

CHAPTER 4 CONSTRAINTS AND PROBLEMS

4.1 Root Causes of Various Problems in the Study Area

Poverty and related problems are common not only in the Study Area but in Bangladesh as a whole. At the root of these problems, there exists a fundamental structure of the Bangladesh socio-economy composed of several interacting factors. The basic factor is the distorted economic structure inherited from colonial times, represented, among others, by unequal distribution of economic wealth and resources. This structure has been largely preserved to date due to hierarchical social system favoring large landowners and rural power structure dominated by patron-client ties. Development aids supposed to rectify the structure, removing negative effects of the economic structure and the hierarchical social system on the poor, have sometimes aggravated the situation. The Government has not been effective enough to control this process of the distorted economic structure and the rural power structure supporting or often strengthening each other.

Poverty and flood-related problems in the Study Area take place within the context of this fundamental structure. Thus, the root causes of various problems existing in the Study Area are the distorted economic structure, unequal distribution of economic wealth and resources, the traditional hierarchical system, and ineffective government control. The root causes are translated into specific conditions facing the local people in the Study Area through social processes or mechanisms that link various problems. These conditions make the local people vulnerable to external shocks such as natural hazards including floods. Sometimes, even human interventions such as major infrastructure work as external shocks for the vulnerable people.

These problems are expected to be overcome by planned development efforts with the participation of local people. Some problems, however, are external and cannot be addressed in the Study. To define the scope of the Study and to formulate realistic measures to solve the problems, existing problems in Char and Haor areas are analyzed by various methods as reported in the subsequent sections.

4.2 Identified Problem Phenomena

Based on the study on the existing conditions as described in the previous chapter, many problems have been identified. Major problem phenomena identified in the Study Area are described below in relation to flood, livelihood and social aspects.

(1) Flood related problems

Both Char and Haor areas are located in flood prone areas. Although the mechanism of flooding differs between the two types of areas, people in both areas are vulnerable to flood damages including property losses by inundation and/or erosion. Macro problem phenomena include:

- Loss of properties including houses with house furnishings, livestock, food, etc.;
- Loss of homestead land;
- Crop losses; and
- Disruption of economic activities.

In Char areas, inundation and land erosion are the major problems caused by flood. People who live in the lower portion of Chars or low elevation Chars suffer from inundation almost every year during the wet season when water level of the Jamuna river is high. While many people move out of their houses to take shelters to mainland areas such as top of embankment, raised road, etc., others remain at their homestead areas to take care of their properties including houses, furnishings, animals, etc., because they have no idea where to take shelters, and because they do not have transportation means to carry their properties. As the flood forecasting and warning system does not exist or function at right time, local people decide by themselves whether or not they take shelters based on their experiences. This sometimes causes delay in taking actions.

Both those who take shelters and those who remain in Char have to spend uneasy and hard life during flooding under the conditions of unavailable drinking water, shortage of cooking energy, limited living space, unhygienic environment, etc. Social services delivery stops during this time. Particularly women spend extremely hard time at the time of delivery during this season. To cope with repeated inundation by flood, local people try to raise their homestead as well as mounds for animals by soil individually as much as possible.

Island Chars are also susceptible to land erosion due to their loose foundation with sandy soil and to currents of the Jamuna river that often changes its courses. People cannot take countermeasures against the land erosion as it is due to dynamic natural forces for them to cope with. Even stable Chars that have been existed for more than thirty years offer no guarantee for their existence for long time in future. Such uncertainty in the life of Char undermines the commitment of the Government or local people to a very limited extent.

People, when their homestead land is lost by erosion, move to new Chars to find a new land. In general, while old Chars disappear by erosion, new Chars appear nearby. As the lands under water body belong to the Government by land law, the land title of newly born char lands will be given to those who settle and cultivate the land first. This is the reason many landless people who lost land at their original places rush into new char areas even they are unstable. However, old landlords claim their land title, causing land disputes.

Flood also inundates crops that are almost a sole income source for local people. The majority of people become jobless during flooding when land is submerged under water, as agriculture is dominant income source for them. Men tend to migrate to urban areas like district centers, Dhaka, etc., to seek for jobs.

In Haor areas, erosion and inundation are also the major problems caused by flood. However, mechanism of flooding is different from that in the Char. There are two types of flood in Haor: (i) flash flood happened in the pre-monsoon period of April and May; and (ii) flood in the monsoon period. The former type of flood comes suddenly caused by intense rainfall in the upstream areas of the river basins. It damages crops at harvesting time, especially boro rice which is almost a sole income source of local people. It is difficult to forecast because of the unestablished communication system regarding weather forecasting with the neighbour country. On the other hand, the latter type of flood comes steadily every year as the wet season proceeds. Being located in a low-lying area, all congested river channels overflow the whole Haor area gradually. The water level to be reached depends on the balance between the rainfall amount in the river basin and the discharge capacity of the rivers, affected also by the other major rivers and tidal water level.

Houses of the local people get inundated when flood water level exceeds the surface of mounds where local people live. It is the time when they have to live under flooded water with uneasiness. The capacity of shelters is too small to accommodate a number of people for weeks. Like in Char areas, drinking water becomes unavailable, and the number of daily food intake reduces due to the shortage of cooking energy. Stored foods get spoiled gradually.

Another problematic phenomenon to local people is the bank erosion of the mounds by wave actions of flooded water. Induced by the monsoon wind from the east to the southeast, wave actions hit and erode the bank of mounds as well as damage houses built on them. Due to this, their living area is reduced, and some houses have to be moved to safer place every year. Intensive rainfall in wet season also erodes the surface of homestead area. It is reported that as thick as 15 cm of soil is eroded every year by rainfall.

To cope with the natural disaster, local people try to raise their homestead area by digging soil of riverbeds nearby individually and protect the bank of mounds by putting bamboo fence with local grasses (chaila) every year by communal work. However, their efforts do not necessarily bring about satisfactory results.

At present, people in Haor live in extremely congested conditions. Besides, in flood season, livestock are kept at the backyard of each house, resulting in deteriorated hygiene conditions. Most people become idle during flood as the majority of people are engaged in agriculture related activities. Many move from their places to urban areas to seek for employment such as daily labor, rickshaw puller, etc. Almost all schools are unofficially closed, as teachers do not come to school. Health services hardly reach scattered isolated villages.

(2) Livelihood related problems

Major problems in relation to livelihood of Char and Haor areas are almost common: low agricultural income and few non-farm employment opportunities. The former problem is caused by:

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- Interruption of farming activities during flood;
- Small land holding size;
- Difficult marketing conditions;
- Inadequate input supply; and
- Poor extension services.

The problems of few non-farm employment opportunities are caused by:

- Few alternatives for income generation;
- Inadequate credit facilities;
- Underdeveloped transportation infrastructure; and
- Underdeveloped human resources.

As mentioned above, agriculture is the dominant income sources of the local people. However, agricultural activities are limited only in the dry season, as most agricultural lands are submerged in the wet season. In Haor, even dry season crop is sometimes totally damaged by early flash flood. While in Char, water limits crop performance in the dry season. Seeds are often not available when needed. Agricultural extension services do not reach most villages. Small land holding and tenure system do not allow most farmers to harvest enough to be self-sufficient.

Livestock activities are commonly seen in both types of areas, but shortages of feed and limited space always constrain animal raising in the flood season. Small fishermen do not have modern fishing device, and always out of scope for obtaining fishing licence at beels in the dry season, because bidding for fishing licence is always won by rich and influential people.

Industry is almost non-existent due to lack of land as well as lack of supporting infrastructure. Service industry is confined to small ones like shop keeping. Simple cottage industries are available to a limited extent with small number of employment, due to limited market size in the Study Area. Human resources have not been developed with low level of education attainment with low literacy rate. Public services including education, health, credit, agricultural extension, etc., are not satisfactorily provided.

Supportive infrastructure for rural development is almost totally lacking. Especially underdeveloped road networks hamper socio-economic development by limiting the flow of human beings as well as commodities. Social services as well as information are not delivered properly.

(3) Social problems

Major social problems include:

- Low literacy rate;
- Prevailing mal-nutrition and diseases;
- Poor sanitary and hygiene conditions;
- Discrimination against women; and
- Poor community activities.

Despite the government efforts, literacy rates in both Char and Haor remain very low. Many school facilities are dilapidated and lack in furniture, reducing the motivation of children to go to school. School teachers are sometimes not available, especially in the flood season. Drop out rate of primary school pupils are chronically high due to poverty and ignorance of guardians. Low educational status reduces the chance of getting steady employment or obtaining higher skills.

Insufficient and/or inadequate food intake results in high incidence of mal-nutrition and diseases. Health facilities are available but often too far away from villages, and medicines are hardly available. Health workers and/or family planning officers stop coming to villages in monsoon seasons. Ante-natal care is limited to the execution of tuberculin test and distribution of iron tablet to pregnant women, and its coverage is not 100%. Post-natal care has never been taken. Local people often do not have any idea on how to prevent diseases due to poor educational background.

Limited living space in the wet season leads local people to be in the degraded hygienic conditions. Not only human beings but also livestock stay in the same space. Drinking water becomes hardly available due to the submergence of hand tubewells. Latrines are difficult to be established. Lack of consciousness on sanitation among people brings about high incidence of diseases such as diarrhea.

Women play an important role on not only house work but also economic activities including livestock care, post-harvesting, etc. They are, however, discriminated in favor of men through hierarchical social system such as early marriage, dowry, mal-distribution of food, domestic violence against women, etc. As a result, malnutrition prevails among women and girl children, maternal and infant mortality rates are high, and access to education and health services is also limited. Unless women's social status is improved, livelihood will not be well developed.

The hierarchical social system remain in the Study Area, with which a few influential people are getting richer at the sacrifice of many other villagers through high interest loans, landlord - tenancy relationship, etc. Poor people hardly have any chance to save money for better living standard. Community activities are poor in the area. Particularly in Char, social cohesiveness is hardly formed due to frequent migration of people and short life of charland.

Local people's voice for socio-economic development in their locality hardly reaches decision makers unless a Union Parishad member comes from the village. Development fund under the local

government is allocated to the Unions based on the requests from Union Parishads, which decide on projects to be implemented at the mercy of members' preferences.

4.3 Problem Analysis on PCM Workshops

In each of two PCM workshops organized in Char and Haor areas, a problem analysis was conducted to identify problems and analyze them by means of "cause and effect" relationships. Participants are Executive Engineers of LGED at Districts, Upazila engineers of LGED, and Upazila Nirbahi Officers. Major outcomes of the problem analysis were summarized below.

Char

"People in Char is poor" was chosen as a core problem. Through a further analysis it was figured out that there are four direct causes for the core problem as presented below.

- (1) People in Char lose their property repeatedly, mainly due to:
 - Erosions of Char by river flow;
 - Inundation of homesteads; and
 - Lack of safe places for them to keep properties or evacuate.
- (2) Agricultural income is low, mainly due to:
 - Low productivity of agriculture; and
 - Exclusive marketing system (cartel).
- (3) Non-farm income is low, mainly due to:
 - Lack of job opportunities;
 - Lack of marketing facilities; and
 - Idle time during the flood season.
- (4) People in Char have to spend money for medical services, mainly due to:
 - Susceptibility of Char people to diseases; and
 - Lack of medical services in Char.

Haor

Like in Char, "People in Haor are poor" was chosen as a core problem, and a further analysis identified four direct causes, which are quite similar to the case of Char.

- (1) People in Haor lose their property repeatedly mainly due to:
 - Wave actions,
 - Early flood damages over crop,
 - Inundation of homestead, and
 - Insufficient number of flood shelters.
- (2) Agricultural income is low, mainly due to:
 - Low productivity of agriculture,

- Lack of diversification of cropping activities, and
 - Exclusive marketing system.
- (3) Non-farm income is low, mainly due to:
- Lack of job opportunities,
 - Lack of marketing facilities, and
 - Idle time during the flood season.
- (4) People in Haor have to spend money for medical service, mainly due to:
- Susceptibility of Haor people to disease, and
 - Lack of medical service in Haor.

As the poverty was put as a core problem, all direct causes are related to economy. It is, however, lower level of causes that suggest the complexity of the problems encompassing natural, social and environmental aspects.

4.4 Problems Identified by Local People

A Rapid Rural Appraisal collected local people's voice regarding the problems they are facing. In each of 16 villages surveyed, 10 problems were identified. They are summarized and a total of top 10 problems in each type of area are shown in Tables 4.1 and 4.2, respectively.

(1) Problems identified in Char

Major problems which Char people are facing are related to poverty. Lack of employment opportunity is ranked the highest, lack of credit facilities ranked third, high commodity price ranked fifth, lack of marketing possibility ranked seventh, and no better employment during flood at migrated place ranked 10th. The majority of people live on crop cultivation either as owners, share-croppers, tenant farmers, or laborers. Even owner farmers do not have enough land area to survive. Industry has not been developed due to unstable land conditions, undeveloped infrastructure, low level of human resources, poor access to market, etc. People have to go to informal credit with very high interest rates, as formal credit is hard to access.

Problems related to basic human needs come next. Absence of homestead land is ranked as the second highest problem, lack of health facilities ranked fourth, absence of pure drinking water ranked eighth, and lack of educational facilities ranked ninth. The majority of people in Char are landless migrating so often from one Char to another. Their living places being unstable and scattered, social services delivery hardly reach them.

Lack of road communication ranked sixth among the top 10 problems hampers efficient socio-economic activities.

Table 4.1 Major Problems Identified by Local People in Char

Problem items	Score					Frequency* (nos. village)
	Gaibandha	Jalalpur	Kurigram	Sirajganj	Char Total	
Lack of employment opportunities	32	35	39	37	143	16
Absence of homestead land	38	38	19	10	105	11
Lack of credit facilities	17	24	23	15	79	15
Lack of health facilities	15	15	29	30	89	14
High commodity price	10	9	21	21	61	12
Lack of road communication facilities	12	7	0	32	51	7
Lack of marketing possibility	19	11	6	12	48	11
Absence of pure drinking water	13	11	2	19	45	9
Lack of educational facilities	10	11	0	24	45	7
No better employment during flood at migrated place	9	18	0	0	27	5

Note: Four villages were selected from each District, and problems are identified through voting. Highest score of 10 is given to the most popular problem, then reduced the score by one point as the order descend. The highest score will be 40, if every village select the same problem item as the top problem.

Remarks: *: the number of village which chose the problem item.

Source: RRA by DICS, 2001

(2) Problems identified in Haor

Economic problems are also the main concern of the local people in Haor. Lack of employment opportunities is ranked the highest, as is the case of Char. Lack of marketing possibility, lack of credit facilities and lack of capital are ranked fifth, sixth and seventh, respectively. The majority of people being poor, they do not have purchasing power, discouraging traders to carry commodities into the Area.

Unfavourable living conditions are another serious problems that local people recognize. Among others, scarcity of homestead area is ranked third, together with wave actions ranked eighth, which reduces the homestead area by erosion. This problem is as serious as the top problem. Lack of health facilities and absence of pure drinking water are ranked fourth and ninth, respectively. Lack of grazing land, ranked 10th, suggests the difficult conditions to keep animals in Haor areas, which are important properties for many people.

Lack of road communication facilities is ranked second, suggesting its importance for socio-economy in the Area.

Table 4.2 Major Problems Identified by Local People in Haor

Problem items	Score					Frequency* (nos. village)
	Kishoreganj	Netrokona	Sunamganj	Habiganj	Haor Total	
Lack of employment opportunities	35	35	33	35	138	16
Lack of road communication facilities	17	22	18	33	90	15
Scarcity of homestead	25	23	14	21	83	11
Lack of health facilities	18	15	18	23	74	16
Lack of marketing possibility	14	11	18	12	55	9
Lack of credit facilities	14	11	11	17	53	11
Lack of capital	19	19	10	5	53	6
Wave action	0	15	25	13	53	7
Absence of pure drinking water	19	15	8	8	50	8
Lack of grazing land	10	16	12	5	43	12

Note: Four villages were selected from each District, and problems are identified through voting. Highest score of 10 is given to the most popular problem, and then reduced the score by one point as the order descends. The highest score will be 40, if every village select the same problem item as the top problem.

Remarks: *: the number of village which chose the problem item. The maximum number is 16.

Source: RRA by DICS, 2001

4.5 Problems Structure Analysis

Many problems have been identified at different levels and by different groups of people for Char and Haor areas as reported in the previous sections. Many of these problems are inter-related to cause undesirable phenomena observed. A problem structure analysis is a method to clarify these inter-relationships in a macroscopic way. The analysis, usually used during the initial stage of the planning, would allow maintaining a broad perspective without getting into details to identify more essential factors and major problems to be alleviated through planned development efforts.

To conduct the problem structure analysis, more important problems are identified first and expressed in generic terms. Each of those problems thus identified and expressed comprises a few or more specific problems enumerated in the previous sections. It is found that most problems are common to both Char and Haor areas at macro level, although these areas face different micro problems specific to Char and Haor, respectively. Therefore, a common problem structure has been constructed for Char and Haor areas as shown in Figure 4.1. Only more important problems and main inter-relationships between them are shown in the figure.

Widespread poverty is identified as the most serious problem phenomenon to be alleviated through planned development efforts. This phenomenon is a direct outcome of insufficient opportunities for income generation, low level of economic activities and productivity, and reduced working time and large health expenditure as shown in Figure 4.1. Another subtle factor behind the widespread poverty is vulnerability (of rural communities) in flood and other crises. This problem is socially deeply rooted, but directly reflects the lack of community-based alternatives for flood mitigation and livelihood development. In other words, rural people do not have sufficient capability to mitigate flood damages or to improve their livelihood by themselves. This problem, in turn, is traced back to a fundamental problem of the hierarchical social system as shown in Figure 4.1. In Char areas, the problem is compounded by the large number of in-migrants contributing to the lack of social cohesiveness.

The widespread poverty and large damages/losses by flooding are main problem factors contributing to the lack of capital accumulation. The latter, of course, is the major factor causing the vulnerability in flood and other crises. As seen in Figure 4.1, a typical vicious cycle is formed between the three major problem phenomena: widespread poverty, lack of capital accumulation and vulnerability in flood and other crisis.

To address to the problem structure with the vicious cycle effectively, more fundamental problems at the root of many observed problems would better be dealt with. Five fundamental problems are noted as shown in Figure 4.1, commonly for Char and Haor areas. Two of them are inherent problems: geographic isolation and transient nature of livelihood in Char and Haor areas. The latter is inherent to some extent due to physical conditions such as unstable nature of Char as well as habitual floods with inundation, erosion and wave actions (in Haor). The other three fundamental problems are institutional and social: inadequate development planning and weak local governments, traditional feudal system, and large number of in-migrant caused by population

pressure.

These fundamental problems are causing an array of infrastructure and resources related problems as well as a variety of social problems, which combined cause the observed problem phenomena. Habitual floods with inundation, erosion, etc. cause disruption of livelihood and uneasiness of life, and land conflicts and insecure land ownership. Land for homestead areas is becoming scarce by erosion in general and also by wave actions in Haor areas. Lack of grazing land is additionally noted particularly in Haor areas. Crop losses due to inundation are common to Char and Haor areas. Loss of Boro rice by early flash floods and disruption of fisheries are problems in Haor areas.

The institutional problem of inadequate development planning and weak local governments is typically reflected in five problems: limited information on floods, limited information on marketing, inadequate communication infrastructure, poor support services such as extension and credit, and low levels of education and health services. Problems due to the hierarchical social system are represented by landlord – tenancy relationships, discrimination against women, and poor community activities.

Problems caused by interactions of these problem factors mentioned above are largely social. Frequent disruption of livelihood and uneasy life, land conflicts and insecure land ownership, and the dominance of hierarchical social system make people receptive of status quo with the lack of motivation for improving living environment and livelihood development. Low levels of education and health services are reflected typically in low literacy rates, and malnutrition and prevalence of diseases.

These social problems are combined with another problem of difficulty in marketing and input procurement caused by limited information on floods and marketing, and inadequate communication infrastructure to lead, in turn, to economic problems. Low skill levels associated with low literacy rates, and difficulty in marketing and input procurement are particularly responsible factors for low levels of economic activities and productivity as shown in Figure 4.1. These and other economic problems are directly linked to the widespread poverty as described above.

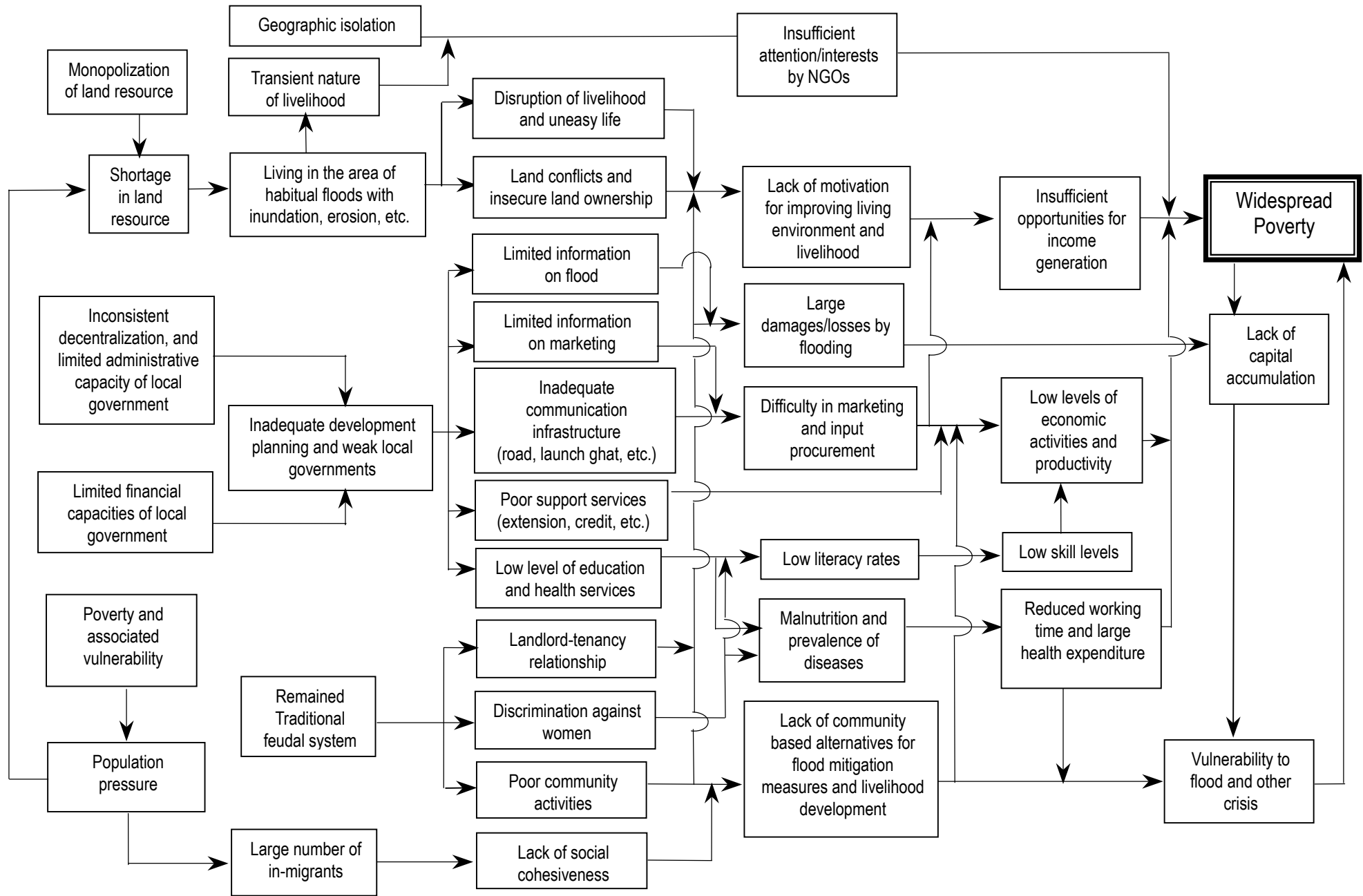


Figure 4-1 Problem Structure of the Study Area

4.6 Limiting Factors for Pursuing Rural Development Focusing on Flood proofing

4.6.1 Sequence of Problem Solution

Among the problem phenomena observed, the Study Team views that the establishment of flood-proof environment should be pursued first to ensure rural development. Chronicle floods occurred in Char and Haor areas affect the people's life every year in worsening living environment by inundation, isolation, limitation of living space, uneasiness, etc. During this period, economic activities are disrupted and social services delivery stops, and under such conditions, people cannot enjoy normal life.

Flood proof level to be attained will differ between Char and Haor based on the characteristics of flood. In Char, most areas are unstable in nature and vulnerable in erosion by river flow due to loose foundation with sandy soil. In such areas, permanent structure will not be feasible. Flood proofing measures may be taken to be free from inundation in stable chars. In Haor, wave-induced erosion of mounds where people live is most serious concern by local people during flood. On an average mound area is reduced by one-meter width per year. Many mounds have already been vanished by erosion, and other mounds are under the fear of extinction. Unless erosion protection measures are taken, all mounds will be disappeared at last.

Under the flood-proof conditions, living environment shall be improved and livelihood development shall be enhanced with people's empowerment. A schematic of the sequence for problem solution is shown in Figure 4.2.

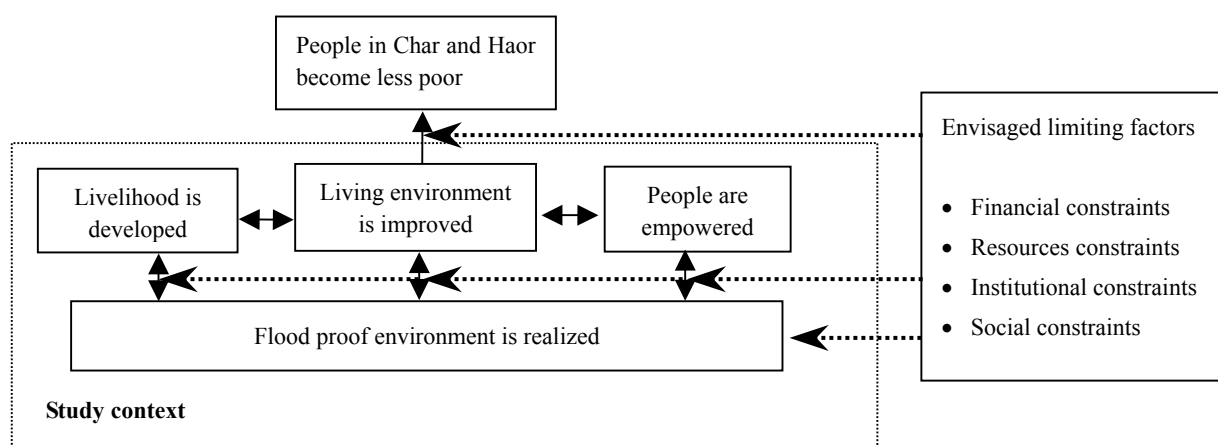


Figure 4.2 A Schematic of Sequence of Problem Solution

4.6.2 Envisaged Limiting Factors

Basic idea of coping with the floods is to establish flood-proof environment. The concept of flood-proofing is to provide long-term non-structural as well as minor structural measures to mitigate the effects of floods. Minor structural measures should be managed and maintained

properly by the local people to ensure their sustainability. In realizing flood-proof conditions of the Study Area in the long run, following limiting factors should be taken into account (refer to Figure 4.2).

(1) Financial constraints

Financial constraints include low income level of local people and limited budget in local government. According to the interview to local people in the Study Area, monthly income of Tk.2,000, or annual income of Tk.24,000 is necessary for five members of family to survive. On the basis of this, more than 50% of the total households in the Study Area do not earn enough to be self-reliant in terms of economy, as seen in subsection 3.4.10. Extremely high expenditure on food items (refer to subsection 3.4.11) may support this. In order for local people to maintain structure, income level has to be enhanced through livelihood development.

Annual development program (ADP) or budget amounts allocated to the local governments for any type of development (including economic, infrastructure, social and environment) are far below to satisfy their needs. A union with 20,000 to 30,000 people receives merely Tk.500,000 to Tk.600,000 in 2000/2001. With this in view, external investment will be needed for structural measures.

(2) Resource constraints

Both human and natural resources are not sufficient in terms either of quantity or quality. While the human resource is abundantly available in the Study Area, its quality is inadequate. The majority of the people in the Study Area are illiterate with low educational attainment (refer to subsection 3.4.15). The scope of livelihood development may be limited in this regard unless they are properly educated or trained.

Other resource constraint that limits livelihood in the Study Area includes fuel for cooking. Increased demand for cooking fuel, especially fuel woods due to population increase have lost vegetation. Scarcity of cooking fuel becomes more serious in wet season. According to the field survey (refer to subsection 3.4.18), more than 30% of the households felt that cooking fuel is insufficiently available in the wet season.

(3) Institutional constraints

Development budgets allocated to local governments, especially at Upazila and Union levels, are insufficient and the number of officers is limited, which result in the inadequate development planning and implementation including communication infrastructure (refer to subsection 3.6.1) and limited social services delivery (refer to subsection 3.8.2).

(4) Social constraints

Although the flood-proofing measures should be taken by collective efforts of local people, it is

constrained by poor community activities (refer to subsection 3.4.20). It is due mainly to the hierarchical social system, represented at the village level by patron-client ties to a prominent man (referred to as a Matabbar).

Inoperational flood warning systems particularly in Char areas, and insufficient protection measures particularly in Haor areas are partly attributed to this hierarchical social system. There exist no alternatives based on the traditional system to compensate for the lack of formal measures due to lack of mutual aid at community level.