructed = 7.5 mile. Height raised = 6ft. Width of road = 14 ft.	1. Around 80% of the GP* consider this program was useful for employment generation. 94% of the respondents consider this program was not useful for transport, because at the wet season they still need to go by boat.
2. Conducted test relief work with CARE assistance under its RMP (Rural Maintenance Program)	2. To carry out different rural maintenance program and to generate 1000 man days of employments to the rural poor.	2. 36% consider it is not useful for rural maintenance works 90% consider these programs are not executed properly.

Source : Field survey 1991

* GP = General Population, a sample of 50 such people was selected at random for interview.

** TGP = Target Group Population, for whom such assistance was provided. A sample of 50 such persons were selected at random for interview.

STRENGTH OF KUP FOR FLOOD DISASTER MANAGEMENT :

The potentials /limitations of KUP in terms of providing the specific institutional inputs which are revealed to be necessary to ensure required actions /interventions needed for flood disaster management of the study area (see table 2.27) has been identified in table 3.2 from its nature, functions and roles in 1988 flood as well as from the discussion with the Chairman /Members and the local people.

Table 3.2
Strength of KUP for flood disaster management rural development of the locality.

NECESSARY SPECIFIC INSTITUTIONAL INPUTS	STRENGTH		REMARKS
	POTENTIAL	LIMITATIONS	
1. Structural legal provision for direct participation of the beneficiary in the planning process.	Low	Structural	1. Although provision peoples representation exist, because of existing distorted societal system, it could not ensure true representation.
2. Structural /legal provision for integration of mitigation and relief activities.	Low	Legal	2. Because of legal limitations KUP could not ensure integrated planning and implementation of DM and RD.
3. Structural /legal capacity to ensure voluntary support of the people in different disaster management activities.	Moderate	Motivational	3. The capacity could be improved through training /awareness /incentives and proper respect to the local culture.
4. Capacity for generation of local fund for less dependence on external assistance for development.	Moderate	Managerial	4. Although legal provision for collection of rates /fees /taxes exists, in reality KUP do not want to antagonize the voters by exercising it.
5. Capacity to ensure maximum productive use of the available resources.	Low	Legal	5. Legal authority of approval of development plans depend on the Thana Parishad.
6. Provision to ensure maximum benefit to the poor out of the development activities.	Moderate	Managerial	6. Provision for checking the possibility of making personal benefit could ensure better result.
7. Capacity to ensure adequate actions before, during and after the crisis like flood.	Low	Financial /Technical	7. Basically limitation of resources is responsible for such low performance.
8. Capacity to interact /co-operate with other organizations in all stages of disaster management and rural development.	Moderate	Managerial	8. Identification of areas of cooperation legal provision for their implementation to ensure their better result.

* **LOW** and **MODERATE** potentiality are those where peoples recognition in receiving such inputs are found to be approximately below 25% and 50% respectively.

** **STRUCTURAL** limitations indicate the limitation of the nature of representation that has been conceived to conduct the function of the institutions. While **LEGAL** limitations of the constitutionally approved jurisdiction of the institution to conduct the specific function.

3.2.2 BASAIL THANA ESTABLISHMENT (BTE) :

Thana establishment at Basail is the center for development control and planning for whole of the Thana that include Kanchanpur Union. Upazila (now Thana) Parishad Ordinance 1983 had envisaged an organizational set-up (see annexure 05) to conduct the development activities of the then Upazila.

Disaster like flood is a regular phenomenon and a pertinent issue for rural Development of the locality. Yet no specific department of the organogram is found to be entrusted to deal with disaster management activities. However, some sporadic works like relief distribution, agri-rehabilitations etc. are conducted in an overlapping manner by various departments.

FUNCTIONS OF BTE :
Thana Parishad ordinance of 1983 had clearly demarcated some functional boundaries for the operation of the Upazila (Thana) establishments. Two types of functions are identified under the banner of : a) **Transferred subjects** and b) **Retained subjects.** (see annexure 06)

Although disaster relief activities are made at the disposal of the Thana under the banner of transferred subjects; pre-disaster forecasting, during disaster mitigation and post disaster rehabilitation did not get proper attention. Flood control measures are considered solely as "retaiued" subjects, although peoples participation at the local level is a must for its success.

FINANCING OF BTE :
The central Govt. of Bangladesh providea the necessary financial support for the Thana establishment cost. It is also committed to provide grants for the development program of Thana. The generalized P.C. guide liues (see anuexure 07) for financing Thana development activities does not make much sense for the specific requirements like flood mitigation and preparedness of the Thana. Development budget is highly depended on govt allocations.

ROLES AND RESPONSES OF BTE IN 1988 FLOOD :

Table 3.3 reflects the disaster mitigation exercises conducted by the then Basail Upazila (now Thana) Parishad at Kanchanpur and peoples responses to those exercises:

Table 3.3

Roles and responses of BTE in 1988 flood.

Services as reported to be provided by the Thana Parishad	Expected output /Purposes	Responses of the people /NGO's.
PRE AND DURING FLOOD : 1. Formation of Disaster Relief Co-ordination Committee combining different the then Upazila officials, Union Parishad chairman /members and local NGO officials.	1. To ensure proper distribution of external relief assistance received from different sources and to monitor relief activities conducted by the Non-Govt organizations	1. Non-Govt organisations like Proshika and Grameen Bank reported that Govt supervision had created considerable amount of problems in rendering their services including delay in decision making, unfair demand and mismanagement.
POST FLOOD : 1. Supervision and monitoring of three rural roads under IFFW programs with CARE assistance The then Upazila Parishad played the role of supervisor and CARE made surprise visits	1. Generated a total 39,700 man days of employment opportunities. Amount of wheat allocated = 113.46 metric ton. Length of road reconstructed = 7.5 Mile. Height raised = 6ft. Width of road = 14 ft.	1. Around 80% of the TGP** considered this program as useful for rural employment generation, while 94% considered that it was not providing them any benefit of transport in the wet season.
2.Conducted test relief work with CARE assistance under its RMP (Rural Maintenance program.)	2. To carry out different rural maintenance program and to generate 1000 man days of employment of the rural poor.	2. 36% of TGP** consider it is not useful for rural maintenance works, 90% consider these programs were not executed properly.

Source : Field survey 1991

** TGP = Target Group Population, for whom such assistance was provided. A sample of 50 such persons were selected at random for interview.

STRENGTH OF BTE FOR FLOOD DISASTER MANAGEMENT :
The potentials /limitations of BTE in terms of providing the specific institutional inputs which are revealed to be necessary to ensure required actions /interventions needed for flood disaster management of the study area (see table 2.27) has been identified in table 3.4 from its nature, functions and roles in 1988 flood as well as from the discussion with the Thana Nirbahi Officer and the local people.

Table 3.4
Strength of BTE for flood disaster management and rural development:

Necessary Specific Institutional Inputs	Strength		Remarks /Cause
	Potentials	Limitations	
1. Structural /legal provision for direct participation of the beneficiary in the planning process.	Nil	Structural	1. Provision for peoples representation in planning has altogether been abandoned resently.
2. Structural /legal provision for integration of mitigation and relief activities with rural development.	Low	Legal	2. Absence of direction for long term integrated planning in the P. C. guide line is responsible for such low performance.
3.Structural /legal capacity to ensure voluntary support of the people in development.	Low	Motivational	3. Lack of proper motivation of the people is responsible for such low performance.
4.Capacity for generation of local fund for less dependence on external assistance for development.	Low	Managerial	4. Lack of accountability of exercising its legal right to build local fund is responsible for such low performance.
5.Canacity to ensure maximum productive use of the available resources.	Low	Managerial	5. Lack of proper accountability to the people is responsible for such low performance.
6. Provision to ensure maximum benefit to the poor out of the development activities.	Low	Structural	6. Absence of proper representation of the poor is responsible for such low performance.
7. Capacity to ensure adequate actions before, during and after the crisis.	Low	Financial /Technical	7. Limitation of financial and technical resources and lack of legal provision is responsible for such low performance.
8. Capacity to interact /co-operate with other organizations in UN and NO.	Moderate	Managerial	8. Identification of areas of cooperation and accountable system of ensuring their execution could ensure better result.

* NIL, LOW and MODERATE potentiality are those where peoples recognition in receiving such are found to be nil, approximately below 25% and 50% respectively.

** STRUCTURAL limitations indicate the limitation of the nature of representation that has been conceived to conduct the function of the institutions. While LEGAL limitations of the constitutionally approved jurisdiction of the institution to conduct the specific function.

3.3 NON-GOVT INSTITUTIONS :

Several Non-govt organizations are working in the locality. This sections has attempted to focus on three major formal institutions of this locality having significant contributions for rural development as well as disaster management. These institutions include Grameen Bank, Proshika and CARE.

3.3.1 GRAMEEN BANK BASAIL (GBB) :

This specialized financial institution originated from the hypothesis, of its proponent **DR. MD. YUNUS, that "if financial resources are made available to the poor at reasonable terms and conditions, they can generate productive self employment without external assistance".**(Hossain, 1988)

Basail branch of Grameen Bank (established in 1980, code no 021-0480) is a major non-govt financial institution in the locality working for economic as well as social development of its target group poor people. It has generated some remarkable ideas /strategies integrated with its development policies to withstand the natural calamities like floods.

NATURE OF OPERATION :
This branch office is the lowest administrative unit of Grameen Bank. About 10 to 15 such branch offices are supervised by an area office located in Tangail. The area manager is the final authority for approval of loans and supervise loan utilization and recovery. The branch office with the supportive guidance and cooperation of the area office, work as the main functional unit of planning, policy formulation and implementation of various economic as well as societal activities. The central office charges 10% interest on the funds it lends to the branch office for disbursement to the borrowers at an annual interest rate of 16%.

FUNCTIONS OF GBB :
The development functions of Grameen Bank are based on its Sixteen Decisions (see annexure 08). Its major functions include :

To provide financial support to the target group rural poor without any collateral for economic as well as social development programs.

To organize its target group people to build up their leadership quality for enhancing overall development.

To enhance self sustaining capabilities of its target group people to take emergency loan without selling or mortgagiug their assets during emergency situation like flood.

NATURE OF OPERATION OF GBB :
Grameen Bank normally provides small amount of individual loans of Tk. 5,000 to its Target Group Members (landless people) without any collateral for immediate use in any productive activity. However, disbursement of loans is not a simple matter. The intending group is first kept under observation for a month to see if the members are conforming to the discipline of the Grameen Bank, and a comprehensive group training programs for a minimum of seven days of continuous instruction is conducted by the bank workers.

Small amount of loan is generally disbursed which conform with the capacity of the borrower. Repayment of this loan is ensured through constant supervision and guidance of their uses. The group, as envisaged by the Grameen Bank, functions as an institution to ensure mutual accountability. The individual is kept in line by a considerable amount of pressure from other members of the group. The existence of the group thus acts as the collateral for the bank loans.

No. of target group (land less) households in the study area to whom Grameen Bank services are made available at present is 240. No of GBB center working at present in the study area is 6. The loan performance of these centers in 1990-91 is shown in Table 3.5

Table 3.5
Loan performance of GBB in the study during 1990-91 :

LOAN CATEGORY			PERFORMANCE IN THE STUDY AREA
General Loans	Disbursement	Amount (in T.) % of total amount	5,14,500 64.2
	Recipient	Number % of total number	131 72.8%
	Use category *		A =109, B =7, C =9, D =5, X =1
House building loans	Disbursement	Amount (in T.) % of total amount	2,65,000 33.1%
	Recipient	Number % of total number	28 15.5%
	Use category *		E = 10, ER = 18
Group Fund loans	Disbursement	Amount (in T.) % of total amount	21,800 2.7%
	Recipient	Number % of total number	21 11.7%
	Use category *		B=1, ER=3, F=8, G=4, M=2, I=3

Source : Field study 1991.
* A = Paddy husking, B = Cow /goat purchasing, C = Poultry raising, D = Shop keeping, ER = Reconstruction of houses, E = Building of houses, F = Capital formation, G = Education, M = Marriage, I = Treatment, X = Others.

ROLES AND RESPONSES OF GBB IN 1988 FLOOD :
The roles and responses of GBB in 1988 flood as it is revealed from the discussion with the Branch Officers as well as from the local people is shown in Table 3.6.

Table 3.6
Roles and responses of GBB in 1988 flood.

Services as reported to be provided by the bank management.	Expected output /purposes	Services as received by the concerned people
PRE-FLOOD : 1. Provided information regarding the coming danger.	1. To help people in taking preparatory measures	1. 100% of TGP** recognized receiving such services, 94% of which consider it was useful to them.
DURING FLOOD : 1. Provided counselling on different emergency issues. Entire bank employees were working with the distressed people for 24 hours.	1. To assist the masses to withstand the hazards of flood with courage.	1. 82% of the TGP** recognized receiving such assistance. 92% of which consider it was useful.
2. Arranged preventive medical services like distribution of water purifying tablets etc among the distressed people.	2. To prevent out break of flood born diseases.	2. 86% of the TGP and 8% of the GP* recognized receiving such assistance of which only 20% of the recipients consider the assistance was enough to mach their demand.
3. Arranged two speed boats for transportation of distressed people.	3. To provide free transport services to the people.	3. 100% of the TGP** and 33% of the GP* recognized receiving such assistance.
4. Distributed wheat as loan (it was received by the bank as foreign donation) among target group people. Repayment of the cost of this wheat accumulated in the Group Funds of the members.	4. To assist the distressed people not to sell or mortgage household goods because of flood. Total wheat disbursed =1000kg. No of recipient=200.	4. 80% of the TGP** recognized receiving such assistance. However, 100% of them reported that the assistance was not enough to mach their demand. While 60% reported that they did not sold or mortgaged any assets because of flood.
POST FLOOD : 1. Provided loan from group funds to the members at the rate of T. 5000 each.	1. To enable its members to reconstruct their damaged houses. Total loan disbursed 10,00,00 T. No. of recipient = 200.	1. 100% of TGP** recognited receiving such loans. All of them reported that the assistance was beneficial to them.
2. Taking the lessons of flood this bank had introduced the concept of RCC columns for reconstruction of houses.	2. To enable the members building flood resilient houses. Total no. of columns distributed = 800.	2. 100% of the TGP** recognized receiving such materials.

Source : Field survey 1991
* GP = General Population, a sample of 50 such people was selected at random for interview.
** TGP = Target Group Population. A sample of 50 such persons were selected at random for interview.

STRENGTH OF GBB FOR FLOOD DISASTER MANAGEMENT :
The potentials /limitations of GBB in terms of providing the Specific Institutional Inputs which are revealed to be necessary to ensure the required actions /interventions needed for flood disaster management of the study area (see table 2.27) has been identified in Table 3.7 from its nature, functions and roles in 1988 flood as well as from the discussion with the Branch Officers and the local people.

Table 3.7
Strength of GBB in flood disaster management and rural development.

NECESSARY SPECIFIC INSTITUTIONAL INPUTS	STRENGTH		REMARKS /CAUSES
	POTENTIALS	LIMITATIONS	
1. Structural /legal provision for direct participation of the beneficiary in planning.	High	Legal	1. Beneficiary of GBB represents only the rural poor people.
2. Structural /legal provision for interaction of mitigation and relief activities with rural development.	High	Legal	2. Because of its target group wise approach,its planning is concerned mainly with the development of the poor.
3. Structural /legal capacity to ensure voluntary support of the people in DM and RD.	High	Motivational	3. Because existing societal system people outside the target group were found to be reluctant to its development activities.
4. Capacity for generation of local fund for less dependence on external assistance for development.	Moderate	Legal	4. GBB can't generate fund from public taxes /rates /fees etc.
5. Capacity to ensure maximum productive use of the available resources.	High	Legal	5. Because of its target group wise approach its planning for productive use of resources covers only the resources of the poor.
6. Provision to ensure maximum benefit to the poor out of the development activities.	High	Legal	6. Has generated excellent mechanism of providing benefit to the poor out of the development activities.
7. Capacity to ensure adequate actions before, during and after the crisis like flood.	Moderate	Legal	7. Legal provision of necessary support from Govt organization could ensure better result.
8. Capacity to interact /cooperate with other organizations in all stages of DM and RD.	Low	Legal	8. Identification of areas of cooperation and legal provision for their implementation could ensure better result.

* LOW, MODERATE and HIGH potentiality are those where peoples recognition in receiving such inputs are found to be approximately below 25%, 50% and above 50% respectively.

** LEGAL limitations of the constitutionally approved jurisdiction of the institution to conduct the specific function.

3.3.2 PROSHIKA MANABIK UNNAYAN KENDRA BASAIL (PKB) :

After the liberation of Bangladesh some of the young officials of CUOS (Canadian University Overseas Services) organized themselves to start PROSHIKA (Prashikhan Shikhaya O Kaj-Manabik Unnayan Kendra). However, because of ideological differences among its founder members, the organization was divided into two separate organizations namely Comilla Prashika and Dhaka Prashika. The later PROSHIKA has a wide network of Socio-economic development and disaster mitigation activities in the study area.

The organizational hierarchy of Proshika (see annexure 09) reveals that the Area Co-ordination Office (Also known as Area Development Center, ADC) situated in Basail is responsible for planning, implementation and monitoring of all motivational, financial and technical assistance program of Proshika in the study area.

NATURE OF OPERATION OF PKB :
The area development center conducts planning and implementation of different development program through the understanding of the needs and aspiration of the target group(Landless) people and ensure their participation at various levels of planning. In fact, the ADC basically provide guidance and technical support for planning and the actual plans are made by the grassroots level development societies. However ADC monitors the implementation of development works. Evaluation of development activities at the ADC level is conducted by the central coordination office in Dhaka through the zonal coordination office (at Shakhipur).

Structural aspect of Proshika reveals that it has successfully developed a mechanism for:

1) Popular participation of the people concerned at the planning process.

2) Provision of technical support at the grassroots level to assist the people for making their plans.

Before entering into a village for its operation the local Proshika office follows the following procedures :

1) Conducts an intensive survey of the locality to understand the socio-economic conditions of the people.

2) Selects possible members among the target group people.

3) Provides training to four elected members on the strategy for development and organization building.

4) Evaluates the reports submitted by the said trained members and organize different society for actual development.

5) Organize Union Samannaya (Union coordination body) with different Gram Samannaya members and Thana Samannaya (Thana coordination) with Union Samannaya members to guide and encourage the activities of different development societies sponsored by Proshika.

FUNCTIONS OF PKB :

Proshika is presently involved with multifarious development activities including enhancement of economic, social, cultural managerial and organizational capacity of its target group people (landless and near landless people). All these functions are planned, implemented, monitored and evaluated through motivational as well as financial and technical assistance program at the grassroots level round the year.

The motivational component include:

a) Direct contact with the people.
b) Arrangement for popular theater.

Financial assistance component include:

a) Revolving loan provision for creation of income generation through self employment activity.

b) Social development program like shrinking of tube well, improvement of sanitary condition, establishment of educational buildings etc.

Technical assistance component include:

a) Human development through both formal and informal ways.

b) Skill development through both formal and informal ways.

ROLES AND RESPONSES OF PKB IN 1988 FLOOD :

In principle PKB do not consider the vulnerability of the rural poor caused by disasters like flood as a separate phenomenon from poverty and inequality. As such, it has concentrated its efforts for poverty alleviation and creation of access for the rural poor to means of development.

However, during 1988 flood it has widely participated in all the phases of that disaster. The performance of Proshika during the flood of 1988 in the study area is presented in Table 3.8 :

Table 3.8
Roles and responses of PIB in 1988 flood.

Services as reported to be provided by the Proshika local management	Expected output /goals	Services as reported to be received by the people concerned.
PRE-FLOOD :		
1. Arranged pre-disaster awareness raising campaign.	1. To help people in taking preparatory measures and to generate confidence to overcome disaster.	1. TGP** recognition = 98% GP* recognition = 23%.
DURING FLOOD :		
1. Provided counselling on different energency issues.	1. To provide confidence for facing challenge of the danger.	1. TGP** recognition = 100% GP recognition = 21%.
2. Distribution of emergency medicine among all the distressed people of the locality.	2. To prevent outbreak of flood born diseases.	2. TGP** recognition = 80% GP* recognition = 18%
3. Arrangement for transportation of distressed people and their belongings.	3. To provide free transport services to the people.	3. TGP** recognition = 54% GP* recognition = 12%.
4. Distribution of energency relief goods like wheat, cloths etc. in the presence of union chairman and members.	4. To help the most distressed section of the population with energency day to day necessity.	4. TGP** recognition = 52% GP* recognition = 8%.
POST FLOOD :		
1. Reconstruction of houses for the target group people.	1. No. of peoples served in the study area=180. Total cost = T. 720,000.	1. TGP** recognition = 100%
2. Provision of seed, fertilizer and monetary assistance for recultivation among the target group as well as general people.	2. To keep rural production line alive and thus prevent the possibility of famine and minimize the losses of crop harvest. No of people served =108	2. TGP recognition = 70% GP* recognition = 6%.
3. Provision of different income generating projects among the target group people.	3. To generate employment opportunities. No of people served = 108	3. TGP** recognition = 88%.
4. Social forestry campaign through voluntary participation of the target group people.	4. To save the earthen rural roads from the hazards of future floods.	4. TGP recognition = 82%

Source : Field survey 1991

* GP = General Population, a sample of 50 such people was selected at random for interview.

** TGP = Target Group Population. A sample of 50 such persons were selected at random for interview.

STRENGTH OF PKB FOR FLOOD DISASTER MANAGEMENT :
The potentials /limitations of PKB in terms of providing the Specific Institutional Inputs which are revealed to be necessary to ensure the required actions /interventions needed for flood disaster management of the study area (see table 2.27) has been identified in Table 3.9 from its nature, functions and roles in 1988 flood as well as from the discussion with the Branch Officers and the local people.

Table 3.9
Strength of PKB in flood disaster management and rural development.

NECESSARY SPECIFIC INSTITUTIONAL INPUTS	STRENGTH		REMARKS /CAUSES
	POTENTIALS	LIMITATIONS	
1. Structural legal provision for direct participation of the beneficiary in planning.	High	Legal	1. Beneficiary of PKB represents only the rural poor people.
2. Structural /legal provision for integration of mitigation and relief activities with rural development.	High	Legal	2. Because of its target group wise approach,its planning is concerned mainly with the development of the poor.
3. Structural /legal capacity to ensure voluntary support of the people in DM and RD activities.	High	Motivational	3. Because existing societal system people outside the target group were found to be reluctant to its development activities.
4. Capacity for generation of local fund for less dependence on external assistance for development.	Moderate	Legal	4. PKB can't generate fund from public taxes /rates /fees etc.
5. Capacity to ensure maximum productive use of the available resources.	High	Legal	5. Because of its target group wise approach its planning for productive use of resources covers only the resources of the poor.
6. Provision to ensure maximum benefit to the poor out of the development activities.	High	Legal	6. Has generated excellent mechanism of providing benefit to the poor out of the development activities.
7. Capacity to ensure adequate actions before, during and after the crisis like flood.	Moderate	Legal	7. Legal provision of necessary support from Govt organization could ensure better result.
8. Capacity to interact /cooperate with other organizations in all stages of DM and RD.	Low	Legal	8. Identification of areas of cooperation and legal provision for their implementation could ensure better result.

* LOW, MODERATE and HIGH potentiality are those where peoples recognition in receiving such inputs are found to be approximately below 25%, 50% and above 50% respectively.

** LEGAL limitations of the constitutionally approved jurisdiction of the institution to conduct the specific function.

3.3.3 CARE BANGLADESH TANGAIL (CBT) :

CARE (Center for American Relief Everywhere) is the world's largest private, non-sectarian and non-profit motivated relief and development agency, functioning in Bangladesh since 1955. After signing an operational agreement in 1974, it is working on infrastructure building, income generation, health improvement and more recently in disaster preparedness activities.

CARE functions through a central Office in Dhaka and 13 sub offices, 3 project offices and 2 field offices around the country employing 1500 national and 19 international staff members. Functional/ personnel organogram of CARE as of April 15, 1992 (see annexure 10) reveals:

1. It has no grassroots level establishment for planning and implementation of varions development project. Rather it operates indirectly through Local Govt Union Parishads and Upazila Parishads.

2. The snb offices situated at different old Zila HQ's are the lower level offices responsible for providing technical assistance and conducts monitoring and evaluation for one or two Zila (old).

NATURE OF OPERATION OF CBT :
"CARE schemes represents about 30% of the local Govt. council's (ie. Union Parishad) non-recurrent expenditures. It plays no direct role in implementing IFFW roads or bridge schemes and maintains no food stocks of its own. Rather it channels US Govt PL-480 Title-II wheat and Title -III commodity sale proceeds through the central Govt which then charges local councils with responsibility for scheme design, planning, monitoring and implementation. CARE staffs continnally monitor pay rates, actually paid to laborers for earth work projects. Councils not paying laborers adequate pay rates are penalized. And their future TITLE-II allocations cnt." (CARE, 1992)

CARE's role in RMP is to monitor field operations and keep the govt and donors apprised of the status of all aspects of the project. It works closely with the GOB and CIDA to ensure project operations run as smoothly as possible and that disruptions and problems are minimized.

As part of the projects continual evolution, considerable restructuring of the concept of development was undertaken after the flood of 1988. It has now connoted development as "not merely improvement of physical infrastructure, but also, far more importantly, the self sustaining strengthening of local institutions in long range development planning". (CARE, 1992)

FUNCTIONS OF CBT :
The function of CARE-Tangail at Kanchanpur is currently comprises of the following two projects :

IFFW : Integrated Food For Works.
RMP : Rural Maintenances Program.

IFFW PROJECT : It aims to respond to the poorly suited rural transport network and the inter related problem of providing conduits for social services and rural unemployment through:

a) funding reconstruction and maintenance of nearly 9 miles of damaged rural roads yearly in 22 villages of Kanchanpur.

b) providing nearly 2 small bridges yearly on such roads.

c) Generating upto 9700 man days of fully paid employment between December-April of the year.

RMP PROJECT : It employees 52 destitues (it refers to female heads of households who are divorced, widowed, abandoned or abandoned with dependent and no other means of financial support except mauual labor) women to maintain 52 miles of farm to market places rural earthen roads of Kanchanpur.Each women gets 31.25 Kg of wheat each month. It aims to address two significant problems of the locality:

a) Lack of year round maintenance of farm to market earthen roads.

b) Lack of employment opportunities for female heads of households.

ROLES AND RESPONSES OF CBT IN 1988 FLOOD :
CARE is not a grassroots level organization, it operates at the study area from its area office situated at Tangail around 12 km away from the area. Before 1988 flood, CARE was not sufficiently prepared for dealing with disaster like flood. However, IFFW and RMP are now seen as post disaster rehabilitation program.During 1988 flood, CBT has actively participated in disaster mitigation activities like distribution of relief material in the study area through its area office at Tangail. After the devastating floods of 1987 and 1988, CARE-Bangladesh has organized its Disaster Management Cell in the following manner:

a) "DISASTER UNIT' at head office in Dhaka.

b) "REGIONAL DISASTER COMMITTEE" at each region. Tangail region is monitored by Tangail Office. Our study area at Kanchanpur is under the jurisdiction of this regional office.

c) "LOCAL DISASTER COMMITTEE" Comprising personnel from each sub office.

The disaster operation of CARE reveals the following points:

a) CARE assisted projects has successfully ensured a large number of employment opportunities for rural poor through rural road constructions and maintenance for the rural poor over the year.

b) If CARE assisted rural roads are planned and implemented properly, as CARE has now ready to connote not merely improvement of physical infrastructure but also for more self sustaining of local institutions, aizable amount of resources, hither to used in road construction, could be made available in income generating project through self employment. As such, CARE assisted projects can be useful in enhancing the capabilities of the rural poor to withstand the economic vulnerability caused by the flood.

STRENGTH OF CBT FOR FLOOD DISASTER MANAGEMENT :

The potentials /limitations of CBT in terms of providing the Specific Institutional Inputs which are revealed to be necessary to ensure the required actions /interventions needed for flood disaster management of the study area (see table 2.27) has been identified in Table 3.10 from its nature, functions and roles in 1988 flood as well as from the discussion with the officials of the Area Office at Tangail and the local people.

Table 3.10
Strength of CNT in flood disaster management and rural development.

NECESSARY SPECIFIC INSTITUTIONAL INPUTS	STRENGTH		REMARKS /CAUSES
	POTENTIALS	LIMITATIONS	
1. Structural legal provision for direct participation of the beneficiary in the planning process.	Low	Structural	1. Although participation of the people representative in the planning of CARE assisted project exist, none of the existing representative belong to the majority poor.
2. Structural /legal provision for integration of mitigation and relief activities with rural development.	Moderate	Legal	2. Although it has successfully generated some idea of such integration, there is a need for more integration of disaster management with rural development.
3. Structural /legal capacity to ensure voluntary support of the people in different distal management activities.	Nil	Legal	3. CARE assisted projects represents paid development activities directly or indirectly.
4. Capacity for generation of local fund and less dependence on external assistance for development.	Low	Legal	4. Such idea of generation of local fund has been provided by its VGDP project. But people has doubt about its success.
5. Capacity to ensure maximum productive use of the available resources.	Nil	Legal	5. Resources at present are mainly used for creation of employment for day labor. It could be more efficiently used for generation of employment.
6. Provision to ensure maximum benefit to the poor out of the development activities.	Moderate	Legal	6. Through the more productive use of rescouses the poor could be more benefitted.
7. Capacity to ensure adequate actions before, during and after the crisis like flood.	Low	Structural	7. Absence of field level planning and proper representation of the beneficiary is responsible for such low performance.
8. Capacity to interact /co-operate with other development organizations in all stages of disaster management and rural development.	Moderate	Legal	8. Identification of areas of cooperation and legal provision for their implementation could ensure better result.

* NIL, LOW and MODERATE potentiality are those where peoples recognition in receiving such are found to be nil. approximately below 25% and 50% respectively.

** STRUCTURAL limitations indicate the limitation of the nature of representation that has been conceived to conduct the function of the institutions. While LEGAL limitations of the constitutionally approved jurisdiction of the institution to conduct the specific function.

3.4 LOCAL INFORMAL INSTITUTION (LII) :

Several informal institutions had contributed in different ways during the flood of 1988. A brief inventory of these institutions along with their activities, assets, roles /responses at 1988 flood and their potentials are presented categorically according to their functional nature in annexure 11. Following understanding are reached from the said inventory :

a) Most of the educational and religious institutions, being small in size and situated in the low land areas were totally inundated by flood. As a result, although these institutions are basically public places, they could not contribute as a place of refuse during disaster period. However, it is understood that if the premises of these institutions are raised above the flood level and are managed properly they can contribute significantly as places for flood time refuse for man, material and livestock.

b) Socio-cultural organization such as clubs etc are basically spontaneous in nature with respect to their responses in disaster mitigation. The members of these institutions are reported to be acted as volunteers to assist the distressed people in different way during the disaster period. However, the way of their activities were largely uncoordinated and sporadic.

c) Socio-economic organizations like Proshika Samities and Grameen Bank Centers had ensured assistance to their target group rural people during different phases of flood, side by side with their all time efforts for quantitative development of living conditions of those people for enhancing self sustaining capabilities against the vulnerability of flood.

d) The existing market places namely Hatkhola Hat and Karmakarpara Hat are playing a vital role in the rural life of the study area. Both the places are occupying big chunks of public land and are situated in two different center points of the locality. If the premises is raised properly and equipped with necessary facilities, these places might be most convenient for safe refuse of distressed people and their belongings as well as a center for emergency mitigation operation during disaster.

STRENGTH OF LII FOR FLOOD DISASTER MANAGEMENT :
The potentials /limitations of LII in terms of providing the Specific Institutional Inputs which are revealed to be necessary to ensure the required actions /interventions needed for flood disaster management of the study area (see table 2.27) has been identified in Table 3.11 from its nature, functions and roles in 1988 flood as well as from the discussion with the local people.

Table 3.11
Strength of LII in flood disaster management and rural development.

NECESSARY SPECIFIC INSTITUTIONAL INPUTS	STRENGTH		REMARKS /CAUSES
	POTENTIALS	LIMITATIONS	
1. Structural legal provision for direct participation of the beneficiary in the planning process.	Nil	Legal	1. Normally it provides voluntary services to the poor according to its own choice and understanding of the need of the beneficiary.
2. Structural /legal provision for integration of mitigation and relief activitics with rural development.	Nil	Legal	2. Because of the informal and temporary structure of these institutions it could only conduct temporary services.
3. Structural /legal capacity to ensure voluntary support of the people in different development activities.	High	Legal	3. It has high potential of attracting voluntary report but it is not recognized and exploited properly.
4. Capacity for generation of local fund for less dependence on external assistance for development.	Low	Legal	4. Generation of fund for voluntary mitigation activities depend on the good will of the donor people.
5. Capacity to ensure maximum productive use of the available resources.	Nil	Legal	5. Resources are normally used for relief and mitigation purposes.

6. Provision to ensure maximum benefit to the poor out of the development activities.	Modera te	Manager ial	6. Because of lock of accountability there are scope of misappropriation of fund generated mainly for the benefits of the poor.
7. Capacity to ensure adequate actions before, during and after the crisis like flood.	Modera te	Financi al /Techni cal	7. Availability of more resources and an accountable system of their productive use could ensure better result.
8. Capacity to interact /co-operate with other development organizations in all stages of disaster management and rural development.	Nil	Legal	8. Recognition of these institutions as partners of development and identification of areas of co-operation could ensure better result.

* NIL, LOW, MODERATE and HIGH potentiality are those where peoples recognition in receiving such are found to be nil, approximately below 25%, 50% and above 50% respectively.
** LEGAL limitations of the constitutionally approved jurisdiction of the institution to conduct the specific function.

3.5 **SUMMARY :**

The findings of this chapter are summarized as follows :

a) Govt authorities (both KUP and BTE) working in the locality are maintaining a large establishment to carry out overall development of the region. However, except flood time relief operations, post disaster IFFW , VGDP or RMP works it has failed to design appropriate strategies to address the need of the poorest segment of the population who are highly vulnerable to natural disaster like flood.

Nou-govt organizations like PKB and GBB, on the other hand, have demonstrated a successful mechanism for providing a comprehensive package of financial, technical and motivational support to the

Target Group Population for qualitative development of their living conditions and thus reducing their vulnerability to disaster like flood.

b) There is a gulf of difference between the services that has been provided by the govt organizations to the target group population during flood disaster of 1988 , and the services that has been actually received by the concerned population.

However, in case of non govt organizations, this difference is very much nominal. As such, it can be concluded that the non govt organizations have responded more effectively in terms of output /end result of their activities concerned with flood disaster management.

c) The existing local govt mechanism has made provisions for democratic representation at the lowest vertical level (ie. Union level). However, because of the existing societal system (governed by illiteracy, status-quo and distorted power structure) the lowest vertical level is found to be misrepresented by the rural elite class, as a result it could not guarantee mass peoples participation because the areas of interest of the poor and the elite class is totally different and divergent in nature.

On the other hand, the Non-Govt organization have evolved a participatory alternative development strategy for those rural poor.

d) In case of Govt organization, provision for making plans at the lowest vertical level (ie. at the Union level) is ensured by law. But the actual authority of approval of those plans are made at the disposal of the Thana (Upazila); which has created scopes for bureaucratic conflicts, mismanagement and underhand dealings, even during the emergency situation like flood of 1988.

However, in case of Non-Govt organization like GBB and PKB existence of such a situation is beyond question, because the development plans are made and implemented solely by the people themselves under the supportive guidance of these organizations.

e) Although empowered by law UP Chairman and Members are found to be reluctant to levy taxes for the purpose of creating local funds for meeting the challenges of emergencies like floods of 1988. Because it may antagonize the voters. As such, Govt organizations are fully dependent on central Govt allocation for its development plans.

While Non-Govt organization like GBB and PKB through creation of group funds , have successfully enhanced the capabilities of the target group poor to withstand the emergency situation like floods of 1988.

CHAPTER : FOUR

INSTITUTIONALIZATION OF FLOOD DISASTER MANAGEMENT NEEDS AND PEOPLES CHOICE : POTENTIALS AND LIMITATIONS

4.1 POTENTIALS /LIMITATIONS OF LOCAL INSTITUTIONS TO ENSURE THE REQUIRED ACTIONS /INTERVENTIONS NEEDED FOR DM AND RD OF THE LOCALITY :

The actions /interventions which are revealed to be required for flood disaster management of the locality (see Table 2.26) deserve certain Specific Institutional Inputs (see Table 2.27) from the concerned local institutions. The efficiency or strength (ie. the potential /limitations) of the local institutions to ensure those actions /interventions depends solely on how far they can provide such inputs.

An assessment of the potentials /limitations of all the local institutions against those Actions /Interventions and their corresponding required Specific Institutional Inputs are presented in annexure-12. It is important here to note that the potentials /limitations of the local institutions (ie. KUP, BTE, GBB, PKB, CBT and LII) in providing the Specific Institutional inputs are identified in Table 3.2, 3.4, 3.7, 3.9, 3.10 & 3.11 respectively.

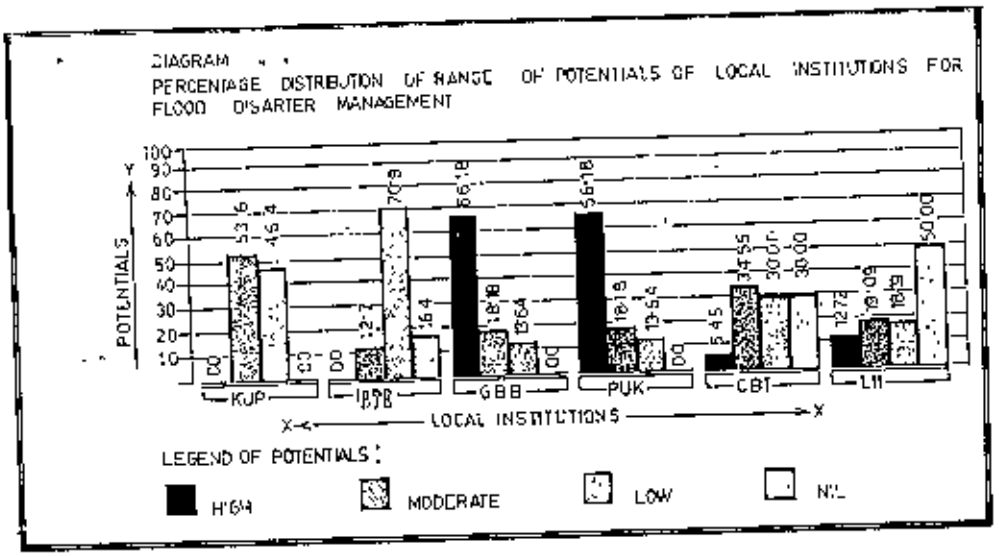
The summarized results of those potentials /limitations are presented in Table 4.1, by arithmetically counting their frequency of occerance.

Table : 4.1
Summary of potentials /limitations of local institutions to ensure necessary actions /interventions for disaster management.

Potentials /limitations		Local Institutions					
		KUP	BTE	GBB	PKB	CBT	LII
Potentials	High	--	--	75	75	06	14
	Moderate	59	14	20	20	38	21
	Low	41	78	15	15	33	20
	Nil	--	18	--	--	33	55
Limitations	Structural	18	33	--	--	18	00
	Legal	27	09	95	95	86	89
	Financial /Technical	06	06	--	--	--	06
	Managerial	44	47	--	--	06	15
	Motivational	15	15	15	15	--	--

CONCLUSIONS:

a) **POTENTIALS** : From the summarised potentials of the local level institutions to ensure the required actions for flood disaster management, the percentage distribution of different categories of such potentials has been shown in Diagram 4.1. Which reveals that :



01. Govt Institutions like KUP and BTE has no high potentiality. KUP has some moderate potentiality, it is very low in case of BTE.

02. Non-govt organizations like PKB and GBB has very high as well as a sizeable amount of moderate potentiality.

03. CBT has equal amount of both moderate and low potentiality.

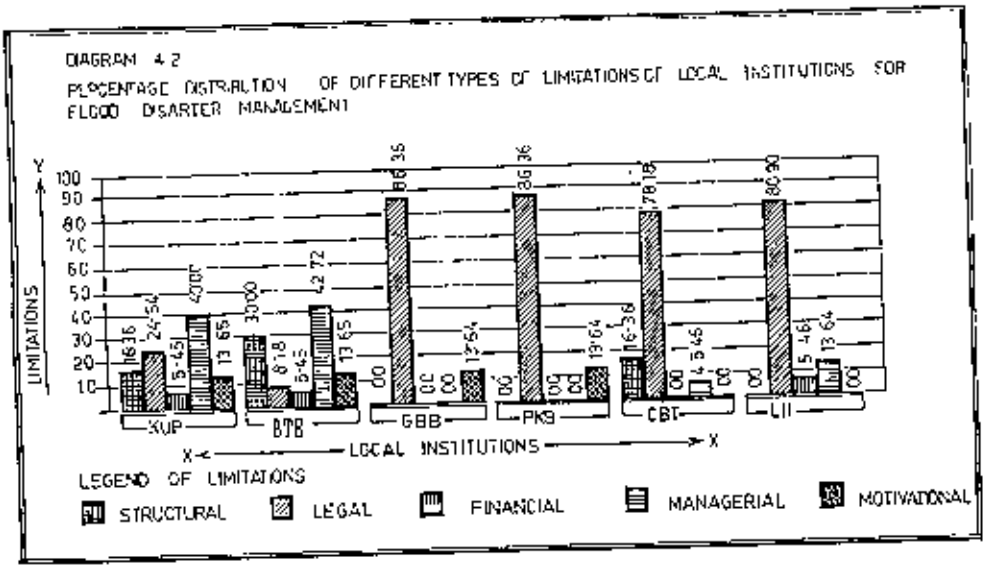
04. LII has very amount of low potentiality.

b) **LIMITATIONS** : From the summarised limitations of the local level institutions to ensure the required actions /interventions for flood disaster management, the percentage distribution of different categories of such limitations has been shown in Diagram 4.2. Which reveals that:

01. Govt institutions like KUP and BTE has sizeable amount of managerial problems. Legal and structural problems in case of KUP and structural problem in case of BTE is also notable.

02. Non-govt institutions like PKB and GBB has very high legal limitations while their motivational limitation is also notable. The limited functional jurisdiction of these organizations to work with the poor people only is responsible for such performance.

03. CBT has very high level of legal limitations with considerable amount of structural limitations. Constitutionaly approved functional jurisdiction of CARE is responsible for such performance.



04. LII has no structural limitations, they have considerable amount of managerial limitations. It indicates that LII has no representational problem but it has problems of co-ordination and management.

4.2 PEOPLES CHOICE ON THE REQUIRED INSTITUTIONAL ASPECTS FOR FLOOD DISASTER MANAGEMENT :

The results of the field survey regarding peoples choice on the required nature of the institutions for flood disaster management is shown in Table 4.2

Table 4.2

Peoples choice on required aspects of the institution needed for flood disaster management.

Institutional aspect		Land Category									
		Below 50		51 - 250		251 - 500		501 - High		Total	
		Case	%	Case	%	Case	%	Case	%	Case	%
Management System be Changed or not	Yes	58	85.3	82	87.2	24	85.7	8	80	172	86
	No	8	11.8	12	12.8	4	14.3	2	20	26	13
	No response	2	2.94	-	-	-	-	-	-	2	1
Nature of representation needed	By target group wise election	66	97.1	80	85.1	24	85.7	2	20	172	86
	By present type of election	-	-	-	-	-	-	8	80	8	4
	No response	2	2.94	14	14.9	4	14.3	-	-	20	10
Nature of access to development.	More emphasis to the poor	46	67.7	50	53.2	22	78.6	2	20	120	60
	Equal emphasis for all	10	14.7	16	17	4	14.3	2	20	32	16
	No response	12	17.7	28	29.8	2	7.14	6	60	48	24
Criteria of giving leadership	Quality plus concent	18	26.5	24	25.5	10	35.7	-	-	52	26
	Only quality	10	14.7	12	12.8	8	28.6	4	40	34	17
	No response	40	58.8	58	61.7	10	35.7	6	60	114	57
Way of performance apprisal and decision making	Through open discussion	44	64.7	72	76.6	24	85.7	10	100	150	75
	Through choice of the authority	6	8.82	2	2.12	-	-	-	-	8	4
	No response	18	26.5	20	21.3	4	14.3	-	-	42	21
Way of development management	Choice of the authority	2	2.94	6	6.4	2	7.14	-	-	10	5
	Participation of the beneficiary	48	70.6	70	74.5	20	71.4	10	100	148	74
	No response	18	26.5	18	19.2	6	21.4	-	-	42	21
Extent of work to be done by the Institution	All dev. works	44	64.7	62	65.9	24	85.7	8	80	138	69
	Only disaster management works	6	8.82	4	4.3	-	-	-	-	10	5
	No response	18	26.5	22	29.8	4	14.3	2	20	52	26
Nature of remuneration for the representatives	With pay	4	5.88	6	6.4	2	7.14	-	-	12	6
	Without pay	16	23.5	24	25.5	-	-	-	-	40	20
	Part pay	4	5.88	2	2.12	4	14.3	-	-	10	5
	No response	44	64.7	62	65.9	22	78.6	10	100	138	69

Source : Field Survey 1991.

Table 4.2 demonstrate that more than 85% of all respondents have favoured changes on existing management system, more than 97% consider that the possible committee for disaster management be elected, over 67% of the respondents consider that the possible institution should ensure more development opportunity for the poor.

Regarding the requirement of becoming the members of the management committee, the study reveals that more than 58.82% could not answer while among the respondents 26% favoured quality as the basis, but 17% consider that membership should consider both quality and consent of the people.

Regarding the way of decision making and accountability majority 75% consider arrangement of regular open discussion be the basis of decision making and performance appraisal.

Regarding the type of the management committee 74% respondent consider that combined management would give better yield, while only 5% consider one man management would be fruitful.

Regarding the extent of work to be done by the committee, 69% of the respondents, consider that the committee should perform all development works while only 5% of the respondents consider that it should concentrate on only disaster mitigation works.

Regarding the nature of remuneration of the committee members most of the respondents are not found to be well articulate to answer. However, among the respondents 20% informed that all the members should serve on voluntarily for the cause of development of their locality.

CONCLUSIONS :

From the above study it can be concluded that in order to match with the choice of the majority people the local institutions has to conform the following necessary institutional aspects :

1. Provision for target group wise representation of the people in disaster management and rural development.

2. Provision for more opportunity of development of the poor.

3. Provision for open discussion regarding decision and account of the development works.

4. Provision for combined management of development works with the participation of the beneficiary.

5. Provision for legal authority of the local institution to conduct all development works including disaster management and rural development.

6. Arrangement to ensure voluntary leadership of the people.

4.3 POTENTIALS /LIMITATIONS OF LOCAL INSTITUTIONS TO ENSURE THE REQUIRED INSTITUTIONAL ASPECTS FOR ACCOMMODATING THE PEOPLES CHOICE :

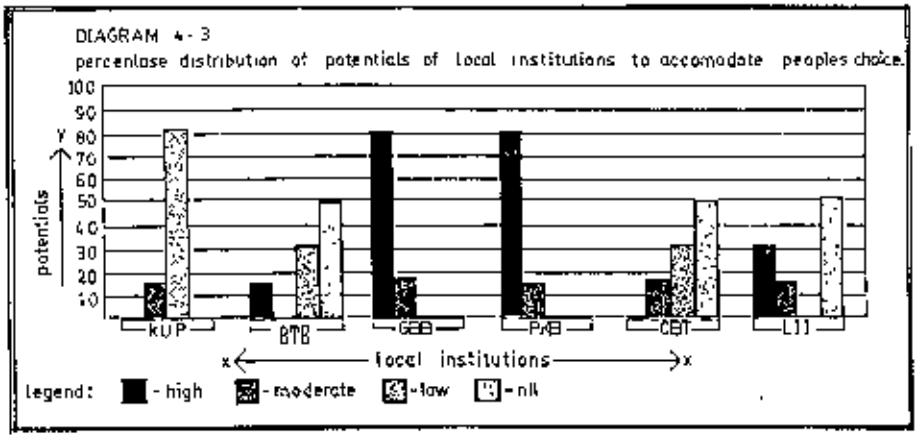
From the existing organizational structure, nature of operation and functional boundary of the local institutions, the range of potentials and the nature of limitation of these institution to accommodate the choice of the people on different necessary institutional aspects has been presented in annexure-13 and its summary in table 4.3

Table 4.3
Summary of potentials /limitations of the local institutions to ensure people choice.

Potentials /Limitations		Local Institutions					
		KVP	BTB	GBB	PBB	CBT	LII
Potentials	High	0	1	5	5	0	2
	Moderate	1	0	1	1	1	1
	Low	5	2	0	0	2	0
	Nil	0	3	0	0	3	3
Limitations	Structural	3	3	0	0	3	0
	Legal	1	0	5	5	3	5
	Financial/Technical	0	1	0	0	0	0
	Managerial	1	1	0	0	0	1
	Motivational	1	1	1	1	0	0

CONCLUSION :

a) POTENTIALS : From the summarised potentials of the local institutions to accommodate the peoples choices on necessary institutional aspects for flood disaster management, the percentage distribution of different categories of these potentials has been shown in diagram 4.3. Which reveals that:



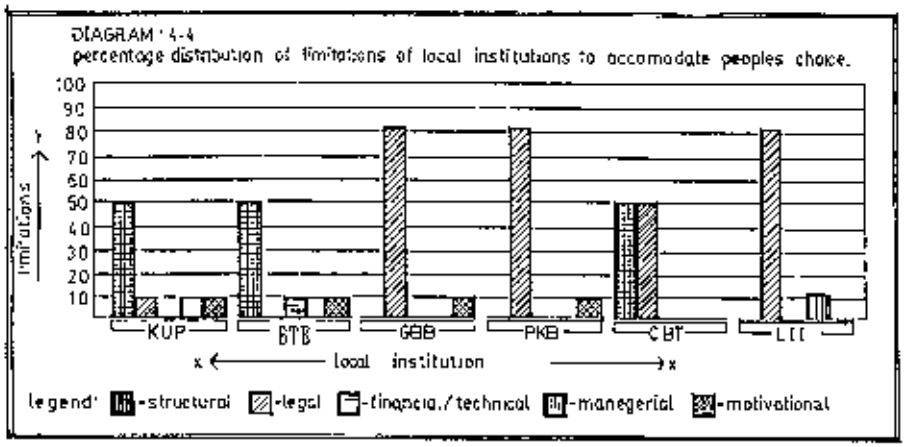
01. In case of Govt. organisation like KUP percentage of low potentials is higher. It has also sizable amount of moderate potentials while in case of BTE percentage of more existence of potentiality to accommodate peoples choice is highest.

02. In case of non-govt. organisation like PKB and GBB both has potentiality to accommodate peoples choices and has also sizeable amount of moderate potentiality.

03. In case of Care percentage of non-existence of any potentiality to accommodate peoples choice is the highest whereas it has considerable amount low & moderate potentiality.

04. In case of local informal institutions percentage of non-existence of any potentialities accommodate people choice occupies the highest position how ever it has considerable amount of high and moderate potentiality as well.

b) LIMITATIONS : From the summarised limitations of the local institutions to accommodate the peoples choices on necessary institutional aspects for flood disaster management, the percentage distribution of different categories of these limitations has been shown in diagram 4.4 Which reveals that:



01. In case of govt-organisations like KUP and BTE has major limitations in this structure how ever KUP has considerable amount of legal, managerial and motivational limitations while in case of BTE other limitations include financial, managerial & motivational.

02. In case of non-govt. organisations like PKB and GBB, legal problem appears as the main limitation while both has considerable amount of motivational problem.

03. Care has equal amount of both structural & legal problems.

04. In case of local informal institutions legal limitations is the major barriers. How ever it has considerable amount of managerial problems.

CHAPTER : FIVE

RECOMMENDATIONS AND CONCLUSIONS

5.1 GENERAL FINDINGS AND RECOMMENDATION :

Study on the flood context of Bangladesh in general as well as the study on the socio-economic condition of the people of the study area, their vulnerabilities and responses to flood and choices for the required institution leads to the following generalized recommendations :

01. Flood is a natural phenomenon in Bangladesh. People are very much accustomed to it. They have age old rich tradition of cooping with the floods. However there is a need for co-ordination and internalization of those cooping capabilities.

02. Flood (both regular and severe) causes long lasting damage to the quality of life of the people and increases all kinds of vulnerabilities. However,there are scope of augmenting the capacity of the people to withstand the hazards of flood at the local level.

03. Flood disaster management is a responsibility of more than the emergency agencies. There is a need for integration and co-ordination of all management activities being conducted by different development agencies.

4. There is a need for reorganization of the structural, legal, financial, managerial and motivational responsibilities of the local govt institutions to make them more responsive to flood.

5. There is a need for appreciation and expansion of the roles of non-govt organizations like GBB and PKB in disaster management and rural development activities.

6. There is a need for more productive use of the resources available from CARE for rural development and disaster management.

7. There is a need for re-organization and encouragement of the roles of local Informal Institutions in DM and RD.

5.2 SPECIFIC RECOMMENDATIONS :

The nature of actions /interventions required as well as the peoples choice on the possible nature of the institution needed for DM and RD leads to the following specific recommendations including Recommended Responsibilities and Recommended Institutional Arrangements :

5.2.1 RECOMMENDED RESPONSIBILITIES OF THE MODEL INSTITUTION :

01. Should ensure structural /legal provisions for proper representation of the people according to the target group in its planning process .

02. Should be capable in structural, legal, financial and technical terms to integrate DM and RD for the purpose of reduction of vulnerability of the people caused by flood. This will include:

a) Integration of disaster relief and mitigation measures to increase the self sustaining capability of the poor against the vulnerability of flood.
b) Integration of other rural development activities with the objective of increasing the capability of the people in general to mitigate the vulnerability of flood.

03. Should be capable in structural, legal, managerial, financial terms to assess the need of the people and to adopt adequate action during different phases of disaster giving proper respect to the inherent strength the people. This will include :

Disaster Management Responsibilities	
Pre Disaster Phase	Collection and dissemination of information regarding the coming danger in qualitative terms like probable height of flood, duration of flood etc. As such, it should have legal access to the concerned government office for collection of information and have managerial capacity to disseminate the gathered informal timely.
	Quick assessment of the possible losses and impacts of flood on man and material.
	Formulation of possible disaster mitigation measures (DMM) needed to withstand the flood vulnerability of the people giving priority to the poor and due respect to inherent strength of the society demonstrated in the past during crisis.

During Disaster Phase		Monitoring of the planned DMM and adoption of required changes.
Post Disaster Phase		Evaluation of the measures adopted for flood mitigation with provision for accountability of the people.
		Assessment of the damage caused by the flood within shortest possible time after the flood.
		Formulation of possible measures and policies for rehabilitation of damages caused by flood giving priority to the poor.
		Execution and monitoring of rehabilitation measures.
		Evaluation of rehabilitation measures with provision for accountability to the people.

04. Should be capable in structural as well as legal terms to ensure maximum voluntary support of the people. It will include :

a) Voluntary participation of the people at different phases of disaster management --ie. disaster information dissemination and disaster mitigation operation.

b) Voluntary participation of the people in other rural development works.

05. Should have the structural, legal, managerial and technical capacity to generate local fund for its rural development as well as disaster mitigation and rehabilitation measures.

06. Should be capable in legal, technical, managerial and financial terms to ensure maximum productive use of the available resources with the objective of increasing the self sustaining capability of the people in general and the poor in particular against the vulnerability of flood.

07. Should have the legal, technical and managerial capacity to interact /coordinate with other institutions involved in disaster management and rural development activities of the locality.

5.2.2 RECOMMENDED INSTITUTIONAL ARRANGEMENT :

The existing level of potentials and limitations of the local institutions to ensure the required disaster management actions /intervention as well as peoples choice leads to recommend the following institutional arrangement, composed of five component :

RECOMMENDED INSTITUTIONAL ARRANGEMENT	
COMPONENT : 01 Reorganization /establishment of the grassroots level govt organization engaged in DM and RD. ALTERNATIVE : ONE Reorganization of Union Parishad. ALTERNATIVE : TWO Establishment of village Parishad ALTERNATIVE : THREE Establishment of an organization which will be composed of alternative-one and alternative-two.	Legal provision for target group wise representation of the people in planning and implementation of disaster management and rural development activities. Ratio of such representation be fixed after practical experiment through some pilot projects. Provision for open discussion with the people on all development issues. Provision for accountability to the people. Legal authority and managerial capacity of planning and implementation of all development activities including disaster management. Legal authority to generate local fund for disaster management and rural development.

COMPONENT : 02 Reorganization of the Thana to make it an apex authority of coordination and evaluation of the technical/ financial support provided by the Govt to the local Union Parishad and other development authorities engaged in for DM and RD		Identification of areas of co-operation co-ordination and support to be made available to the local development authorities for DM and RD.
		Provision for inclusion of Union Parishad members, representatives from non-govt organizations and high govt officials of the Thana in the decision makings process. The ratio could be fixed after experiment with some pilot projects.
		Provision for accountability to the people as well as to the govt for its performance.

COMPONENT : 03 Expansion of GBB and PKB to cover all the people and all the development works for creation of more local fund, more development works and more employment opportunities for the poor.		Identification /formulation of areas and policies of participation of the people other than the target group, so that such participation would ensure overall development of the locality and more employment opportunities for the target group local poor people.
		Identification of areas and nature of cooperation /support from the local coordinating authority (ie. the Thana Parishad)

COMPONENT : 04 Redefinition of areas of participation of CARE to ensure maximum productive use of the resources made available through it for rural development and disaster management purposes.		Identification of policies for more productive use of its resources. It will depend on the results of some experimental pilot projects.
		Identification of ways and means of participation of the local people /representatives in the planning and implementation of its activities at the grassroots level. It will depend on the results of some experimental pilot projects.
		Identification of ways and means of accountability to the local people. It will depend on the results of some experimental pilot projects.

COMPONENT : 05 Recognition /encouragement /internalization of voluntary activities for rural development and disaster management by the Local Informal Institutions.		Identification of the nature of recognition /encouragement /internalization needed for making these Institutions more proactive towards rural development and disaster management activities. Identification of the level of involvement of these institutions for rural development and disaster management activities.

5.3 CONCLUSIONS :

Vulnerabilities of the people of rural Bangladesh caused by flood is mainly a function of rural poverty. Disaster management, therefore, could not be segregated from rural development activities. Rural development without the popular participation of the people, on the other hand, would be meaningless. Most of the rural people of Bangladesh are poor, employment opportunities for those people are very much limited, resource distribution is also skewed to a number of rural elite. Gainful employment opportunities for the poor, in this circumstances, could strengthen their self sustaining capability against the vulnerability of foods.

The success of local level institution engaged in disaster management and rural development, therefore, depends on how best it can accommodate the majority peoples choice and their participation for the purpose of improvement of the quality of life of those people.

This research has identified some Model Responsibilities of the local level institution and have suggested an Institutional Arrangement at this end. Such responsibilities and the arrangement are, however, based on the findings of the study conducted on a regularly flooded rural region of Bangladesh. As such, the recommendations presented here are not something concrete, rather, they are contextual. The ultimate results will depend on some experimental pilot projects.

ANNEXURE : 01

THE ELEVEN GUIDING PRINCIPLES OF FLOOD ACTION PLAN

1. Phased implementation of a comprehensive Flood Plan aimed at:
- protection of urban, rural, commercial, industrial and public utility centres and communication networks;
- controlled flooding, wherever possible and appropriate, to meet the needs of agriculture, fisheries, navigation, urban flushing, soil productivity and recharging the surface water/ groundwater resource with minimum dislocation of the environment.

2. Effective land and water management of protected and unprotected areas, involving compartmentalisation, drainage, irrigation, drainage decongestion, land use, cropping patterns, environment, ecology, erosion/ sedimentation control, etc.

3. Strengthening and equipping the disaster management machinery including building infrastructure for quick and effective communication and transmission during disasters.

4. Improvement of the flood forecasting system and establishment of a reliable and comprehensive flood warning system with adequate lead times and at the same time evolving techniques for dissemination.

5. Safe conveyance of the large cross-boundary flow to the Bay of Bengal by channelling it through the major rivers with the help of embankments on both sides.

6. Effective river training works for the protection of embankments, infrastructure and population centres, linked wherever possible with the reclamation of land in the active river flood plain.

7. Reduction or distribution of load on the main rivers through diversion of flows into major distributaries or interception of local runoff/ local rivers by channelling through major tributaries or special diversions.

8. Improvement of the conveyance capacity of the river networks to ensure efficient drainage through appropriate channel improvements and ancillary structures to provide regulation and conservation.

9. Development of flood plain zoning as a flexible instrument to accommodate necessary engineering measures and allocate space for habitation patterns, economic activities and environmental assets.

10. Coordinated planning and construction of all rural roads, highways and railway embankments with provision for unimpeded drainage.

11. Encouraging maximum possible popular participation by beneficiaries in the planning, implementation, operation and maintenance of flood protection infrastructure and facilities.

ANNEXURE : 02

FAP components & implementation status upto september,1992.

FAP NO	COMPONENTS	COST (Lakh US $) FA	COST (Lakh US $) GOB	CONSULTANTS Appointed	CONSULTANTS Fielded	REPORTS Inception	REPORTS Interim	REPORTS Final
1	Brahmaputra Rt. Embankment Strengthening	32.88	1.18	■	■	■	■	□
2	North West Regional Study	44.72	2.42	■	■	■	■	□
3	North Central Regional Study	22.49	2.04	■	■	■	■	■
3.1	Jamalpur Priority Project	18.45	0.25	■	■	■	■	□
4	South West Area Water Management Study	38.36	1.53	■	■	■	■	□
5	South East Regional Study	22.00	1.30	■	■	■	■	□
6	North East Regional Study	132.51	0.29	■	■	■	□	□
7	Cyclone Protection Study	15.21	-	■	■	■	■	■
8A	Greater Dhaka Protection Projec	29.69	2.06	■	■	■	■	■
8B	Dhaka Integrated Town Protection Project	5.72	0.64	■	■	■	■	■
9A	Six Towns Protection Project	5.50	0.59	■	■	■	■	■
9B	Meghna LB Protection Project	6.08	-	■	■	■	■	■
10	Flood Forecasting and Early Warning	58.99	18.21	■	■	□	□	□
11	Disaster Preparedness	10.71*	-	■	■	■	□	□
12	FCD/I Agricultural Review	15.88	0.27	■	■	■	■	■
13	O & M Study	4.91	0.26	■	■	■	■	■
14	Flood Response Study	8.22	1.21	■	■	■	■	□
15	Land Acquisition and Resettlement Study	4.03	0.28	■	■	■	■	■
16	Environmental Study	13.37	0.82	■	■	■	■	□
17	Fisheries Study & Pilot Project	30.04	2.69	■	■	□	□	□
18	Tooographic Mapping	58.01	1.55	■	■	□	□	□
19	Geographic Information System	17.03	1.69	■	■	■	□	□
20	Compartmentalisation Pilot Project	94.38	20.04	■	■	■	□	□
21/22	Bank Protection , River Training and AFPM Pilot Project	411.76	8.60	■	■	■	□	□
23	Flood Proofing Pilot Project	2.60	0.10	■	■	■	■	□
24	River Survey Programme	104.17	13.26	■	■	■	□	□
25	Flood Modelling/ Management Project	25.75	1.61	■	■	■	■	□
26	Institutional Development Project	34.45*	7.20**	■	■	□	□	□

** This is a project to strengthen the Co-ordinating and monitoring capability of the Ministry of Relief.*

*** Only FPCO TAPP portion. Consultant appointed for Need Assessment Survey who submitted report in June, 1992*

ANNEXURE : 03
SAMPLE QUESTIONNAIRE ON

INSTITUTIONAL DEVELOPMENT PROGRAM FOR FLOOD DISASTER MANAGEMENT AND RURAL DEVELOPMENT IN BANGLADESH.

Location: Kanchanpur, Basail, Tangail, Bangladesh.

(All the information provided here would be used for the purpose of this research only and be kept secret.)

NAME OF THE SURVEYOR : ..... DATE .....

a) NAME OF THE RESPONDENT :.....

b) VILLAGE /PARA :..... 5-7

SOCIO ECONOMIC CONDITION OF THE HOUSEHOLDS :

01. Information of the household members on age, sex, education and professional position.

Serial		1	2	3	4	5	6	7	8	9	10	
Age												8-27
Sex												28-37
Education												38-47
Vocation 1	Type											48-57
	Period											58-77
	Location											8-27
Vocation 2	Type											28-37
	Period											38-57
	Location											58-67

AGE : Write in years. SEX : Male - 1, Female - 2. EDUCATION : Illiterate -1, Can read and write-2, Primary -3, S.S.C -4, H.S.C -5, Bachlor's -6, Master's-7 No response -9. VOCATION TYPE : Own farming -1, Own farm + Day labor -2, Only day labor -3, Service -4, Independent vocation -5, Household jobs -6, Student -7, Jobless -8, No response -9. VOCATION PERIOD Write in months. VOCATION LOCATION : Within village -1, Within Upazila -2, Within Zila -3, Within Country-4, Beyond Country -5.

02. INFORMATION REGARDING THE OWNERSHIP OF LAND :

a) Agricultural and Non-Agricultural Land:

AGRICULTURAL LAND		
OWN FARMING	LEASE TO	LEASE FROM

66 – 71 72 – 75 76 – 79

NON - AGRICULTURAL LAND				
HOMESTEAD	WATER BODY	VEGETABLE	WOOD	VACANT

8 – 11 12 – 14 15 – 17 18 – 20 21 – 23

b) Amount of land where irrigation is available :

24 – 27

03. INFORMATION ON PRODUCTION, INCOME AND EXPENDITURE :

a) Agricultural production :

Crop	Land area	Production cost	Production price	Income

28 – 31 32 – 36 37 – 41 42 – 46

CROP TYPE : 1 = Cereal, 2 = Non-cereal, 3 = Vegetables, 4 = Oil seeds, 5 = Others.

b) Problems of agri-productions :
Problem of irrigation -1, Problem of seed -2, Problem of fertilizer -3, Problem of insecticide -4, Problem of capital -5, Land is low -6, Soil in not good -7, Others .....8, No response -9.

47 – 51

c) Fisheries production :

PRODUCTION TYPE	AREA			PRODUCTION AMOUNT			PRODUCTION COST			PRODUCTION PRICE			INCOME				
OWN																	52 – 67
LEASE																	8 – 23
CANAL/ RIVER																	24 – 39

d) Problems of fisheries production :

Lack of quality fish-seed -1, Problem of capital -2, Problem of know-how -3, Fish are washed away by flood -4, Other.....5, No response -9.

				40 – 43

e) Poultry and livestock production :

TYPE OF LIVESTOCK	ON		SALE VALUE				
BUFFALO							44 – 49
CATTLE							50 – 55
GOAT							56 – 61
SHEEP							62 – 67
CHICKEN							68 – 73
DUCK							74 – 79

f) Problems of poultry and livestock production :

Problem of grazing land -1, Problem of food -2, Problem of capital -3,
Pro of treatment -4, Problem of good quality cattle, chicks, duck etc -5,
Others.....6, No response -9.

g) Organizations contributing for development of Agri-crop, Fisheries and Livestock production:

Grameen Bank -01, Krishi bank -02, Other banks -03, BRDB -04, NGO's -05, Upaziala Agri-office -06, Upazila Fisheries office -07, Upazia Livestock office 08, Other..... - 11, No response -9.

												8 – 19

5) Annual income and expenditure :

Nature of income:

SOURCE	INCOME					
AGRI- CROP						20 - 24
FISHERIES						25 - 29
LIVESTOCK						30 - 34
INDIVIDUAL OCCUPATION						35 - 39
SERVICES						40 - 44
BUSINESS						45 - 49
FROM LEASE LAND						50 - 54
DAY LABOUR						55 - 59
OTHERS						60 - 64

Nature of expenditure:

TYPES	EXPENDITURE					
RICE						65 - 69
WHEAT						70 - 74
VEGETABLE						75 - 79
SPICES						08 - 12
KEROSIN						13 - 17
ELECTRICITY						18 - 22
CLOTH						23 - 27
EDUCATION						28 - 32
TREATMENT						33 - 37
OTHER						38 - 42

04. INFORMATION REGARDING THE HOMESTEAD :

a) Construction Material :

COMPONENT	HOUSE - 1	HOUSE - 2	HOUSE - 3	HOUSE - 4	
ROOF					43 - 46
WALL					47 - 50
FLOOD					51 - 54
DOOR /WINDOW					55 - 58
COLUMN					59 - 62

Chan or Khari -1, Tin -2, Bamboo -3, Wood -4, Mud -5, RCC or CC -6,
Straw -7, Other.....8, No response -9.

b) Total area of the house :

63 - 66

c) Total cost of the house :

67 - 72

d) Total height of the homestead :

73 - 74

05. INFORMATION REGARDING WATER SANITATION AND HEALTH :

a) Source of drinking water:
Own tubewell -1, Other's tubewells -2, Own pond - 3, Other's pond - 4, River /Canal -5, Kua - 6,
Others.....-7, No response - 9.

75 - 77

b) Source of washing water :
Own tubewell -1, Other's tubewells -2, Own pond - 3, Other's pond - 4, River /Canal -5, Kua - 6,
Others.....-7, No response - 9.

8 - 10

c) Condition of sanitation :
Own permanent toilet -1, Own temporary toilet -2, No specific arrangement -3, No response -9. 14

11 - 13

d) Nature of common diseases :
Fever -1, Influenza -2, Decentry -3, Caugh and cold -4, Cholera-5, Diabetics -6, Animia -7,
Other.....8, No response -9.

[ ][ ][ ][ ] 14 17

e) Places of treatment :
Local Imam -1, Village Kabiraz -2, Homeopathic Doctor -3, Local Health Center -4, Upazila Health Complex-5, Zila Health Center -6, Capital -7, Other.....-8, No response -9.

[ ][ ][ ][ ] 18 21

FLOOD CONTEXT OF THE STUDY AREA :

01. Why does flood occur in this area ?

[ ][ ][ ] 22 24

Low land - 1, Breaching of embankment -3, Flow of water from other areas -4, others -5, No response -9.

02. What is the intensity of flood in this area ?
More than one in a year -1,
Once in a years -2, Once in
few years -3, No response -9. [ ][ ] 25-26

03. a) What was the height and duration of regular flood ?

Height in feets [ ][ ] 27-28 [ ][ ][ ] 29-31 Duration in days

b) What was the height and duration of 1988 flood ?

Hight in feets [ ][ ] 32-33 [ ][ ][ ] 34-36 During in days

c) What was the height of danger level ? Hight in feet [ ] 37

04. a) How do you get the news of imminent flood ?
From other people -1.
Radio / TV -2, News paper -3,
Hat - bazar -4,
Union chairman /members -5, [ ][ ][ ] 38-40
Upzila office -6, Other..... -7, No response -9

05. What steps you were taken to face the coming flood ?

[| |] 41-43

Paddy husking -1,
Sending of goods to safer place -3, Other..... -4, No response -9

06. a) Where your homestead was affected or not ?

Yes -1, No -2 [ ] 44

b) Whether you vacated your house or not ? ,
Vacated the house -1,
Did not vacated the house -2. [ ] 45

c) For how many days you vacated your house ?

[| |] 46-48

(d) Where did you go after vacating the house ?
Relatives house in the village -1,
Relative's house outline village -2, [| |] 49-51
Taken shelter on high rise house -3,
Under the open sky -4, School /Madrasha -5, Other..... -6, No response -9.

e) What materials were used to make the temporary shelters ?
Chan -1, khar -2, Bamboo -3, wood -4, other..... -5, No response -9.

[| |] 52-54

f) What was the locality of temporary shelter after vacating the house ?
Within village -1, Within Union -2,
Within Upzila -3, Others.....-4 [ ] 55
No response -9.

g) What goods were taken together while vacating the house ?

[| | | |] 56-60

h) What goods were left out while vacating the house ?

[| | | |] 61-65

Homestead -1, Clothing/Bedding -2, Cattle -3, Rice -4, Chick and Ducks -4, Furniture -6,
Other.....-7, No response -9

i) How did you reach the new shelter ?
By boat -1, By vela, On foot -3, Bullock cost -4, Thela - 5, Cycle -6, Rickshaw -7,
Others.....-8, No response -9. [| |] 66—68

j) Have you received any assistance while vacating the house ?
Yes -1, No -2,

[ ]69

k) If yes, from whom did you get assistance ?
Relatives -1, volunters of the village -2 Govt. employes -3, Outsiders -4, Neighbor -5, Others.....-6, No response -9

[ ][ ][ ]70-72

l) If yes, what assistance you received ?
Loading and unloading of goods -1, Transport of goods-2, Councelling -3, Materials for new shelter -4, Cash help/loan -5, Others..... -6, No response -9.

[ ][ ][ ]73-75

m) What were the means for cooking in the new shelter ?
Together with relatives -1, Separate cooking with relatives oven -2, Cooking with the self made oven -3, Cooking with others oven -4, cooked food were served -5, Use to take pressed or fried rice -6, others..... -7, No response -9.

[ ][ ][ ]8-10

n) What type of food were generally used during flood ?
Rice -1, Bread -2, Pressed or fried rice -3, Others..... -4, No response -9.

[ ][ ][ ][ ]11-14

o) How much food was available everyday ?
Once in a day -1, Tow times -2, Starving off and on -3, No response -9

[ ][ ]15-16

p) What was the arrangement for sleeping ?
With relatives -1, Women with relatives and others in new shelter -3, Did not leave the house -4, Other..... -5, No response -9.

[ ][ ]17-18

q) What was the arrangement for drinking water ?
Together with the relatives -1, Nearby tubewell -2, Boiled flood water -3, Flood water by mixing with purifying tablets -2, Raw flood water -5, Others..... -6, No response -9.

[ ][ ]19--20

r) What was the arrangement for sanitation ?
Together with the relatives -1, Own seperate arrangment -2, No seperate arrangement -3, Other..... -4, No response -9,

[ ][ ]21-22

s) What was the major sources of expenditure during flood ?
From family savings -1, From stored rice and paddy -2, with the help of the relatives -3, Borrowing from relatives -4, By selling or mortgaging the ornaments -5, By selling or mortgaging cattle -6, By selling/ Mortgaging land -7, Source of income was not influenced by flood -8, No response -9,

[ ][ ][ ]23-25

t) Type of assistance you received during the flood of 1988 :

TYPE OF ASSISTANCE	RECEIVED FROM	
Loding unloading goods		26-30
Transport		31-35
Financila loan help		36-40
Langarhana		41-45
Food loan		46-50
Medcial support		51-55
Clothing		56-60
Fuel/Fire wood		61-65
Advice/counselling		66-70
Safety/Security		71-75
Salter		8-12
Storage of goods		13-17
Food for work		18-22

Relatives -1, Neighbour-2, Union Parishad -3, Thana (Upazila) parishad -4, NGO -5, Local volunters -6, Others.....-7, No response -9.

u) What were the alternative employment you tried for during the flood ?
Fishing -1, Rikshow pulling -2, Boat riding -3, Cutting and selling of wood -4, Day labour -5, Other.....-6, No response -9.

[ ][ ][ ] 23-25

v) Locality of alternative employment :

[ ] 26

Within Upazila -1, Outside Upazila -2, Outside Zila -3, Within Zila -4, Others.....-5, No response -9,

w) Whether you sold or mortgaged any asset during afeter flood ?
Yes -1, No -2,

[ ] 27

07. a) What kinds of goods you sold or mortgaged for flood ?

Mortgaged	Sold
[ ][ ][ ][ ]	[ ][ ][ ][ ]
28-31	32-35

Land -1, Ornament -2, Cattle -3, Chicks and Ducks -4, Others -5, No response -9

b] Reasons why you sold or mortgaged ?

[ ][ ][ ] 36-38

For collections of food -1, Reconstuction of house -2, Others -6, No response -9.

c] Whom you sold or mortgaged ?

[ ][ ][ ][ ] 39-42 [ ][ ][ ][ ] 43-46

Mortgaged Sold

Grameen Mohajan -1, Banks -2, Neighbor -3, Relatives -4, Others -5, No response -9,

d] Did you get the mortgaged goods back in time ?

Yes -1, No -2 [ ] 47

e] Did you get proper value of the sold goods ?

Yes -1, No -2, [ ] 48

08. Describe the damage caused by flood

	Normal Flood	Description of damage	Flood '88	
49-53		Damage of stored crops		54-58
59-63		Damage of standing crops		64-68
69-73		Damage of homestead		74-78
8- 12		Damage og acquaculture		13-17
17-22		Damage of lovestock		23-27
28-32		Damage of poultry		33-37
38-42		Damage of plant		43-47
48-52		Damage due to unemployeen		53-57

09. (a) Whether you were able to recultivate after flood ?

After normal flood [ ] 58 After '88 flood. [ ] 59

b) What assistance you received after flood ?

Type of help	Received From			
Agricultural loan				60-62
Seeds				63-65
Fertilizer				66-68
Insectisides				69-71
Building materials				72-74
Cash help				75-77
Other loan				8-10
Food for work				11-13

Upazila Parishad -1, Relatives -2, Neighbor -3, Union Parishad -4, NGO -5, Local sanity -6, Others-7, No response -9.

INSTITUTIONAL ASPECT OF FLOOD DISASTER – MANAGEMENT FROM PEOPLES PERSPECTIVE

a) What emergency measures be adopted during flood to assist you

[ ][ ][ ][ ][ ][ ] 14-19

Special flood loan -1, information and counselling -2 Special transport facilities -3, Arrangement of flood for household animals -4, Arrangement of safety of property -5, Arrangement of paper shelter -6, VGDP program -7 other -8, No response -9,

b) What type of organisation can provide that assistance ?

[ ][ ][ ][ ] 20-23

Gram parishad -1, Union parashad -2, Upazila parishad -3, School/Madeasha/Mosque -4 other -5, NGo -6, No response -9

c) What type of shelter could you like to stay during flood?

[ ] 24

Do not like to stay with other -1, with the retative -2, with the neighbor -3, with the village people -4, other -5, Noresponse -9

d) What can be done as flood rehabilitation a measures ?

[ ][ ][ ][ ][ ] 25-29

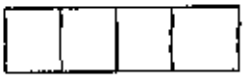
Loan for repairing of house -1, Loan for recuttivation -2, Loan for livestock rehabilitation -3, Loan for poultry rehabilitation -4, creation of employment through FFWP creation of employment through test relief program -6.

e) What steps be taken on long term basis to fac the problem of flood ?


30-34

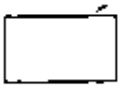
Recrcavatition of revers/canals -1, Elevation of rural roads -2, Flood shelter on elevated land -3, Embankments on two sides of the river -4, Elevation of homestead -5, creation of rural based income generating project -7, Other -8, No response -9,

f) What organisation should distribute govt assistance ?
Gram-parishad with the help of Union parishad or Upazila parishad -1, Union parishad -2, Upzila parishad -3, School/Madrasha/Mosque Committee -4, Local voluntars-5, Others -6, No response -9

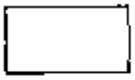

35-38

g) What should be the characteristics of the possible organisation responsible for diaster management ?

Present policy be followed -1, New policy required -2, No response -9


39

The organization be elected -1, The organization would not be elected -2, No response -9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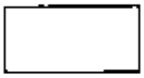
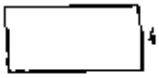
The organization should ensure equal rights to all -1, The organization should encourage special previlege to the poor -2, No response -9


41

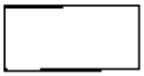
The organization be run by the competent elected persons -1, The organization be run by the elected person -2, No response -9


42

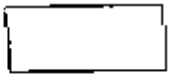
The organization should arrange regular discussion and show its accounts to the people -1, No such arrangement is needed -2, No response -9


43

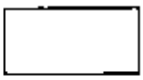
The organization be headed by one man -1, The organisation should ensure peoples participation in management-2, No response -9


44

The organisation be engaged with all the development activities of the locality -1, The organisation be engaged with only the disaster management activities -2, No response -9


45

The management committee should serve voluntarily -1 The management committee should serve with partial remuneration -2. The management committee should serve with full remuneration -3.No response-9.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ANNEXURE : 04

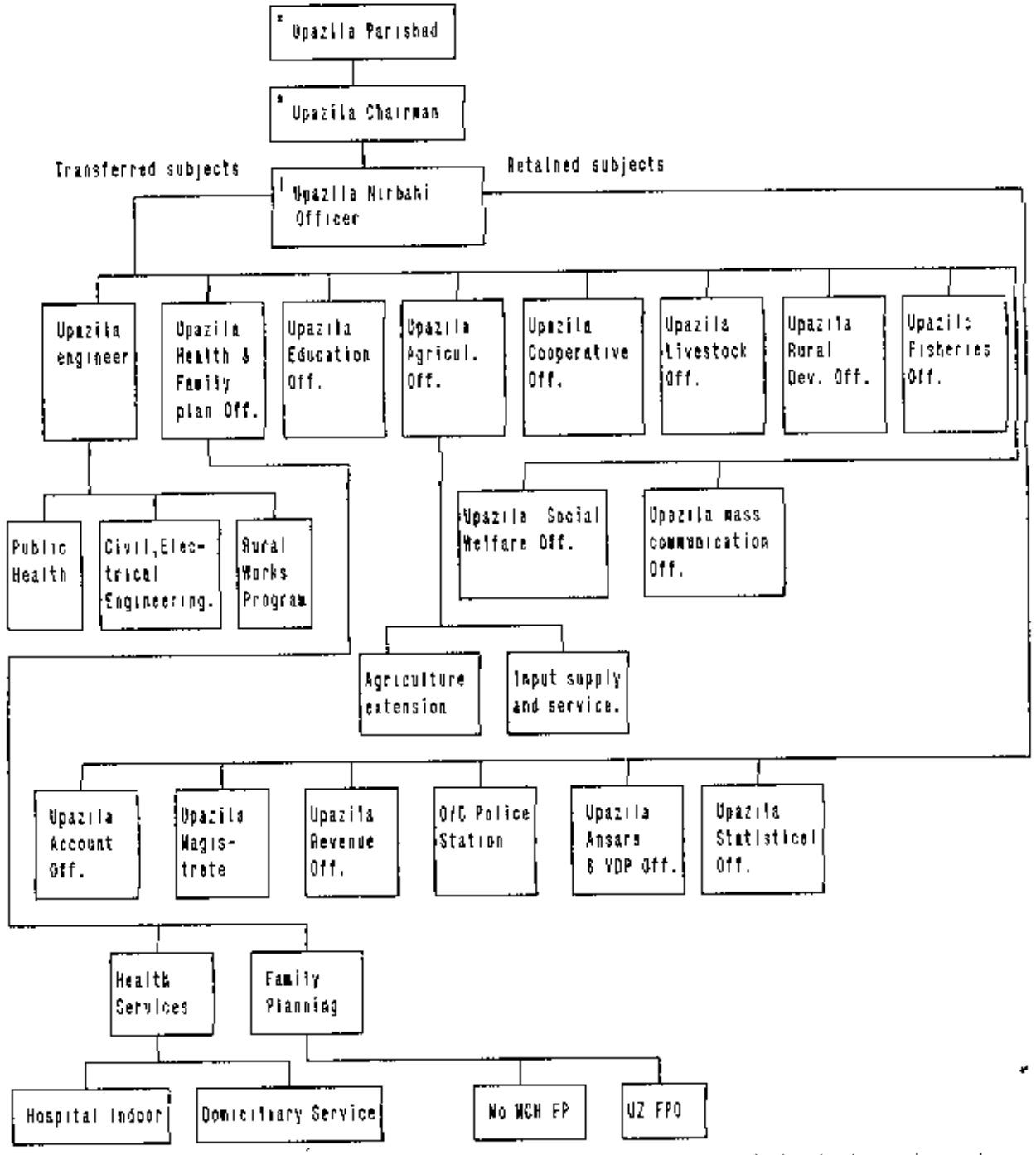
FUNCTIONS OF UNION PAPISHADS

The 1983 Ordinance divides the functions of Union Parishads into five categories; (a) Civic functions (b) Police and defence functions (c) Revenue and general administrative functions (d) Development functions (e) Transferred functions (which may be transferred by the government and the Upazila Parishad). Although the 1983 Ordinance enumerates 38 civic functions for the Union Parishads, it lays down that these shall, in particular, undertake the following ones:

- maintenance of law and order and assistance of administration in the maintenance of law and order;
- adoption of measures for preventing disorder and smuggling;
- adoption and implementation of development schemes in agriculture, forestry, fisheries, animal husbandry, education, health, cottage industries, communication, irrigation and flood protection for the economic and social upliftment of the people;
- promotion of family planning;
- implementation of such development schemes as may be assigned by the Upazila Parishad;
- development of local resources and their use;
- protection and maintenance of public property, such as roads, bridges, canals, embankments, telephones and electricity lines;
- review of the development activities of all agencies at the union level and the making of recommendations to the Upazila Parishad in regard to their activities;
- motivation and persuasion of the people to install sanitary latrines;
- registration of births, deaths, beggars and destitutes;
- conducting of census of all kinds.

ANNEXURE : 05

THANA (UPAZILA) PARISHAD ORGANOGRAM :



* Recently the Govt has abolished the Upazila Parishad and the post of Upazila Chairman. All the departments are at present functioning under the Upazila Nirbahi officer.Upazila Nirbahi officer is now termed as the Thana Nirbahi officer.

ANNEXURE : 06

FANCTIONS OF THANA PARISHADS

	List of Retained Subjects	List of Transferred Subjects
i.	Maintenance of law and order.	Agriculture, including extension services, input supply services and irrigation.
ii.	Civil and Criminal Judiciary	Primary education.
iii.	Administration and management of central revenues like Income Tax, Customs, Excise, Land Development Tax, etc.	Health and family planning including Upazila Health Complexes, MCH and all population control services.
iv.	Maintenance of essential supplies	Rural Water Supply and Sanitation Programme.
v.	Large Scale Industries.	Rural Works Programme.
vi.	Irrigation schemes involving more than one district.	Food for Work Programme.
vii.	Mining and mineral development	Disaster Relief including VGF, IGF, etc.
viii.	Generation and distribution of electric power.	Cooperatives and cooperative based rural development programme.
ix.	Technical education and all other education above primary level.	Fisheries and livestock development.
x.	Modernised district hospitals and hospitals attached to Medical Colleges.	
xi.	Inter-district and inter-Upazila means of communication.	
xii.	Flood control and development of water resources, and	
xiii.	Compilation of national statistics.	

ANNEXURE : 07

P.C. GUIDE LINE:

The amended (1988) sectoral allocation procedure for Upazila annual development program:

Sectors	Previous Allocation		Present Allocation	
	Minimum	Maximum	Minimum	Maximum
A) AGRICULTURE AND IRRIGATION: Intensive cultivation, exhibition khamar, seeds program, excavation and re-excavation of pond, acqualculture schemes, road side afforestation and social forestry, cultivation of vegetables & fruits, development of chicks & ducks, drainage, Irrigation, small scale flood control measures etc.	15%	25%	12%	20%
B) SMALL & COTTAGE INDUSTRY: Workshop of small & cottage industry, development of field training and expansion, income generation activities etc.	5%	10%	5%	10%
C) TRANSPORTATION AND COMMUNICATION: Road construction, rural civil works, construction, reconstruction and development of small bridges & culverts.	17.5%	30%	15%	25%
D) BUILDING CONSTRUCTION AND PHYSICAL PLANNING: Hat & Bazar, Storage facilities, community centre, rural water supply schemes, low cost sanitary facilities etc.	10%	17.5%	10%	17.5%
E) DEVELOPMENT OF EDUCATION: Educational institution, play grounds and educational materials.	5%	12.5%	5%	15%
F) PHYSICAL, MENTAL AND CULTURAL DEVELOPMENT OF CHILDREN.	-	-	7.5%	12.5%
G) HEALTH AND SOCIAL WELFARE: Health, preventive measures, family planning, youth and women welfare activities.	7.5%	15%	5.5%	7.5%
H) SPORTS & CULTURE: Sports games and cultural programs.	2.5%	7.5%	2.5%	5%
I) MISCELLANEOUS: Birth and Death registration post flood disater and rehabilitation program.	2.5%	5%	2,5%	12.5%

ANNEXURE : 08

THE "SIXTEEN DECISIONS" OF GRAMEEN BANK:

1. The four principles of Grameen Bank- discipline, unity, courage, and hard work- we shall follow and advance in all walks of our lives.

2. We shall bring prosperity to our families.

3. We shall not live in dilapidated houses. We shall repair our houses and work towards constructing new houses as soon as possible.

4. We shall grow vegetables all the year round. We shall eat plenty of them and sell the surplus.

5. During the planting seasons, we shall plant as many seedlings as possible.

6. We shall plan to keep our families small. We shall minimize our expenditures. We shall look after our health.

7. We shall educate our children and ensure that they can earn enough to pay for their education.

8. We shall always keep our children and the environment clean.

9. We shall build and use pit latrines.

10. We shall drink tubewell water. If it is not available, we shall boil water or use alum.

11. We shall not take any dowry in our sons' weddings, neither shall we give any dowry in our daughters' weddings. We shall keep the center free from the curse of dowry. We shall not practice child marriage.

12. We shall not inflict any injustice on anyone, neither shall we allow anyone to do so.

13. For higher income we shall collectively undertake bigger investments.

14. We shall always be ready to help each other. If anyone is in difficulty, we shall all help.

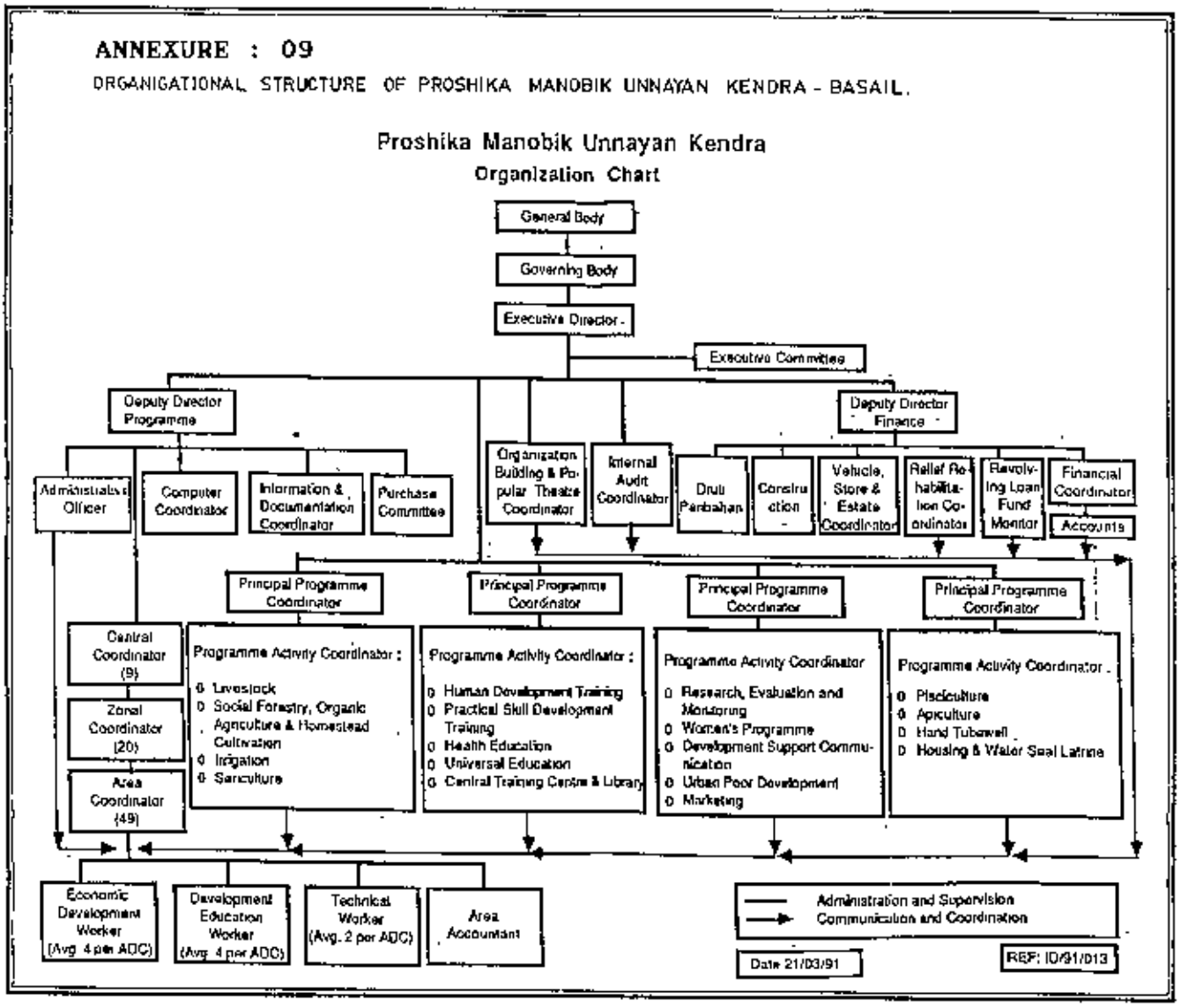
15. If we come to know of any breach of discipline in any center, we shall all go there and help restore discipline.

16. We shall introduce physical exercise in all our centers. We shall take part in all social activities collectively.

Source: Kamal Siddiqui, An Evaluation of the Grameen Bank Operation (Dhaka: National Institution of Local Government, 1984).

ANNEXURE : 09

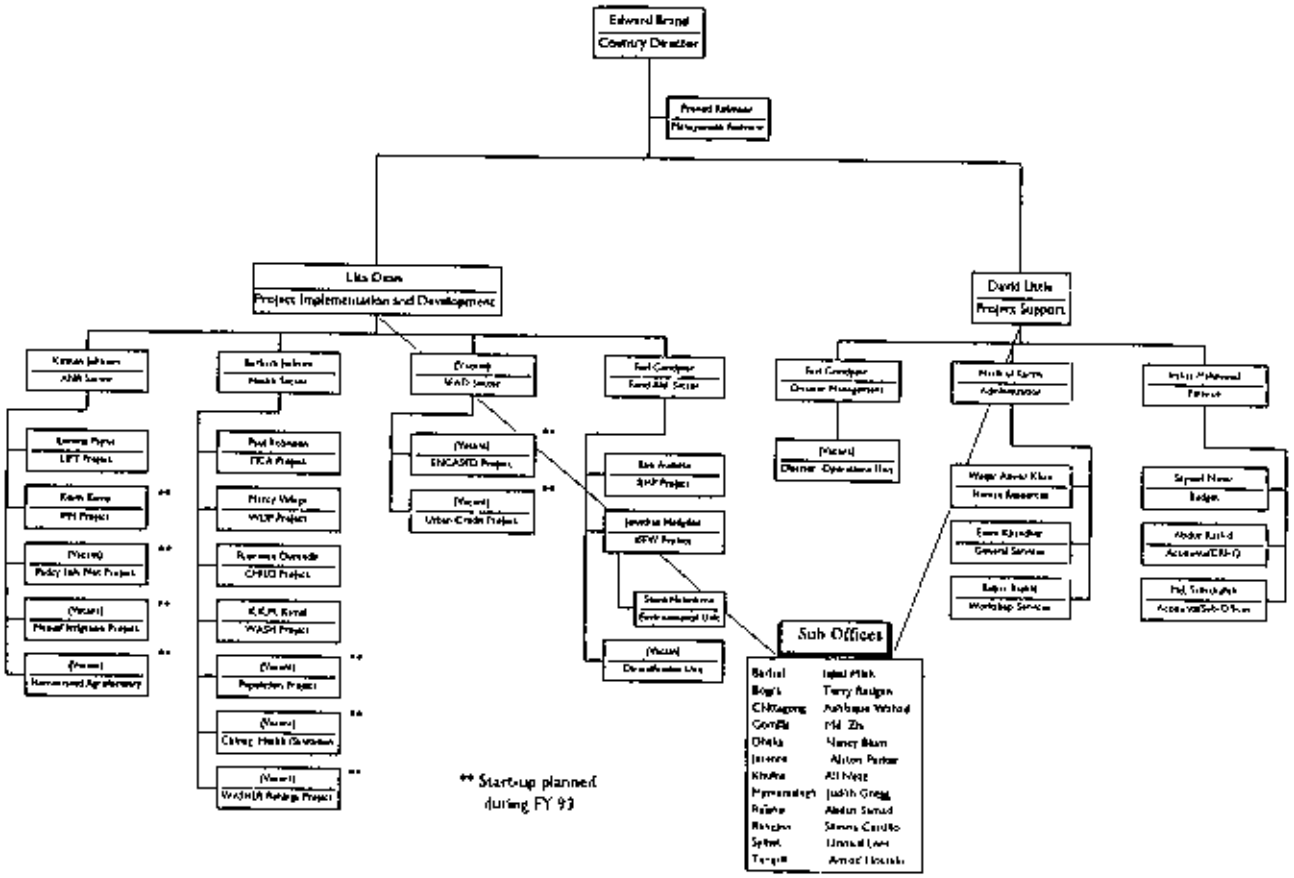
ORGANIGATIONAL STRUCTURE OF PROSHIKA MANOBIK UNNAYAN KENDRA - BASAIL.



ANNEXURE : 10

ORGANIGATIONAL STRUCTURE, CARE BANGLADESH –TANGAIL .

CARE/Bangladesh
April 15, 1992



ANNEXURE : 11

INVENTORY OF LOCAL INSTITUTIONS: ROLES AND RESPONSES FOR FLOOD DISASTER MANAGEMENT

INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
EDUCATIONAL:				
1. Adagan Bishan Mafegia Madrasha	1. Students =60 Teachers=2 Education level: upto Mafegia	1. Land=52 Decimal Built area=320 sft Const. material=Tin	1. Totally inundated by flood. No Tangible role was observed.	1. If the premises is raised with earth filling, it can be turned into a potential area for refuge.
2. Adayan Primary School	2. Students=205, Teachers=5, Education level: upto class V	2. Land=115 Decimal, Built area=450 sft., Const. material=Tin,	2. "	2. "
3. Kanchanpur North Chanka para Mafegia Madrasha	3. Student=91, Teachers=1, Education level: upto Mafegia.	3. Land=56 Decimal, Built area=240 sft., Const. material=Tin.	3. "	3. "
4. Kanchanpur Uttar Chankapara Forkania Madrasha	4. Student=63, Teacher=1, Education level: upto Forkania.	4. "	4. "	4. "
5. Kanchanpur Saknaichar Madhapara Ebtedia Madrasha	5. Student=154, Teachers=4, Education level: upto class V.	5. Land = 40 decimal, Built area=260 sft., Const. material=Tin wood, and Bamboo.	5. "	5. Being situated in the low lying region can not offer much potentiality as a centre for refuge.
6. Kanchanpur Halospara Primary School	6. Student=200, Teacher=5, Education level: upto class V.	6. Land = 25 decimal, Built area=260 sft., Const. material-Tin,	6. "	6. "
7. Kanchanpur Dakhinpara Govt. Primary School.	7. Student=269, Teacher=4, Education level: upto class V.	7. Land = 50 decimal, Built area=500 sft. Const. material = R.C.C.	7. Partialyy inundated. Many people took refuge in the top of the existing build.	7. Highly potential for flood shelter. But the ground level is needed to be raised.
8. Kanchanpur Kazirapara Govt. Primary School.	8. Education level: upto class V, Student=300, Teachers=5	8. Land=70 decimal, Built. area-600 sft., Const. material=Tin	8. Partially inundated. Used as relief distribution centre during Flood.	8. Highly potential for flood shelter if the premises is raised.

INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
9. Kanchanpur Paschimpara Elahia Senior Madrasha.	9. Student=400, Teachers=21, Education level: upto Bachelors	9. Land =100 decimal. Built area=5500 sft., Const. material= Tin, R.C.C.	9. Partially inundated. Used as releif distribution centre during Flood.	9. Highly potential for flood shelter if the premises is raised.
10. Kanchanpur Kazirapara Maktab.	10. Student=50, Teachers=1, Educalion level: upto class V.	10. Land =3 decimal, Built area =250 sft. Const. material=Tin	10. Totally inundated. No tangible role was observed.	10. Negligible potentiality exist.
11. Kanchanpur Karmakarpara Govt. Primary school.	11. Student=375, Teachers=5, Education level: upto class-V.	11. Land=50 decimal, Built. area 800 sft, Const. material= Tin.	11. "	11. "
12. Kanchanpur Dakhinpara Hafegia Koranic Madrasha.	12. Student=20, Teachers=1	12. Land = 8 decimal, Built. area=250 sft. Const. material=Tin	12. "	12. Field observation does not reveal such tangible potentiality of the instt. as a centre for refuge.
13. Kanchanpur Dakhinpara High School	13. Student=300, Teachers=15	13. Land =90 decimal, Built area=1225 sft. Const. material=Tin	13. Partially inundated. Used as releif distribution centre during Flood.	13. Highly potential for flood shelter if the premises is raised.
14. Kanchanpur Dakhinpara Madrasha	14. Student=285, Teachers=5, Education level: upto class V.	14. Land =50 decimal, Built.area=1250 sft. Const. material=Tin, brick & R.C.C.	14. Totally inundated. No tangible role was observed.	14. Field observation does not reveal such tangible potentiality of the instt. as a centre for refuge.
RELIGIOUS:				
1. Adajan Dashimpara Jame-E-Mosque.	1. Islamic worship preaching & education.	1. Land=10 decimal, Built. area=375 sft. Const. material=Tin	1. "	1. Partial potentiality exist.
2. Adajan Dopapara Jame-E-Mosque.	2. Islamic worship preaching & Education.	2. Land=5 decimal, Built. area=200 sft. Const.material= Tin	2. "	2. "
3. Adajan Uttarpara Kali Mandir.	3. Hindu worship & preaching.	3. Land= 8 decimal, Built area=170 sft. Const. material=Tin roof & straw wall.	3. "	3. Negligible potentiality exist.

INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
4. Kanchanpur Uttar Chankpara Jame-E-Mosque.	4. Islamic prayer, preaching & education.	4. Land=4 decimal, Built area=300 sft.	4. Totally inundated. No tangible role was observed.	4. Negligible potentiality exist.
5. Kanchanpur Saknaichar Dakhinpara Jame-E-Mosque.	5. "	5. Land =20 decimal, Built area=160 sft. Const. material=Tin	5. "	5. Partial potentiality exist.
6. Saknaichar Uttarpara Jame-E-Mosque.	6. "	6. Land=25 decimal, Built area=400 sft. Cost. material=Tin	6. "	6. "
7. Saknaichar Madhapara Jam-E-Mosque.	7. "	7. Land=28 decimal, Built area=275 sft. Const. material=Tin	7. "	7. "
8. Kanchanpur Haloapara Jam-e-Mosque.	8. Islamic prayer reading & education.	8. Land=20 decimal, Built area=450 sft. Const. material=R.C.C	8. "	8. "
9. Haloapara Kali Mandir	9. Hindu worship.	9. Land=22 decimal, Built area=160 sft. Const. material=Tin.	9. "	9. "
10. Kanchanpur Dakhinpara Jam-E-Mosque.	10. Islamic prayer reading and education.	10. Land=6 decimal, Built area=1000 sft. Const.material=R.C.C.	10. "	10. Negligible potentiality exist.
SOCIO-CULTURAL				
1. Adajan Ekata Sangha	1. Sports, Cultural and financial assistance to the poor.	1. Off. area=160 sft. Const. material=Tin roof, khari wall.	1. Members acted as volunteers to help the distressed people	1. If organised properly it can offer potential manpower support for the help of distressed people
2. Kanchanpur Chankapara The Lions Club	2. Sports,culture and financial assistance to the poor.	2. Off. area=225 sft. Const. material=Tin.	2. "	2. "
3. Saknaicher Islami Torun Sangha	3. Reading of Islamic books and preaching of Islam.	3. Off. area=225 sft, Const. material=Roof Tin, wall bamboo.	3. "	3. "

INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
4. Kanchanpur Halopara Jubo Unnayan Club	4. Sports, culture and assistance to the poor.	4. Off. area=100 sft. Const. Material=Tin	4. Members acted as volunteers to help the distressed people	4. If organised properly it can offer potential manpower support for the help of distressed people.
5. Kanchanpur Dakhinpara Toran Sangha	5. "	5. Off. area=160 sft Const. material=Tin	5. "	5. "
SOCIO-ECONOMIC				
1. Proshika Krishi Samity. Chankapara Estb-1982.	1. Total member=15, Revolving loan disbursed=Tk.45,000 Group Fund loan = Tk.20,000	1. Total capital stood at TK.50,000 in 1990	1. Assisted each member with wheat, rice & medicine during flood.	1. Contributed significantly to increase the sustainability of the target group poor.
2. Proshika Daridra Jahabil Samity Chankapara, Estb:1980.	2. Total member=14, Group fund loan = Tk. 20,000	2. Total capital stood at TK.80,000 in 1990	2. "	2. "
3. Proshika Khudra Chashi Samity, Chankapara, Estb: 1977.	3. Total member=22 Revolving loan disbursed= Tk. 36,000 Group Fund loan =Tk. 25,000	3. Total capital stood at TK.95,000/- in 1990	3. "	3. "
4. Proshika Krishi Samity, Adajan, Estb: 1982.	4. Total member=18 Revolving loan disbursed =Tk. 54,000. Group Fund loan = Tk. 35,000	4. Total capital stood at TK.50,000/- in 1990	4. "	4. "
5. Proshika Gareeb Bhai Samity, Adajan Estb: 1988	5. Total member=15	5. Total capital stood at Tk. 10,000 in 1990.	5. "	5. "
6. Proshika Chashi Samity. Saknaichar Estb: 1982	6. Total member=15. Revolving loan disburse=Tk. 10,000. Group Fund loan= Tk. 15,000.	6. Total capital stood at Tk. 30,000 in 1990.	6. "	6. "

INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
7. Proshika Daridra Tahbil Samity Saknaichar Estb: 1982	7. Total member=12. Revolving loan disbursed= Tk. 10,000. Group Fund loan=Tk. 20,000.	7. Total capital stood at TK. 20,000 in 1990	7. Assisted each member with wheat, rice & medicine during Flood.	7. Contributed significantly to increase the sustainability of the target group poor.
8. Proshika Khudra Chashi Samity Saknaichar Estb: 1980	8. Total member=18. Revolving loan disbursed = Tk. 36,000. Group Fund loan=Tk. 30,000.	8. Total capital stood at TK. 80,000 in 1990	8. "	8. "
9. Proshika Gareeb Bhai Samity Dakhinpara Estb: 1982	9. Total member=14. Revolving loan disbursed = Tk. 28,000. Group Fund loan=Tk.25,000	9. Total capital stood at TK. 40,000 in 1990	9. "	9. "
10. Proshika Janasakti Samity. Dakhinpara Estb: 1982	10. Total member=14 Revolving loan disbursed=Tk. 20,000. Group Fund loan= Tk. 20,000.	10. Total capital stood at TK. 50,000 in 1990.	10. "	10. "
11. Proshika Sramik Samity. Dakhinpara Estb: 1980	11. Total member=15 Group Fund loan=Tk. 30,000	11. Total Capital stood at TK. 50,000 in 1990.	11. "	11. "
12. Proshika Gareeb Samity. Haloapara Estb:1986	12. Total member=19	12. Total capital stood at TK. 15,000 in 1990.	12. "	12. "
13. Proshika Krishi Samity. Haloapara Estb: 1988	13. Total member=14	13. Total capital stood at TK. 10,000 in 1990.	13. "	13. "
14. Proshika Chashi Samity Haloapara Estb: 1988	14. Total member=16 Group Fund loan=Tk. 15,000.	14. Total capital stood at TK. 20,000 in 1990.	14. "	14. "

INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
15. Kanchanpur Paschimpara (Ladies) Grameen Bank Centre. Centre No. 58	15. Total member=60 Total loan disbursed=Tk. 1,11,500. Group fund loan=TK. 2000. House building loan= Tk. 10,000.	15. -	15. Assisted members with wheat and medical support during flood.	15. Individual financial loan was very useful for enhancing the sustainability of the target group poor.
16. Kanchanpur Paschimpara (Ladies) Grameen Bank Centre Centre No-50	16. Total member=60 Group fund loan= Tk. 3000. Total loan disbursed = TK.96,000	16. -	16. "	16. "
17. Kanchanpur Kagirapara (Ladies) Grameen Bank Centre. Centre No. 64	17. Total member=50 Total loan disbursed=TK.68,500	17. -	17. "	17. "
18. Kanchanpur Paschimpara (Ladies) Grameen Bank Centre.	18. Total member=60 Total loan disbursed=Tk. 34,000	18. -	18. "	18. "
19. Adajan (Ladies) Grameen Bank Centre Centre No. 54	19. Total member=54 Total individual loan=Tk. 40,000. Total group loan=Tk. 10,000.	19. -	19. "	19. "
20. Adajan (Ladies) Grameen Bank Centre. Centre No. 43	20. Total member=65 Total individual loan=TK.1.09,000. Total group loan= Tk. 6,500.	20. -	20. "	20. "

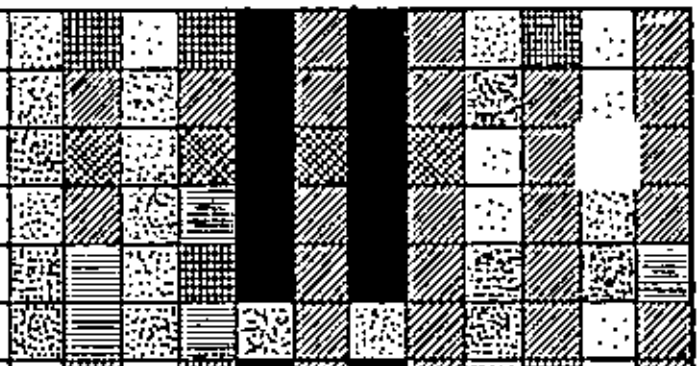
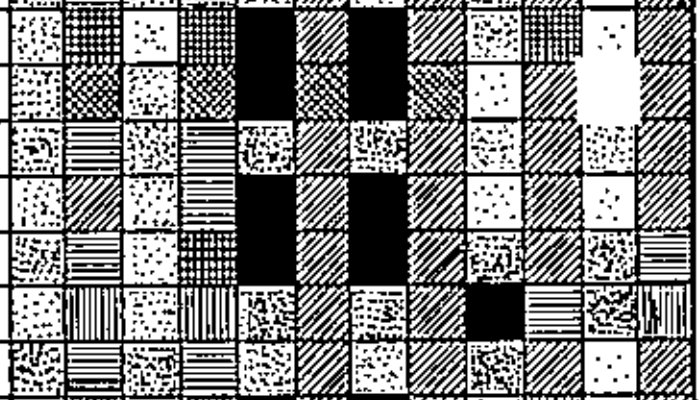
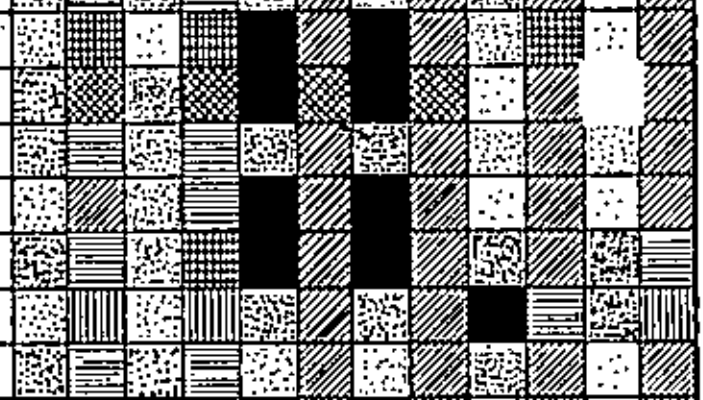
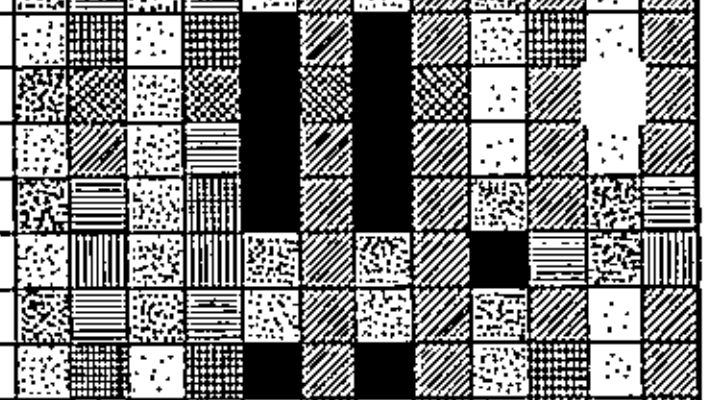
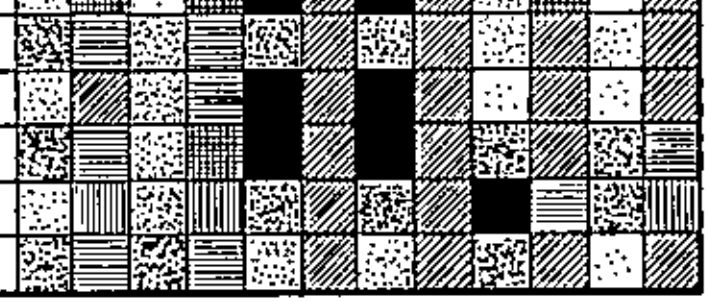
INSTITUTION	ACTIVITIES	ASSETS	ROLES/IMPACTS OF '88 FLOOD	COMMENT/POTENTIAL
MARKET PLACES				
1. Haikhola Hat, Adajan	1. Day to day house hold necessities like vegetable, fish, sweets etc. are sold. Agricultural input like fertilizer, insecticides, etc. are available.	1. Total area= 5000 decimals. 2000decimals washed away by river erosion. Govt. collects Tk. 3000-3500 per year as tax.	1. Totally inundated. It was the major place for public awareness before flood. However, no tangible role was observed during flood.	1. If the peoises is elevated and R.C.C. structures are made instead of existing tin shaded buildings it will act as a major flood time evacuation centre. 10% donation in price from the upsite is also observed due to poor road.
2. Karmakar para Hat Kamchanpur	2. "	2. Total area=2000 decimals. Govt. collects Tk.2000-2500 per year as tax.	2. "	2. "

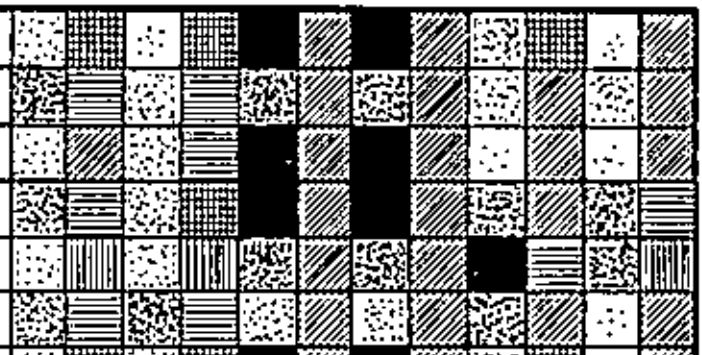
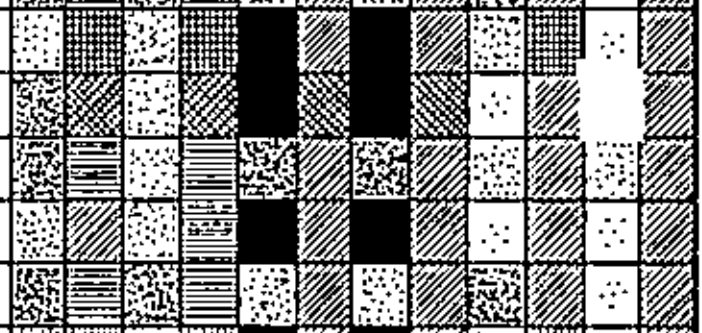
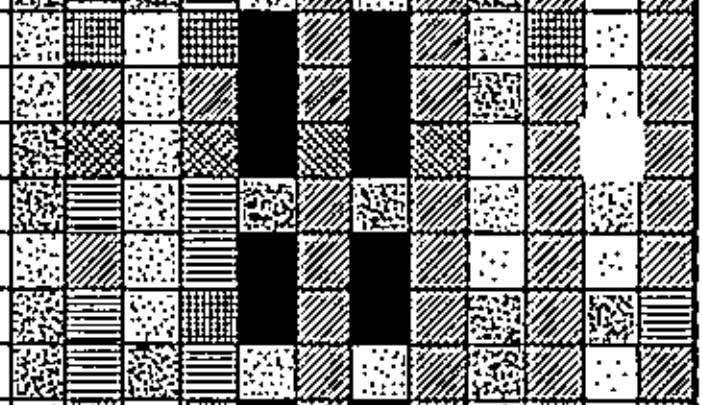
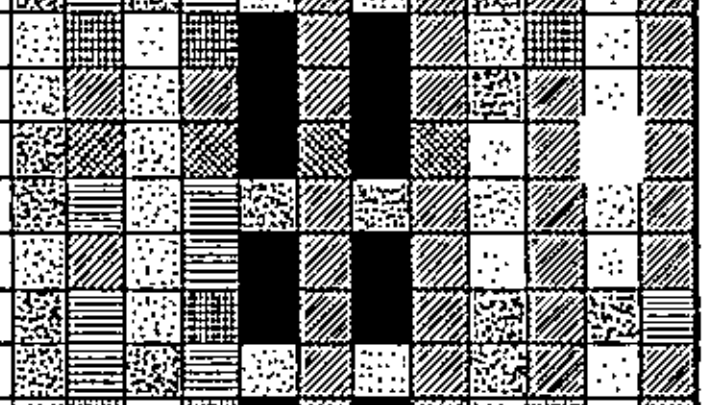
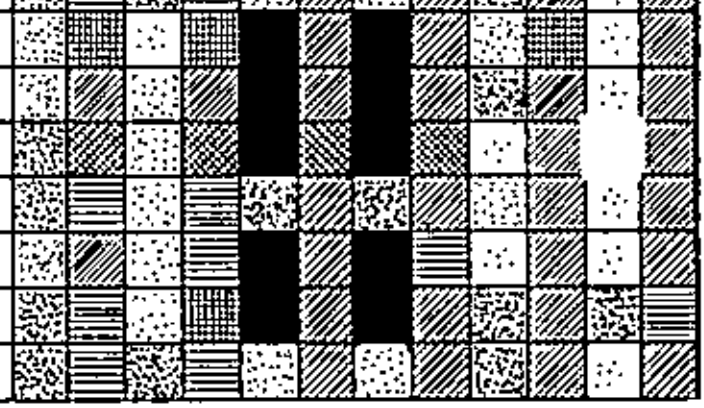
Source : Field survey 1991

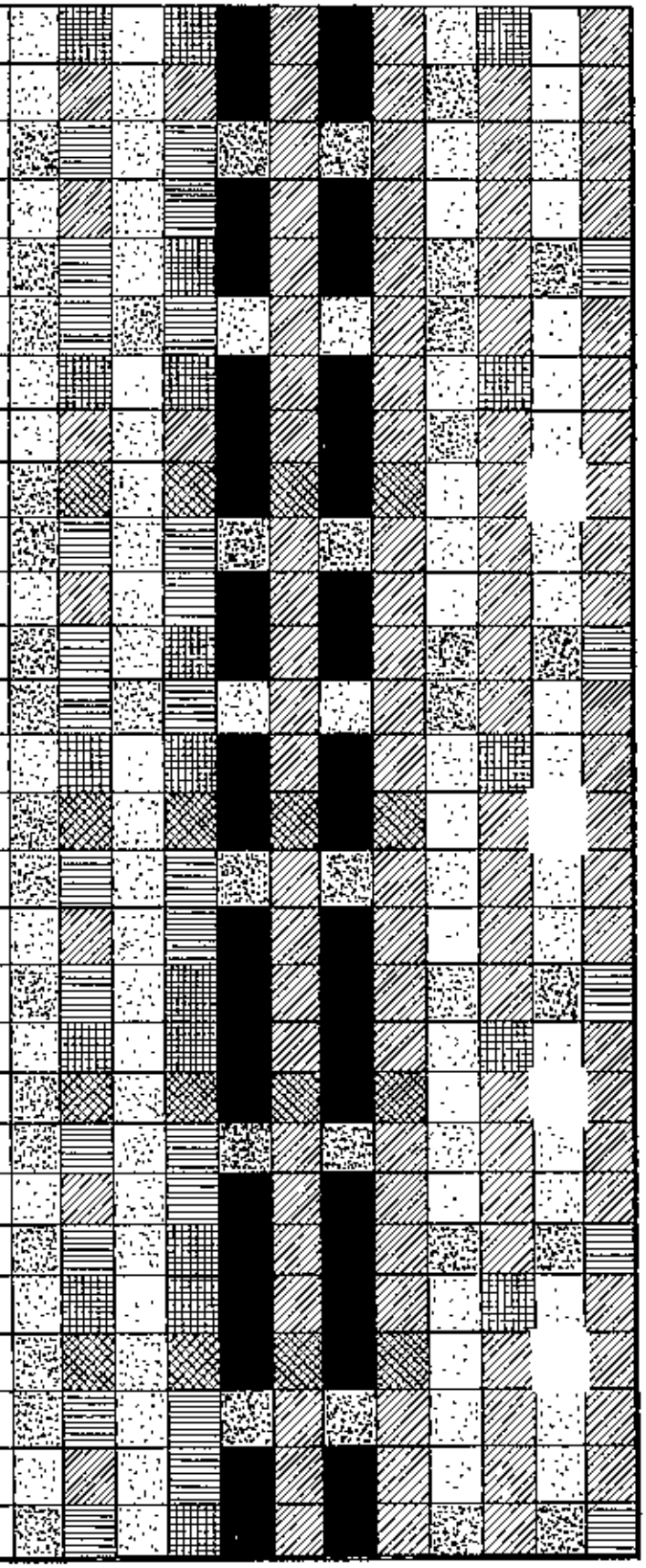
ANNEXURE : 12

POTENTIALS /LIMITATIONS OF LOCAL INSTITUTIONS TO ENSURE THE DISASTER MANAGEMENT NEED OF THE LOCALITY :

Required actions/ interventions.		Necessary institutional inputs from the concerned local institutions to ensure the required actions.	Potentials /limitations of local institutions											
			LDP		BTE		GDB		PDB		CBT		LDI	
NATURE	TYPE		P	L	P	L	P	L	P	L	P	L	P	L
1. Reorganization of existing public places with required facilities to make them centre of refuge during severe flood.	ISA	Participation of the beneficiary in planning												
		Integration of DM and RD												
		Maximum voluntary support of the people												
		Maximum productive use of the resources												
		Maximum benefit to the poor												
		Co-operation of the other Organization												
2. Creation of social security fund at the local level to ensure financial assistance /loan to the affected people during flood.	ISA	Participation of the beneficiary in planning												
		Integration of DM and RD												
		Maximum voluntary support of the people												
		Generation of local fund for development												
		Maximum productive use of the resources												
		Spontaneous action during crisis												
3. Special program for education of the people on cause, nature and impacts of flood as well as measures needed to be adopted during severe flood.	ISA	Participation of the beneficiary in planning												
		Integration of DM and RD												
		Maximum voluntary support of the people												
		Generation of local fund for development												
		Maximum productive use of resources												
		Co-operation with other organizations												

4.Reorganization of land use and rural labour policies to ensure more intensive use of land during wet seasons and less exploitation of land labour.	LRA	Participation of the beneficiary in planning	
		Integration of DR and ED	
		Maximum voluntary support of the people	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Co-operation with other organizations	
5. Arrangement for co-ordinated and organized actions for management of flood evacuation centres and flood mitigation measure.	FFA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Spontaneous actions during crisis	
		Co-operation with other organizations	
6. Arrangement for the security of vested houses, transport, emergency medicine and food stuff for livestock be ensured.	FFA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Generation of the local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Spontaneous actions during crisis	
		Co-operation with other organizations	
7. Accountable system of reception, distribution of all external assistance at the local level.	FFA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Spontaneous actions during crisis	
		Co-operation with other organizations	
8. Arrangement for the adequate amount of subsidized agri-inputs for recultivation of land.	AFA	Participation of the beneficiary in planning	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Spontaneous actions during crisis	
		Co-operation with other organizations	

9.Arrangement for the subsidised building material to reconstruct the damaged house.	AFA	Participation of the beneficiary in planning	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Spontaneous actions during crisis	
		Co-operation with other organizations	
10. Arrangement for the rehabilitation of damaged or destroied roads/public buildings as quick as possible.	AFA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Co-operation with other organizations	
11. Raising of existing houses which are vulnerable to regular flood upto the required level.	LTA	Participation of the beneficiary in planning	
		Integration of UD and ID	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Co-operation with other organizations	
12. Raising of existing roads to ensure un-interupted communication with the surrounding market places and education, health,crisis centre.	LTA	Participation of the beneficiary in planning	
		Integration of UD and ID	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Co-operation with other organizations	
13. Raising of all the existing public places above the regular flood elivation.	LTA	Participation of the beneficiary in planning	
		Integration of UD and ID	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Co-operation with other organizations	

14. Creation of alternative employment for those who are dependent on day labour or on farm or non-farm activities that exist at the risk of regular flood.	LTA	Participation of the beneficiary in planning	
		Integration of DM and RD	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Co-operation with other organizations	
15. Excavation of canals etc for storage of water for irrigation during dry season and smooth channelization of flood water during wet season.	LTA	Participation of the beneficiary in planning	
		Integration of DM and RD	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
		Co-operation with other organizations	
16. Adequate emphasis on health care and family planning activities be made to reduce percentage of underage population.	LTA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
17. Adequate emphasis on increasing the leevel of education of the people.	LTA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	
18. Emphasis for use of durable material ftechnique for construction of houses, keeping consistancy with the flood ecosystem.	LTA	Participation of the beneficiary in planning	
		Maximum voluntary support of the people	
		Generation of local fund for development	
		Maximum productive use of resources	
		Maximum benefit to the poor	

Note: ISA = Insididate special actions. FTA = Flood Time Actions. AFA = After Flood Actions. LTA = Long Term Actions.
KUP = Kanchanpur Union Parishad. BTB = BASAIL THANA ESTABL GRB = Grameen Bank Basail. PKB = Proshika Manabik Unnayan Kendra Basail.
CBT = CARE Bangladesh Tangail. LII = Local Informal Institutions. P=Potential. L=Limitations.

LEGEND : High, Moderate, Low, Nil.
structural, legal, financial/technical, managerial, motivational.

ANNEXURE : 13

Potentials /limitations of local institutions to accommodate the peoples choice.

Peoples choice on different necessary institutional aspects for flood disaster management and rural development.	Local institutions											
	KUP		BTB		GBB		PKB		CBT		LII	
	P	L	P	L	P	L	P	L	P	L	P	L
1. Provision for proper representation of the people in planning for DM and RD.												
2. Provision for more opportunity of development of the poor.												
3. Provision for open discussion on performance appraisal and decisions.												
4. Provision for participation of the people in the development management.												
5. Authority to conduct all development works of the locality.												
6. Capacity to attract voluntary leadership of the people.												

Note: KUP = Kanchanpur Union Parishad. BTB = BASAIL THANA ESTABL. GBB = Grameen Bank Basail. PKB = Proshika Manobik Unnayan Kendra Basail.

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LEGEND: High, Moderate, Low, Nill

Structural, Legal, Financial /Technical, Managerial, Motivational.

ANNEXURE : 14

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ANNEXURE: 15

LIST OF ABBREVIATIONS:

AFA	= After Flood Action.
BTE	= Basail Thana Establishment.
BWDB	= Bangladesh Water Development Board.
CARE	= Center for American Relief Everywhere.
CDT	= CARE Bangladesh Tangail.
CIDA	= Canadian International Development Agency.
DM	= Disaster Management.
DND	= Dhaka Narayanganj Demra.
EPWAPDA	= East Pakistan Water and Power Development Authority.
FAP	= Flood Action Plan.
FCD	= Flood Control Drainage
FCDI	= Flood Control Drainage & Irrigation.
FFW	= Food for Works.
FFWP	= Food for Works Program.
FPCO	= Flood Plan Co-Ordination organization.
FTA	= Flood Time Action.
GBB	= Grameen Bank Basail.
GDP	= Gross Domestic Product.
GOB	= Government of Bangladesh.
GOF	= Government of France.
HH	= House Hold.
IDP	= Institutional Development Planning.
IEDCO	= International Engineering Company.
IFFWP	= Integrated Food for Works Program.
ISA	= Immediate Special Action.
ISPAN	= Irrigation Support Project for Asia and the Near East.
JAICA	= Japan International Co-Operation Agency.
KUP	= Kanchanpur Union Parishad.
LII	= Local Informal Institutions.
LTA	= Long Term Actions.
MP	= Member of Parliament.
MPO	= Master Plan Organization.
NGO	= Non Government Organization.
PKB	= Proshika Manabik Unnayan Kendra Basail.
RD	= Rural Development.
RF	= Regular Flood.
RMP	= Rural Maintenance Program.
RRI	= River Research Institute.
SF	= Sever Flood.
TK	= Taka (Bangladesh Currency).
UN	= United Nations.
UNDP	= United Nations Development Program.
UP	= Union Parishad.
USAID	= United States Agency for International Development.
USD	= United States Dollar.