Involuntary Resettlement in Jamuna Bridge Project:
Impoverishment Risks and Reconstruction Measures

A Dissertation
by
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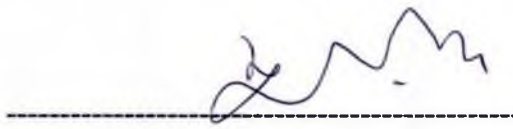

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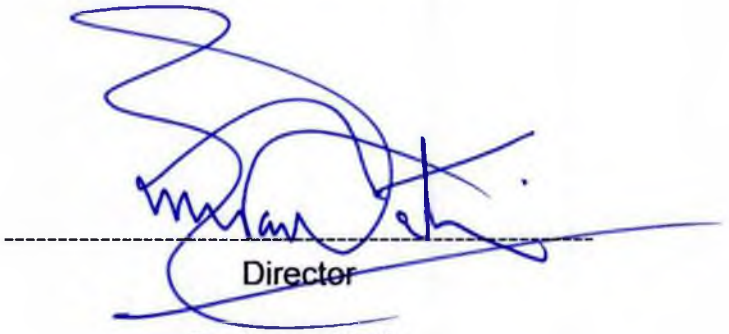

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Abstract

Development projects often entail displacement of population. Every year millions of people in the world are involuntarily displaced due to infrastructure building programs. The affected population is seldom properly rehabilitated and is sacrificed for rather than benefited from development. The severe economic, social, cultural and environmental problems faced by the people often lead them to impoverishment. During any involuntary displacement, there exist eight general sub-processes that converge in impoverishment. Proper knowledge about these impoverishment processes can influence resettlement planning and implementation and they can also be purposively used to counteract the adverse effects.

About 4000 acres of land have been acquired for the construction of the Jamuna Bridge. The Project has displaced people living at the vicinity of the bridge site and affected the income and livelihood of about one lac people. The project authority (Jamuna Multipurpose Bridge Authority, JMBA) adopted a Resettlement Action Plan for proper resettlement of the Project Affected Persons (PAPs). The main objective of the resettlement plan was at least to restore the standards of living and income earning capacity of the PAPs, if not improved after resettlement.

This dissertation attempts to explore the impact and effects of resettlement on the economic life and livelihood of the project affected people. Firstly, it analyzes the impoverishment processes as risks and entitlement packages of the resettlement plan as counter risk measures in the context of Jamuna Bridge Project. Secondly, it examines whether the Project Affected Persons (PAPs) have restored their pre-project standard of living or not. It also attempts to shed some light on the reasons for non-restoration of former standard of living.

It is evident from the study that despite the adoption of a generous Resettlement Action Plan the Project Affected Persons of the Jamuna Multipurpose Bridge Project have not been able to reconstruct & restore completely their pre-project living standards in the post-project stage. The major failure was the inability of the affected population to regain or recoup the amount of land lost due to acquisition. Despite this deprivation the resettlement program attained considerable success in other dimensions. There has been a marked increase in the average annual income of the indirectly affected households. The directly affected households have been able to virtually restore the status of pre-project income. The quality of housing for the displaced people has also improved. Programs like providing squatters and uthulies with a piece of homestead land and providing project affected persons with access to health services, drinking water and sanitation have been very successful. This dissertation, finally, discusses some strategies that may be adopted by the implementing agency in future projects entailing displacement and resettlement.

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Introduction

1.1 Background

Development project often involves displacement of population. In fact, every year millions of people in the world are involuntarily displaced due to infrastructure building programs. The intensity of development caused population displacement has increased greatly since past decades and the issue of proper resettlement and rehabilitation has been raised. Numerous instances of development project have shown that involuntarily displaced people are seldom properly rehabilitated and the affected people are sacrificed for, rather than benefited from development. The severe economic, social, cultural and environmental problems faced by the people often lead them to impoverishment.

Risk of impoverishment is inherent in the process of involuntary resettlement. Understanding the economic, social & cultural components that lead to impoverishment is the key to preventive planning. During displacement people lose (a) natural capital (b) man-made or physical capital (c) human capital and (d) social capital. These losses are not only to the people directly affected but also to the local economy. Social scientists have studied the mechanism that cause impoverishment and along with enormous diversity of individual project-specific and county-specific situations, they observed several common trends whose cumulative effect lead to impoverishment.

During involuntary displacement there exists eight general sub-Processes that converge in impoverishment although their magnitude and intensity varies at different locations. Proper knowledge about these impoverishment processes can influence resettlement planning and implementation and they can be purposively used to counteract the adverse effects. Precise solutions can be obtained about the positive actions needed to be taken for socio-economic rehabilitation of displaced people.

Social scientists have studied the mechanism that cause impoverishment and along with enormous diversity of individual project-specific and county-specific situations, they observed several common trends whose cumulative effect lead to impoverishment. Michael M. Cernea, a Research Professor of Anthropology and International Affairs, and Senior Adviser-Consultant of the World Bank extracts the general trends and patterns revealed by a vast body of empirical data on resettlement and outlined a theoretical model for involuntary resettlement that highlights the intrinsic risks that cause impoverishment through forced displacement, as well as the ways to counteract – eliminate or mitigate – such risks. He identified the key impoverishment risks as: landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity, loss of access to common property resources, and social disintegration.

1.2 Rationale of the Study

The mega project Jamuna Bridge has affected the livelihood of about one lac people and displaced people living at the vicinity of the bridge site. The various components of the bridge has taken over a large amount of land from agriculture and other uses and affected the livelihood of thousands of people. A large number of people have been displaced from their own village and a large number of people have not been able to continue their life supporting occupation. Beside economic hardships, a large number of people would be deprived of the opportunity to grow, live and die in their forefather's land. In addition to these direct losers, the bridge affected another group of people who lost income opportunity and place of living and are indirectly affected.

The project authority (Jamuna Multipurpose Bridge Authority, JMBA) adopted a Resettlement Action Plan for proper resettlement of the Project Affected Persons (PAPs). The main objective of the

resettlement plan was at least to restore the standards of living and income earning capacity of the PAPs, if not improved after resettlement. RRAP also considers resettlement program to be "conceived and executed as development programs" and PAPs to share the benefits from the project. To achieve the objective a well–defined Entitlement Policy has seen adopted. The livelihood of the PAPs depends on a variety of sources such as farmland, tenant farming, wage labor, trading etc and an individual PAP may suffer more than one type of loss. To cater to the fact an Entitlement Matrix has been formulated that has linked entitlement to the types of losses rather than to the category of PAPs. JMBA started implementing its resettlement plan in the early nineties and completed all resettlement activities before 2001.

In Jamuna Multipurpose Bridge Project due importance was given to the resettlement issue and steps were taken so that Project Affected Persons (PAPs) are adequately taken care of. But after the completion of the project and it's resettlement activity no efforts have been made to follow up the effects of the resettlement programs. There is probably no systematic study on the issue whether or not the displaced persons have regained their former standards of living. Comparative analysis of data between the Pre-Displacement and Post-Displacement stage may indicate the present status of the affected persons with respect to the status before project. It may also highlight on the key risks and impoverishment processes of landlessness, joblessness, homelessness, marginalization, food insecurity, increased morbidity, loss of access to common property resources, and social disintegration. Such study may also shed light in formulating an effective Resettlement & Rehabilitation strategy, which can be used by the implementing agencies in future.

1.3 Research Objectives

Five years have passed after the completion of the project and it's resettlement activity. But still now no efforts have been taken to follow up the effects of the resettlement programs. There is probably no systematic study on the issue whether or not the displaced persons have regained their former standards of living.

It's a good time to evaluate the impact and effects of the resettlement plan because the external temporal influence of the project activities have now disappeared and the economic life and livelihood of the area have taken a stable shape. It is extremely important to take up some empirical studies to examine whether the Project Affected Persons (PAPs) have restored their pre-project standard of living or not. It is also important to find out the reasons for non-restoration of former standard of living (if it is the case).

This research has the following objectives:

Analyze impoverishment processes as risks and entitlement packages as counter-risk measures in the context of Jamuna Bridge Project.

To ascertain whether the Project affected Persons have restored the pre-project standard of living or been further impoverished.

To ascertain the factors those are responsible for non-restoration of pre-project standard of living and learn lessons for future resettlement planning.

Literature Review

2.1 Development Projects and Population Displacement

Development projects often entail significant changes in the patterns of use of land, water, or other natural resources. Very often these projects are designed for the greater benefit of the society as a whole and ignore the adverse impacts on people who are currently using the land, water, or other natural resources and associated economic, social, cultural, and religious facilities. Large variety of projects whether construction of dams, highways, railways, and airports or establishment of protected natural parks and forests involve acquisition of land or changing the pattern of its use.

These projects are usually of crucial importance for local, regional, and national development. However, they can also cause forced displacement of local population and may give rise to conflicts between long-term development goals and interests of local communities and individuals. And it is often found that the local population, usually already poor, end up worse off for a long period of time. The project brings gains at the regional or national level at the cost of the pain suffered by the local people. It is true that some degree of population displacement is unavoidable but this inequitable distribution of gains and pains, benefits and losses is neither inevitable nor justifiable.

It is important to measure the benefits against the costs of adverse impacts by examining the alternative development options to find minimal social and economic cost and to find the means to reconcile the conflicting interests. Where displacement is unavoidable, concrete measures must be taken to (i) protect the lives and livelihood of the displaced population; (ii) reduce and redress the loss of economic potential incurred by the affected people, and the local and regional economies; and (iii) assist in developing the economic, social, and cultural potential of the people and the

communities so affected. But almost everywhere this is not the case.

2.2 Magnitude and Impacts of Population Displacement

Every year millions of people in the world are involuntarily displaced by infrastructure building programs and seldom are they properly rehabilitated. The displaced people are sacrificed for rather than benefited from the project. World Bank estimates that every year (for the decade 1990 – 2000) 10 million people are displaced worldwide due to construction of dams, highway, roads and other infrastructure building programs. This amounts to about 90 -100 million people displaced during the decade which is much greater than the total number of refugees from wars and natural disaster. In India alone, as many as 25 million people have been displaced in recent decades. What is alarming is that most of these people are not properly rehabilitated.

Rehabilitation and resettlement project components vary enormously in size and complexity. Some may affect only few people while others displace tens of thousands of people. If not addressed properly, the displaced or project affected people face the risk of being impoverished. Impoverishment of such a huge population continuously adds to the existing problem of world poverty.

Therefore understanding the economic, social and cultural processes that leads to impoverishment under development programs and identifying the ways to prevent them is crucial for mitigating the hazards intrinsic to involuntary resettlement.

2.3 Voluntary Migration vs. Involuntary Resettlement

Voluntary migration of people occurs as a result of rural-urban migration and transmigration programs organized by governments. Voluntary migration often stimulates economic growth and the people involved are usually (i) self-selected, young or middle-aged

men that are single or (ii) households headed by such men. They are dynamic, and have the willingness and initiative to take risks and pursue new opportunities and challenges. Government may also organize transmigration programs with a view to allow disadvantaged people to new home sites, livelihood opportunities, social services and community organizations. The planning of such programs is generally elaborate and migrants are assisted to re-establish themselves in the new location. Special short and long term assistance are also provided for their livelihood reconstruction.

Involuntary resettlement involves people of all ages and gender; most of them are evicted against their desires. Many of these people are vulnerable and lack in dynamism, initiative and capability to move and reestablish their livelihood in a new location. Women and households headed by them suffer the most because the compensation is often paid to the men, households headed by women usually have fragile economic status, and women have limited access to many support services. Development Project Planners though analyze in details each and every step of the project implementation seldom provide any attention regarding what is happening to the displaced people. As a result people who are involuntarily resettled usually become impoverished.

2.4 Stages of Resettlement

The literature on development induced population displacement is largely comprised of case studies. However, a few theoretical frameworks have been proposed. Scudder and Colson proposed a four-stage model in the early 1980s regarding how people and socio-cultural systems respond to resettlement. They describe the stages as: (i) recruitment, (ii) transition, (iii) potential development, and (iv) handing over or incorporation. Recruitment phase consists of formulating development and resettlement plans, often without informing those to be displaced. During transition,

people learn about their displacement and experience the stress of relocation. Displacees begin the process of rebuilding their economy and social networks in Potential Development Stage. Handing over or incorporation refers to the handing over of local production systems and community leadership to a second generation of residents that identifies with and feels at home in the community. Once this stage has been achieved, resettlement is deemed a success.

This model was formulated initially to reflect voluntary settlement schemes with four stages and later was extended to involuntary resettlement. But the process of voluntary and involuntary displacement characterized by very different circumstances. There are numerous structural, cultural, and political differences between these two socioeconomic processes. It is very likely to create inconsistencies if these two are included in the same model.

2.5 The Risk and Reconstruction Model

Involuntary displacement and resettlement involve a long, complex process. Each case of development-induced population displacement has enormous diversity owing to project-specific and county-specific situations. Every case has its own story and they don't occur in standard, sequential stages. The economy, ecology, socio-cultural structure, technological achievement and bureaucratic constraints shape the patterns of involuntary displacement and the recovery and reconstruction of the livelihood of the displacees.

The most frequent end result is that some people enjoy the gains of development and some people specially the displaced share only the pains of development. The displaced population often usually poor become even more deprived - landless, jobless, homeless and more vulnerable to morbidity and mortality. They become socially disoriented, and politically powerless. All these lead them to impoverishment. These processes of impoverishment and the

means of overcoming them through the rebuilding of a life-support-system are central issues and challenges in involuntary displacement and reconstruction.

Starting from this key point, and based on a bold comparative analysis of many resettlement experiences around the world, Michael Cernea has formulated and proposed a complex and comprehensive model of "Impoverishment Risks and Reconstruction of Livelihood." In 1994, World Bank conducted a study of all World Bank-assisted development projects from 1986-1993 that entailed population displacement. M. Cernea extracts the general trends and common characteristics revealed by the vast body of the empirical data and develop the model of risk and reconstruction. During any involuntary displacement, M. Cernea indentifies eight general sub-Processes that converge in impoverishment. He argues that proper knowledge about these impoverishment processes can influence resettlement planning and implementation and they can also be purposively used to counteract the adverse effects. Cernea's conceptualization of impoverishment brought about a rapid change in this field and other researchers started putting emphasis on the variables of impoverishment and their interrelationship.

Cernea's model identifies eight important dimensions of impoverishment during any involuntary displacement:

Landlessness: Expropriation of land assets

Joblessness: Reduction of working opportunity even when the development project creates some temporary jobs.

Homelessness: Loss of not merely the physical house, but of the family home and cultural space.

Marginalization: Follow a downward trend – socially, economically and psychologically.

Increased morbidity and mortality: Especially among the weakest segments of the population – the children and the old.

Food insecurity: Low level of food reserve and less daily calorie intake.

Loss of access to common property: Loss of access to forests, bodies of water, and wastelands, which substantially supplement the food and income of lower-income groups.

Social disarticulation: Loss of social, economic, and moral support among kinsmen and members of community networks.

These basic risks have varying intensities, depending on local conditions and on the nature of the projects.

The model not only identifies the key processes of impoverishment but also captures the key processes that could counteract the impoverishment risks and lead to the economic and social reestablishment of the livelihood of the displaced. The processes to counter-act the risks are based on land and employment, on restoration of social services for health and education, and on community reconstruction. Again the remedial measures depend on local conditions and on the nature of the losses the displaced people suffered.

Cernea's model has been used as a framework for a number of studies. Mahapatra uses the model to undertake a comprehensive re-examination of empirical evidence of India's involuntary resettlement from 1947-97, examining each of the risks in turn. Ranjit Nayak analyses the risks arising out of landlessness and examines the predicaments faced by the Kisan Tribe in eastern India as a consequence of land alienation. Akhil B. Ota conducted a study on "countering impoverishment risks" on the displaced people from India's Rengali dam. Akhil B. Ota (2001) conducted another study named "Reconstructing Livelihood of the Displaced Families in Development Projects" on the displaced families of the Upper Indravati Multipurpose Project located in the thickly populated tribal district of Nawarangpur in Orissa. Another, much larger scale study

on resettlement caused by seven different projects was carried out by Pandey and Associates in Orissa. That study has used the modeling of key impoverishment risks as an analytical tool, producing new and comprehensive findings.

Study Design

3.1 Methodology and Approach

The research has primarily been based on the Risk and Reconstruction Model for Resettling Displaced Population proposed by Michael Cernea. A portion of research work is aimed to analyze "The Risk and Reconstruction Model" and its applicability to Jamuna Bridge Resettlement Project. Here each 'Risk' or 'Impoverishment Process' as described in the model has been described. Specific attention is made to analyze each impoverishment process – what it actually means, and what are the economic, social and psychological consequence of the particular impoverishment process.

While analyzing each 'Risk', the corresponding 'Counter-Risk' measures, as provided in the Entitlement Matrix of the Resettlement Plan, has also been examined. The entitlement packages prescribed against each type of losses have been reviewed in terms of their applicability and adequacy to negate the risks.

3.2 Survey Questionnaires

The method used for the data collection is to develop questionnaires that are being answered by the PAPs. A total of four questionnaires were used for the survey. The first questionnaire is for the survey of the directly affected households. This is a 6-page questionnaire that covers a wide range of areas: category and quantity of loss, present landownership, tenurial arrangement, occupation, income, housing and health facilities, common property resources, social interaction, compensation utilization etc.

The other three questionnaires are for the survey of indirectly affected households – one for tenant farmer, one for farm worker and the other for the uthulies. Questionnaires were used to retrieve information on the present socioeconomic condition of the indirectly affected population.

Most of the pre-project data have been collected from "Jamuna Multipurpose Bridge: Survey of Residual Land and Project Affected Persons", a socioeconomic survey conducted by research and Evaluation Division of BRAC in 1992. A few pre-project status parameters were also collected through the present survey. The questionnaires are given in the appendix.

3.3 Survey Sample

Based on the theoretical framework a study has been carried out covering 135 Project Affected Households on the basis of random sampling. Care has been taken to select both the Directly Affected Households and In-directly Affected Households proportionately. Proper composition of households in terms of the losses incurred has been catered with and it is ensured that all the major categories of Project Affected Persons are included in the Survey.

BRAC conducted a "Survey of Residual Land and Project Affected Persons" in 1992 that identifies a total of 6129 households of Directly affected persons – 4054 in Tangail and 2075 in Sirajgonj. The direcrtly affected households are mainly land-losers. The categories of land-losers and the number and percentage of households are listed below:

Description of the Directly Affected PAP Category	Number and Percentage of Households					
	Tangail		Sirajgonj		Total	
	Number	%	Number	%	Number	%
Homestead plus Agricultural Land Loser	1070	26.39	296	14.27	1366	22.29
Only Agricultural Land Loser	2474	61.03	1399	67.42	3873	63.19
Only Homestead Land Loser	470	11.59	330	15.90	800	13.05
Fallow and Other Land Losers	40	0.99	50	2.41	90	1.47
Total	4054	100.00	2075	100.00	6129	100.00

A total of 64 directly affected households have been surveyed. The survey covered all the categories of land losers – both Homestead and Agricultural land losers, Agricultural land losers with no homestead loss and Homestead land losers with no agricultural land loss. The category of the households is shown below:

Directly Affected Households :

Category of Project Affected Persons Surveyed

Category of Project Affected Persons	Frequency	Percent	Valid Percent	Cumulative Percent
Homestead plus Agricultural Land Loser	34	53.1	53.1	53.1
Only Agricultural Land Loser	18	28.1	28.1	81.3
Only Homestead Land Loser	12	18.8	18.8	100.0
Total	64	100.0	100.0	

A total of 5816 households of In-directly affected persons – 2788 in Tangail and 3027 in Sirajgonj have been reported in the "Survey of Residual Land and Project Affected Persons". The broad categories are – Tenant Cultivators, Farm Workers, Non-farm Workers, Squatters and Uthulis. The category of in-directly affected households - their number and percentage are listed below:

Description of the In-directly Affected PAP Category	Number and Percentage of Households					
	Tangail		Sirajgonj		Total	
	Number	%	Number	%	Number	%
Tenant Cultivators	312	11.19	249	8.22	561	9.64
Farm and Non-farm Workers	1733	62.16	1346	44.47	3080	52.96
Squatters & Uthulis	743	26.65	1432	47.31	2175	37.40
Total	2788	100.00	3027	100.00	5816	100.00

A total of 71 in-directly affected households have been surveyed. The survey covered all the categories – Tenant Cultivators, Farm and Non-farm Workers, Squatters and Uthulis. The category of the households is shown below:

Indirectly Affected Households :

Category of Project Affected Persons Surveyed

	Frequency	Percent	Valid Percent	Cumulative Percent
Tenant Cultivator	10	14.1	14.1	14.1
Farm and Non – Farm Workers	32	45.1	45.1	59.2
Squatters and Uthulies	29	40.8	40.8	100.0
Total	71	100.0	100.0	

Some Project Affected Persons are living at their old place of residence; those who lost their place of residence have been relocated. A good number of relocated PAPs are residing at the East and West Resettlement Sites at Bhuapur and Sirajganj. Those PAPs who have self-relocated are living at different Host Villages. The survey aimed to investigate the present status of the PAPs considering the dimension of their present place of living and PAPs have been categorized as:

1. PAPs living at their old place of residence
2. PAPs residing at the East Resettlement Site at Bhuapur
3. PAPs residing at the West Resettlement Site at Sirajganj
4. PAPs residing at Host Villages

Directly Affected Households : Present Place of Residence

Present Place of Residence	Frequency	Percent	Valid Percent	Cumulative Percent
East Resettlement Site	27	42.2	42.2	42.2
West Resettlement Site	11	17.2	17.2	59.4
Host Village	18	28.1	28.1	87.5
Old Village	8	12.5	12.5	100.0
Total	64	100.0	100.0	

Indirectly Affected Households : Present Place of Residence

Present Place of Residence	Frequency	Percent	Valid Percent	Cumulative Percent
East Resettlement Site	20	28.2	28.2	42.2
West Resettlement Site	6	8.4	8.4	36.6
Host Village	9	12.7	12.7	49.3
Old Village	36	50.7	50.7	100.0
Total	71	100.0	100.0	

Among the in-directly affected households, all the Tenant Farmers surveyed are living in their old place of residence. Only one Uthuly surveyed (3.4%) is living at the old place of residence. Majority of them have resettled either at Resettlement Sites or at Host Villages.

3.4 Broad Parameters

The survey has been aimed to find out as to whether the PAPs have been able to reconstruct and restore back their pre-project standard of living. To assess the aspect the following broad parameters are used:

1. Land Loss and Countering Landlessness
2. Joblessness and Employment Opportunities
3. Homelessness and House Reconstruction
4. Status of Marginalization
5. Health Services and Sanitation, Morbidity and Mortality
6. Access to Common Property Resources
7. Status of Social Disintegration

Each broad parameter has been measured by a number of direct and in-direct parameters. These direct and indirect parameters have been used to compare the pre and post project status of the project affected persons.

The Impoverishment Process – Risks and Counter Risk Measures

4.1 The Impoverishment Processes

As previously stated, involuntary displacement and resettlement involve a long, complex process. The process has enormous diversity in individual project-specific and county-specific situations. In 1994, World Bank conducted a study of all World Bank-assisted development projects from 1986-1993 that involved population displacement. M. Cernea extracts the general trends and common characteristics revealed in all those projects and develop "The Risk and Reconstruction Model for Resettling Displaced Population". During any involuntary displacement, M. Cernea indentifies eight general sub-Processes that converge in impoverishment. Proper knowledge about these impoverishment processes can influence resettlement planning and implementation. The Model captures both the concepts of 'Risk' and 'Reconstruction' – Involuntary Displacement and Livelihood Reestablishment. Thus the model can also be purposively used to counteract the adverse effects of impoverishment processes and towards successful livelihood reconstruction.

The eight general sub-processes that converge in impoverishment during any involuntary displacement are described below:

4.1.1 Landlessness

Expropriation of land removes the main foundation upon which people's productive systems, commercial activities, and livelihoods are constructed. This is the principal form of decapitalization and pauperization of displaced people, as they lose both natural and man-made capital (Cernea 2004).

Landlessness occurs as a consequence of the alienation of a person from the land with which s/he is innately associated with. Landlessness brings with it a cluster of vulnerabilities that give rise to impoverishment. Land is lost, not only by those who are displaced, but also by people who are not

physically displaced. For the latter people land loss, in many cases, may reduce the landholding to an uneconomical size and consequently reduce the income earning capacity of the household. Landlessness also brings about changes in occupation, and in the ability to hold assets. This reduces the food security of the household and other resource bases used to secure various necessities.

4.1.2 Joblessness

The risk of losing wage employment is very high both in urban and rural displacements for those employed in enterprises, services, or agriculture. Yet, creating new jobs is difficult and requires substantial investment. Unemployment or underemployment among resettlers often endures long after physical relocation has been completed (Cernea 2004).

Loss of employment by wage earners in involuntary displacement represents a fundamental risk and especially the risk of joblessness is particularly difficult to counteract. When the rehabilitation is job-based, generally only one member of a family is provided with a job, while the other members remain unemployed. Even when the rehabilitation is land-based, it is unlikely that all the members of a displaced family will remain involved in work for the same number of days they have worked previously. Also there exists the landless and other indirectly affected persons, who are not eligible for compensation under law, are completely helpless. They lose in three ways: they lose jobs in local industry and services, or other job opportunities; they lose access to work on land owned by others and the use of assets under common property regimes. Unemployment and underemployment push the vulnerable portion of the project affected persons to

engage in seasonal or permanent migration or bonded or child labor.

4.1.3 Homelessness

Loss of shelter tends to be only temporary for many resettlers; but, for some, homelessness or a worsening in their housing standards remains a lingering condition. In a broader cultural sense, loss of a family's individual home and the loss of a group's cultural space tend to result in alienation and status deprivation. For refugees, homelessness and "placelessness" are intrinsic by definition (Cernea 2004).

The first step on the way to post-displacement recovery is the construction of a new house. But probably it is one of the most difficult things to do both financially and emotionally. The resettlers may be able to construct a house for shelter but 'home' is much more than a mere house. The loss of a family dwelling is the loss of cultural space, which weakens identity and ultimately adds cultural impoverishment to its economic counterpart. The situation is much more grave for the squatters and uthulies as they have no place to construct their houses.

4.1.4 Marginalization

Marginalization occurs when families lose economic power and spiral on a "downward mobility" path. Middle-income farm households do not become landless, they become small landholders; small shopkeepers and craftsmen downsize and slip below poverty thresholds. Many individuals cannot use their earlier acquired skills at the new location; human capital is lost or rendered inactive or obsolete. The coerciveness of displacement and the victimization of resettlers tend to depreciate resettlers' self-image, and they are often perceived

by host communities as a socially degrading stigma (Cernea 2004).

In any involuntary displacement the project affected persons suffer the dual process of economic and social marginalization. Displacement-induced impoverishment of the affected population comes not only from economic deterioration but also from the loss of the economic, social and psychological infrastructure upon which their livelihood is constructed. It is the later one that makes it impossible for the displaced or project-affected persons to rebuild their livelihood. Economic indicators only manifests the present state of impoverishment but the loss of the economic, social and psychological infrastructure creates 'marginalization' in the fullest sense of the term, because it ensures that the status of the poor will deteriorate further and the poor are deprived of any opportunity to improve it.

4.1.5 Increased Morbidity and Mortality

Displacement-induced social stress and psychological trauma are sometimes accompanied by the outbreak of relocation-related illnesses, particularly parasitic and vector-born diseases such as malaria and schistosomiasis. Unsafe water supply and improvised sewage systems increase vulnerability to epidemics and chronic diarrhea, dysentery, and so on. The weakest segments of the demographic spectrum - infants, children, and the elderly - are affected most strongly (Cernea 2004).

Involuntary displaced people are more vulnerable to illness and often suffer more severe diseases than those who are not. This is in general caused by the absence of preventive health measures and by unsafe drinking water and inadequate sanitary system. Forced displacement also has a grave

consequence on the mental health. All these contribute to increased morbidity and mortality of the displaced people.

4.1.6 Food Insecurity

Forced uprooting increases the risk that people will fall into temporary or chronic undernourishment, defined as calorie – protein intake levels below the minimum necessary for normal growth and work (Cernea 2004).

Food insecurity is the obvious consequence of the impoverishment processes. Landlessness, joblessness, homelessness, marginalization, loss of access to common property resources, and social disintegration all contribute to the cause of food insecurity.

4.1.7 Loss of Access to Common Property

For poor people, particularly for the landless anld assetless, loss of access to the common property assets that belonged to relocated communities (pastures, forested lands, water bodies, burial grounds, quarries, and so on) results in significant deterioration in income and livelihood levels (Cernea 2004).

Common Property Resources include grazing lands, burial grounds, wastelands, forests and woodlands, surface water and reservoirs, wildlife, fisheries, and riverbeds which are traditionally used by a community. For the poor people common property resources provide a vital support for their food and income. But loss of common property resources is not usually compensated under the resettlement program. It is unlikely that the relocated persons will have the access to the common property resources in the new place. This results in significant deterioration in their income and livelihood.

4.1.8 Social Disintegration

Forced displacement tears apart the existing socialfabric. It disperses and fragments communities, dismantles patterns of social organization and interpersonal ties; kinship groups become scattered as well. Life-sustaining informal networks of reciprocal help, local voluntary associations, and self-organized mutual service are disrupted. This is a net loss of valuable "social capital" that compounds the loss of natural, physical, and human capital (Cernea 2004).

The social disintegration of the displaced communities is probably the most complex impoverishment process to analyze and obviously the most difficult part of reconstruction. It goes beyond how individuals are impoverished by displacement and brings into discussion how society as a whole is affected. Not only the displacement related deprivations even the payment of compensation money to the father as head of the displaced family may led to altercations between father and married son and between married brothers.

4.2 Revised Resettlement Action Plan (RRAP)

As stated earlier, in Jamuna Multipurpose Bridge Project due importance was given to the resettlement issue and steps were taken so that Project Affected Persons (PAPs) are adequately taken care of. Jamuna Multipurpose Bridge Authority (JMBA) adopted a resettlement plan known as Revised Resettlement Action Plan (RRAP) which is consistent with the World Bank Operational Directives (OD 4.30)

The main objective of the resettlement plan is at least to restore the standards of living and income earning capacity of the PAPs, if not improved after resettlement. RRAP also considered resettlement program to be "conceived and executed as development programs"

and PAPs to share the benefits from the project. To achieve the objective a well–defined Entitlement Policy had been adopted. The livelihood of the PAPs depends on a variety of sources such as farmland, tenant farming, wage labor, trading etc and an individual PAP suffered more than one type of loss. To cater the fact an Entitlement Matrix had been formulated that linked entitlement to the types of losses rather than to the category of PAPs.

Now we shall examine what are the Entitlements as per Resettlement Plan and how this Entitlement Policy taken measures against the processes of impoverishment. The Compensation and Rehabilitation Policy (Entitlement Matrix) is attached at the end.

4.3 Steps Taken in RRAP against impoverishment Processess

4.3.1 Landlessness

This is the principal form of loss and is the most crucial one in the context of overall scarcity of land in Bangladesh, where every decimal of land is important. PAPs who lost their agricultural land or homestead plot are entitled to a monetary package adequate for buying equal amount of replacement land. The package includes compensation under the Land Acquisition Act and a cash grant to meet the difference between compensation and the replacement value of equivalent land. Provision of this cash grant is conditional to purchase of replacement land and it involves the land loser PAPs in compulsion to recoup lost land rather than to spend the money in unproductive sectors. Another point to be noted here that, most of the acquired land is along the riverbank and the land itself and its crop is under constant threat of flood and erosion. It is expected that most the replacement land would be away from the river and would be less susceptible to flood resulting in better productivity.

Land losing PAPs were also eligible for an additional credit up to 50% of their total compensation for purchase of replacement land.

Special provision has been made to increase land holdings for the PAPs whose per capita holding prior to land acquisition was less than 15 decimals. Resettlement Unit had provided institutional and financial assistance in purchasing replacement land and all stamp duties incurred by land transaction has been borne by Jamuna Multipurpose Bridge Authority.

4.3.2 Joblessness

Persons affected by loss of tenant contact for farming or by loss of wage employment were provided with a one-time cash grant of Tk.3600 as subsistence allowance. This subsistence allowance was provided for a transition period of 90 days. It was expected that within the period they would be able to find new farming contract or employment. Such PAPs were also entitled to vocational training at project cost. It was expected that the contractors will employ the unskilled portion of their labor force from the interested PAPs.

For long term sustainability of income and to curtail unemployment and underemployment, Individual Rural Enterprise was entrusted with. Small scale, individual rural enterprises are a well-known success story in Bangladesh. A training and micro-credit need assessment survey was conducted among the PAPs. PAP himself or any dependent member of his family would be given human Resource Development (HRD) and Occupational Skill Development (OSD) training. After successful completion of the training, the trainee would get credit from JMBA to start business in the trained skill. The whole package has been operated by NGO.

4.3.3 Homelessness

Homestead land losing PAPs are entitled to the monetary package to buy equivalent replacement land. Same package was applicable to the PAPs who do not actually own the land but occupy it. All PAPs were evicted from their land when replacement homestead

had been provided by themselves or by JMBA at resettlement site. Uthulis and squatters, who lose their place of residence, were given a homestead plot of 100 SQ.M. either through private purchaser or at resettlement site. For Shifting the residential structures to the relocated site and for reconstructing it again, two grants namely, Transfer Grant (TG) and House Construction Grant (HCG) were provided to the structure losing PAPs. The structure losing PAPs were allowed to take away all the salvageable materials from their old structures.

In the resettlement plan, the migratory nature of the PAPs dwelling in the bank of river Jamuna was conceived and PAPs are encouraged to relocate themselves. The people are more or less habituated to relocate themselves as they experience the recurrent process of land erosion and land accretion. Most of the PAPs are expected to relocate themselves within 20 to 30 kms of their old place of residence; in the relocated place they may have their own relatives or previous neighbors.

4.3.4 Marginalization

In the Jamuna Bridge Resettlement Ploicy great emphasis has been given to counteract marginalization by setting its objective to restore the standard of living and income earning capacity of the PAPs. Primarily marginalization occurs due to loss of land and loss of employment. Measures have been taken to recoup the lost land and to restore the income level. The measures have already been discussed.

4.3.5 Increased Morbidity & Mortality

Steps had been taken to ensure safe water supply and proper sanitation for the displaced PAPs. Sanitary latrine and Tubewell had been provided for the PAPs both at resettlement Site and at host village at project cost. The poor displacees who previously did not own a tubewell or a latrine themselves become the owners of the

same. Safe drinking water has been ensured and sanitary condition has been improved. Health centers were constructed adjacent to resettlement sites to ensure quick accessibility and low cost medical care for the PAPs both at resettlement site and at host areas. Human resource development training program and information campaign were used to inform PAPs about sanitation and primary health care.

4.3.6 Food Insecurity

Chronic undernourishment and food insecurity is the result of loss income whatever may be the source whether land or job. Temporal food insecurity was also expected to arise during the transitional period. Steps taken in Jamuna Bridge Resettlement Plan for transitional and long-term income and asset restoration has already been discussed.

4.3.7 Loss of Access to Common Property

It is really difficult to re-establish one's right to a property, which actually one does not possess. Recoupment of this loss is also vital, because the suffered population are predominantly landless and assetless- the most vulnerable group. In the resettlement plan some indirect steps had been taken for the integration of the relocated PAPs into the host communities. The integration process was incentive driven and the host community was benefited from establishment of a new educational or religious institution or from an access road. Provision of these facilities in the host area created a welcome atmosphere for the PAPs and PAPs while integrating with the host community gained the right of access to the existing common property of the host area. In the resettlement site several large ponds have been constructed and after relocation of PAPs, there were some excess land for the use of the PAPs.

4.3.8 Social Dis-integration

No direct measure has been stated in the resettlement plan to compensate for the loss of social capital incurred by the displaced community. But mitigation of the loss lies in the specific social feature that prevails in the project area. Most of the PAPs dwell in the bank of river Jamuna. Their land and livelihood recurrently experience the aggression and retardation of the river. Annual flood and erosion constantly threaten and destabilize their cultivable land and place of living. Nature compels them to migrate and to try their fortune in the relocated place for another few years. This tendency of involuntary migration or displacement is well conceived in the existing pattern socio-cultural organization. For the people living in the bank of Jamuna such social dis-integration is a common phenomenon and this phenomenon occurs recurrently to re-integrate the society again.

Data Analysis

5.1 Land Loss and Countering Landlessness

5.1.1 Directly Afected Households

3982 acres of land have been acquired for the construction of the bridge and other facilities. As reported in the "Survey of Residual Land and Project Affected Persons" the amount of land acquired in different categories is listed below:

Type of Land	Tangail	Sirajgonj	Total
Agricultural Land	269,628	61,666	331,294
Homestead Land	31,308	8,305	39,613
Fallow Land	20,595	423	21,018
Other Land	5,920	308	6,228
Total	327,451	70,702	398,153

Despite the encouragement and initiatives provided through the resettlement program, the Project Affected Persons could not purchase the replacement land for the huge amount of land lost. Data analysis of the directly affected household suggests that only 34.4% of them were able to purchase full replacement land.

Purchase of Land and Constraints

	Frequency	Percent	Valid Percent	Cumulative Percent
Purchased full land	22	34.4	36.7	36.7
Land price too high	10	15.6	16.7	53.3
Compensation too low	12	18.8	20.0	73.3
Spent on consumption etc.	14	21.9	23.3	96.7
Money invested elsewhere	2	3.1	3.3	100.0
Total	60	93.8	100.0	
Missing System	4	6.3		
Total	64	100.0		

Another 34.4% replied that either land price was too high or amount of compensation was too low for the purchase of the

replacement land. 21.9% showing the reason of spending the money for consumption or other purposes instead of purchasing replacement land.

The response of the PAPs that 'the land price was too high' or 'the amount of compensation was too low' does not reflect the actual scenario. The Jamuna Multipurpose Bridge authority was paying the full replacement value of the land as well as the stamp duty for the registration. So the question of 'the land price was too high' or 'the amount of compensation was too low' does not arise. The fact is that it was practically impossible for the land losers to find such huge quantity of purchasable land in the area. Again award of compensation was further constrained by disputes regarding ownership of land and by the inability to produce conventional landownership documents.

Data on utilization of received compensation has revealed how the money has been spent instead of purchasing replacement land.

Compensation Utilization - Percentage of households using different percentage of compensation on different items

Use of Compensation	Using full compensation	Using less than 50%	Using 50% or more	Not Using at all
Daily Consumption	10.00	13.33	3.33	73.33
House Repair	10.00	13.33	13.33	63.33
Land Purchase	35.00	1.67	13.33	50.00
Trade/Business	0.00	0.00	3.33	96.67
Wedding	3.33	5.00	3.33	88.33
Loan Repayment	3.33	6.67	3.33	86.67
Others	1.67	6.67	3.33	88.33

Very similar to the findings of the previous table for Purchase of Land and Constraints, only 35% of the households have used their full compensation for purchase of land. Alarmingly, 50% of the

directly affected households, who are land losers of different kind, have not at all used their money for the purchase of replacement land.

Losses of large quantity of land and inability to purchase the whole or even a part of it have changed the tenurial arrangement of the community in the post project time. The percentage of households who cultivate own land only and who cultivate own land and rent in land have decreased substantially. The increase in 'Rent Out All' category suggests that the landholding size might have been decreased such that it is not economical to cultivate for the households. The table in the next page shows a good comparison with pre-project status:

Tenurial Arrangement - Households in Different Tenurial Categories

	Percentage of Households in Different Tenurial Categories	
Tenurial Categories	**Pre-Project Status**	**Present Status**
Cultivate Own Land	54.6	39.68
Cultivate Own Land + Rent In	17.3	3.18
Cultivate Own Land + Rent Out	4.3	6.35
Rent In All	3.2	4.76
Rent Out All	6.6	15.87
Cultivate Own Land + Rent In + Rent Out	0.4	0
None	13.6	30.16

Not only has the percentage of households who cultivate and rent in land decreased but also the quantity of land. The following table shows the amount of land owned, rented in and rented out in the pre and post project period.

Tenurial Arrangement - Amount of Land Owned, Rented In and Rented Out

	Average Amount of Land in Decimals					
	Land Owned		Rented In		Rented Out	
	Pre-	Present	Pre-	Present	Pre-	Present
Tenurial Categories	Project	Status	Project	Status	Project	Status
Cultivate Own Land	178	126	-	-	-	-
Cultivate Own Land + Rent In	114	116	75	83	-	-
Cultivate Own Land + Rent Out	272	170	-	-	134	122
Rent In All	-	-	84	52	-	-
Rent Out All	-	-	-	-	156	112
Cult Own + Rent In + Rent Out	221	0	60	0	51	0
None	-	-	-	-	-	-

Land ownership of the households that 'Cultivate Own Land' only has reduced substantially at present falling from 178 decimals to 126 decimals. The reduction is nearly 30% of the land they previously owned. Same is the situation for the households that 'Cultivate Own Land + Rent Out'; average land ownership reduced to 170 decimals, a 37.26% decrease from the land ownership (272 decimals) in the pre-acquisition period.

Also availability of land in this region has decreased in general. This is apparent from the data for renting in and renting out of land in the present period. For cultivators, solely dependent on rented in land, are only renting in 52 decimals of land at present whereas the figure for pre-project period was 84 decimals. The reduction is 38.1% i.e., less than 2/3rd land is available for renting in.

Recognizing the fact that availability of land in this region has decreased resulting in smaller land holdings etc., one interesting question arises. Have the households diversified? The fact that lesser households cultivate own land (39.68% instead of 54.6%)

and more households rent out all the land (15.87% instead of 6.6%) supports as evidence of diversification.

5.1.2 Indirectly Affected Households

5.1.2.1 Tenant Farmers

The indirectly affected tenant farmers are those who have not lost land and/or other properties, but rent in land from the landowners who have lost agricultural land to the project. Some tenant farmers were landless and some own agricultural land which remained unaffected by the land acquisition. The following table compares the pre-project and present status of the tenant farmers both in terms of land ownership and rented in land amount.

Pre and Post - Project Status of Tenant Cultivators : Landownership and Rented In Land

	Landownership and Rented In Land (in decimals)	
Parameters	Pre-Project Status	Present Status
Average Land Ownership	118.19	59.95
Average Land Rented In	91.44	72.10

Both land ownership and the amount of rented in land decreased in the post project period. As the supply of land in the tenancy market has reduced after the acquisition it is expected that the amount of land rented in would decrease. Moreover, there is increase in demand of land from the land losing households to supplement their reduced land. They would have purchased some land from the tenant farmers and also may have taken some share of the land to be rented in. This explains the huge reduction in tenant's land ownership.

5.1.2.2 Farm Workers

2461 farm workers who lived in 1130 households of Tangail and Sirajgonj districts were affected by the Jamuna Bridge Project. Not all the households were agriculturally landless and according to BRAC's socioeconomic survey average quantity of agricultural land per household is 10.43 decimals. Considering the homestead land owned remained same, average total land owned by the farm worker households have decreased from 17.18 decimals to 7.64 decimals.

Pre and Post - Project Landownership of Farm Workers

Pre-Project Status			Present Status
Agri Land Own (decimals)	Homestead Own (decimals)	Total Land Own (decimals)	Total Land Own (decimals)
10.43	6.75	17.18	7.64

It appears that most of the land has been sold to the direct land losers who got cash compensation for purchase of replacement land and were ready to pay higher prices. Although the poor households may have got better prices for their land, but the whole process ultimately made most of them virtually landless. The decline in farm labour demand in the local market is likely to have also contributed to the process.

5.1.2.3 Squatters and Uthulies

Squatters and uthulies are households which do not own homelots, but makes home on others land and pay no rent. As stated in the definition squatters and uthulies had no homestead land in the pre-project period. Provisions were made in the resettlement program to provide minimum homestead land for them either a plot at the resettlement village or a homestead land elsewhere. The surveyed squatters and uthulies own on average a homestead land of 4.86 decimals.

5.2 Joblessness and Employment Opportunities

Joblessness for the project affected persons of Jamuna Bridge is the loss of employment opportunities and it is very much related to the loss of land. In general it is invariably found that the employment opportunities for the affected population get reduced. As the affected population is very much dependent on land and agriculture is the primary occupation for the majority in the pre-project period, the comparison of occupational structure in the pre and post displacement period can provide a good indication of the situation. The table below compares the occupational structure of the directly affected households in the pre and post displacement period.

Occupational Structure - Number and Percentage of Households in Different Categories of Primary Occupation

	Pre-Project Status		Present Status	
Occupation	Number	Percentage	Number	Percentage
Agriculture	3153	51.22	26.00	40.63
Employment	645	10.48	9.00	14.06
Trade/Business	793	12.88	11.00	17.19
Daily Labor	1257	20.42	12.00	18.75
Others	308	5.00	6.00	9.38
Total	6156	100	64.00	100.00

As the primary occupation, the share of agriculture has been reduced from 51.22% to 40.63% while the share of employment and trade/business has increased. The change of the occupational structure in a land scarce country like Bangladesh is positive as people are less dependent on land. Another thing worth to be noted that the share of daily labour as primary occupation has also reduced.

Another indicator used is the comparison of household income from different sources. The following table compares the pre-project and

present status of household income from different sources of the directly affected persons. The present value of the pre-project income (1992-93) has been calculated using the Consumer Price Index (CPI) [General] (Annexure). The base year is 1995-96 and CPI for June 2006 has been interpolated as 171. Considering the average inflation of 3.96% for the 3 previous years (same as the year 1996-97) the CPI for 1992-93 comes out to be 89.00. The following table compares the pre-project and present household income using 89.00 as CPI for the year 1992-93 and 171.00 for the year 2005-06.

Household Income From Different Sources, Comparison of Pre-Project and Present Status

	Pre-Project			Present	
Income Source	% of HH	Average Income	Present Value of the Income	% of HH	Average Income
Agriculture	86.00	13730.51	26381.09	67.19	26643.12
Agricultural Labour	14.81	5346.05	10271.62	21.88	21564.28
Non-Agricultural Labour	23.67	12416.49	23856.40	12.50	31056.25
Employment	15.36	28729.18	55198.76	21.87	60857.14
Business/ Trade	23.60	19926.92	38286.55	26.56	21088.24
Others	3.41	32271.99	62005.73	5.25	22175.00
Total	100	25824.00	49616.90	100.00	46800.00

Household income from agriculture has increased little bit from taka 26381 to taka 26643 per annum. The same is the case for employment. The income from agricultural and non-agricultural labour has increased drastically as the share of total income. However the share of income from trade/business has reduced

substantially. The household total income has decreased from taka 49616 to taka 46800 per annum.

In the pre-project period 86% of the households had a potion of income from agricultural product. At present the percentage of households has reduced to 67%. About 15% of the households were engaged as agricultural labour in the pre-project period; now 22% of the households have to use agricultural labour as one of their source of income.

Income of the indirectly affected tenant farmers from the rented in land has increased despite average amount of rented in land decreased. This is presented in the following table:

Pre and Post - Project Status of Tenant Cultivators : Amount of Rented In Land and Income from Rented In Land

	Rented In Land and Income from Rented In Land	
Parameters	Pre-Project Status	Present Status
Average Land Rented In (dec)	91.44	72.10
Average Income from Rented In Land (Converted to present value, in Tk.)	8413.31	13185.00

The present annual income of the tenant farmers from the rented in land has increased from Tk.8400 to Tk.13200.

The comparison of income of the indirectly affected farm and non-farm workers in the pre and post project stage is tabled below:

Pre and Post - Project Status of Farm and Non-farm Workers : Income from Agricltural and Non-agricultural Labour

Parameters	Pre-Project Status	Present Status
Average Income from Agricultural and Non-agricultural Labour (Converted to present value, in Tk.)	11231.95	19589.69

Their average annual income from agricultural and non-agricultural labour has increased from Tk.11200 to Tk.19500.

5.3 Homelessness and House Reconstruction

The first step on the way to post-displacement recovery is to find a new land and to reconstruction the house there. The status of different categories of PAPs in terms of their ownership of homestead land as found out in the survey is tabulated below:

Homestead Land Ownership of the Directly Affected Households and the Uthulies

Category of Project Affected Persons	Avg. Homestead Land Own (decimals)
Homestead plus Agricultural Land Loser	12.87
Only Agricultural Land Loser	9.65
Only Homestead Land Loser	6.50
Total Directly Affected Households	10.79
Squatters and Uthulies	4.86

Squatters and Uthulies who previously owned no homestead of their own now has an average homestead land of 4.86 decimals.

The affected households in Tangail and Sirajgonj districts owned a total of 20,396 houses and structures in the pre-acquisition period, 56% of which were used for sleeping/living. On average each household owned 3.26 of these structures and a sleeping/living area of 476.12 sft. Let us compare this pre-project status with the present status:

Pre and Post - Project Status of the Directly Affected Households :
Number of Houses and Living Area

	Number of Houses and Living Area	
Parameters	Pre-Project Status	Present Status
Avg. No. of Houses per Household	3.26	2.37
Avg. Area Sleeping/Living (Sft)	476.12	413.59

Both average number of houses and average sleeping/living area per household have decreased in the post-project period. Project affected persons now own 27.3% less in terms of number of houses and occupy a sleeping/living area which is 13.13% less than that of pre-project period.

Though there is a decline in number of houses owned or in sleeping/living area, the overall quality of housing has improved.

Pre and Post - Project Status of Amenities / Utilities in Households

	Percentage of Households with selected amenities	
Amenities/ Utilities	Pre-Project Status	Present Status
Electricity	4.6	37.5
Tubewell	45.7	82.8
Ring / Slab / Sanitary Latrine	16.4	90.5

It is reflected in the increased amenities/utilities that are presently associated with the households. The increased amenities/utilities that are now being used by the households also signifies their improved financial capability.

'Home' is much more than a mere house and homelessness has a broader cultural perspective - house ownership and quality of house is inadequate criteria for measuring homelessness. The research within its limited scope has tried to compare the cultural space of the project affected persons between the pre-project and present situation. The following table represents the status of the directly affected households.

Pre and Post - Project Status of Directly Affected Households

Parameters	Pre-Project Status	Present Status
Living close to relatives, kin & clan members (% of HH)	100.00	98.40
Living in Joint Family (% of HH)	29.00	8.10
Existence of Informal Social Organisation (% of HH)	100.00	100.00

The situation virtually remained unchanged and the reason behind it is that the displaced people relocated in groups either in resettlement village or in the host areas. The breakage of joint family into single ones is a natural phenomenon and the un-jointed families appear to be living close together keeping their social bonding intact.

5.4 Marginalization

Marginalization is the outcome of the aggregate of deprivation faced by the project affected persons. In Jamuna Bridge Project the income and livelihood of the project affected persons were very much dependent on land and agriculture. The table below is presented again to compare the pre and post project status of land owned, rented in and rented out.

Tenurial Arrangement - Amount of Land Owned, Rented In and Rented Out

	Average Amount of Land in Decimals					
	Land Owned		Rented In		Rented Out	
	Pre-	Present	Pre-	Present	Pre-	Present
Tenurial Categories	Project	Status	Project	Status	Project	Status
Cultivate Own Land	177.90	125.68	-	-	-	-
Cultivate Own Land + Rent In	113.69	116.50	74.59	83.00	-	-
Cultivate Own Land + Rent Out	271.74	170.50	-	-	134.26	122.35
Rent In All	-	-	84.01	52.00	-	-
Rent Out All	-	-	-	-	155.86	112.50
Cult Own + Rent In + Rent Out	221.05	0.00	59.68	0.00	51.23	0.00
None	-	-	-	-	-	-

In general land ownership in all the tenurial categories has decreased in post-project period. Same is the situation in case of availability of land for renting in and renting out.

The indirectly affected persons have not lost any land to the project due to acquisition. Still as a consequence of the project there is a marked reduction in their land holding size. The following table shows that the land ownership of both tenant farmers and farm workers has decreased substantially.

Pre and Post - Project Status of Land Ownership of the households Indirecty Affected

	Amount of Land (in decimals)	
Category	Pre-Project Status	Present Status
Tenant Cultivators	118.19	59.95
Farm Workers	17.18	7.64

Despite the reduction in land ownership, average income of directly affected households has not decreased much in the post displacement period. It is visible from the table of household income from different sources. The income from agriculture, employment, and agricultural and nonagricultural labour has increased in the post displacement period. Though the income from trade/business and other sources has decreased substantially, the total income has virtually remained unchanged in the post-displacement period. The present annual income of the indirectly affected households, namely, the tenant farmers and the farm and non-farm workers have increased substantially.

The project affected persons also suffer losses in terms of houses and living area per household. The following table extracted from the previous section manifests the status of the directly affected households in terms of number of houses owned and living area used per household .

Pre and Post - Project Status of the Directly Affected Households :

Number of Houses and Living Area

	Number of Houses and Living Area	
Parameters	Pre-Project Status	Present Status
Avg. No. of Houses per Household	3.26	2.37
Avg. Area Sleeping/Living (Sft)	476.12	413.59

Though there is a decline in number of houses owned or in sleeping/living area utilized, the overall quality of housing has improved. It is manifested by the increased use of amenities/utilities in the affected households.

5.5 Health Services and Sanitation, Morbidity and Mortality

Data regarding morbidity and mortality is not available for pre-project period. So it was not attempted to measure morbidity and mortality in a direct way. Rather some other parameters were used to measure these impoverishment processes indirectly.

One of the parameter used is the comparison of the distance of the closest health care facilities. It is found that the distance of the available health-care facilities from the place of present residence of the households has reduced drastically in the post-project period.

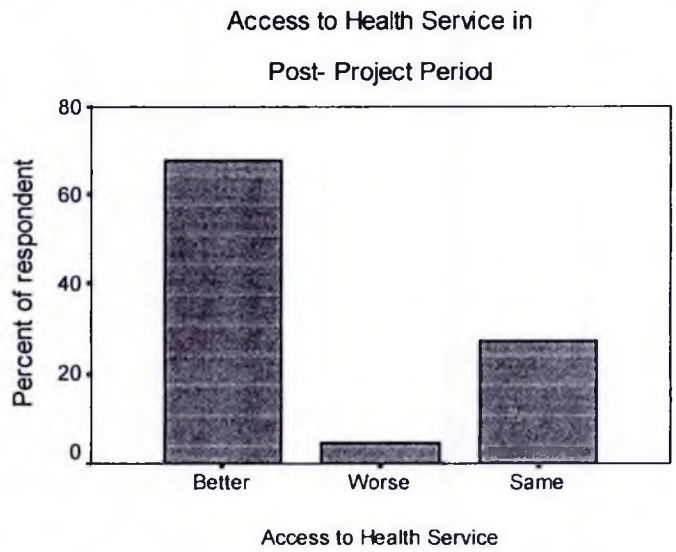
Distance of Health Care Facilities from the Place of Residence

Pre - Project	At Present
9.349 Km	2.727 Km

The reason behind it is that the affected population has relocated from rather inaccessible remote places to places connected by roads and having better infrastructure. At the resettlement site a hospital has been constructed to provide medical facilities to the community.

The general feeling of the project affected population with regard to their present access to health services is also positive. About 70% of the person surveyed acknowledged that their present access to health services is better.

Access to Health Services in Post - Project Period



Access to safe drinking water and sanitation facilities are the other indirect parameters used to identify health status of the households in the post-project period.

Pre and Post - Project Status of Amenities / Utilities in Households

	Percentage of Households with selected amenities	
Amenities/ Utilities	Pre-Project Status	Present Status
Tubewell	45.7	82.8
Ring / Slab / Sanitary Latrine	16.4	90.5

It is expected that the huge increase in the access to safe drinking water and sanitation facilities in the post-project period will enable the affected population to reduce their vulnerability to morbidity and mortality.

5.6 Access to Common Property Resources

In this study common property has been identified as the resources to which the project affected people had access prior to the project without owning it. Four parameters, namely, access to khas or fallow lands, access to fishing in river or beels, access to grazing land and access to burial ground were identified by which the project affected persons had been benefited prior to project without owning them. The following table presents Pre and Post - Project Status of Directly Affected Households regarding their access to common property resources.

Access to Common Property Resources :
Pre and Post - Project Status of Directly Affected Households

	Access to Common Property Resources (% of HH)	
Parameters	Pre-Project Status	Present Status
Access to Khas or Fallow Lands	12.50	3.10
Access to Fishing in River or Beels	81.30	59.40
Access to Grazing Land	56.30	46.90
Access to Burial Ground	100.00	100.00

There was limited access for the affected population to khas or fallow land prior to project that has further deteriorated in the post-project period. More than 80% of the population had access to fishing in the Jamuna river, its tributaries or in the beels. At present less than 60% of the population have that access; for the poor people it may results in a marked decrease in their protein intake. Access to grazing land has reduced from 56% to 47% and access to burial ground remains the same in the post-project period.

5.7 Social Disintegration

The Project Affected People are the dwellers along the bank of river Jamuna. Their land and livelihood are constantly threatened and destabilized by the aggression of the river. Nature compels them to migrate and to re-integrate into a new society in the relocated place. Social disintegration and re-union are not very uncommon in their life cycle. They often migrate in groups and keep the existing informal social bonding intact.

Three parameters were used to evaluate the status of social interaction in the post-project period. These are (a) whether they live close to relatives, kin & clan members, (b) do they live in joint or single family, and (c) Do any informal social organization like salish etc. exists? Attempts were made to compare these parameters in pre and post displacement situation. The comparison is listed is the following table.

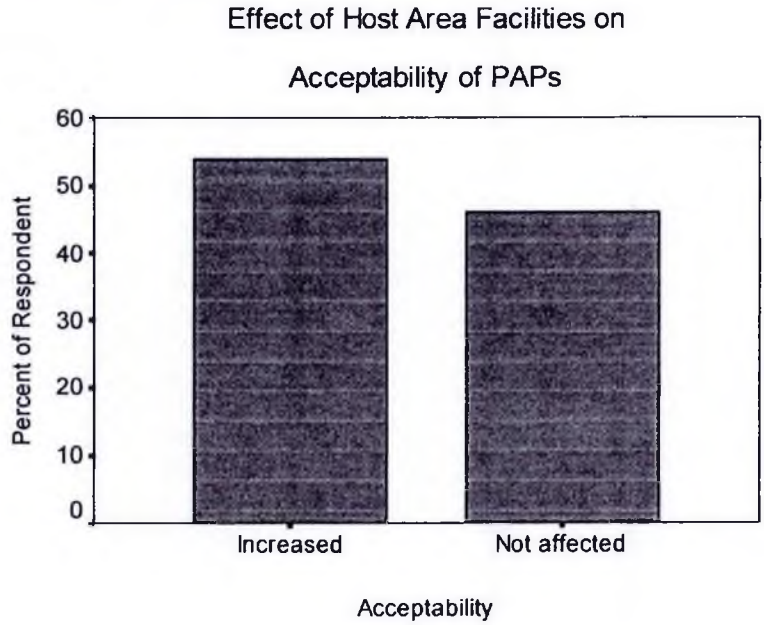
Social Interaction :
Pre and Post - Project Status of Directly Affected Households

Parameters	Social Interaction (% of HH)	
	Pre-Project Status	Present Status
Living close to relatives, kin & clan members	100.00	98.40
Living in Joint Family	29.00	8.10
Existence of Informal Social Organisation	100.00	100.00

Only marked difference is in the statistics of joint or single family. In the pre-project period 29% of the families were joint; at present only 8% population are living in joint family. Despite the separation of the joint families they are living close to relatives and the informal social organization still exists.

For the self relocated project affected persons some indirect steps have been taken for the integration of the PAPs into the host

communities. The integration process is incentive driven and the host community may be benefited from establishment of a new educational or religious institution or from an access road. Provision of these facilities in the host area is expected to create a welcome atmosphere for the Project Affected Persons. The following chart analyzes whether the acceptability of the relocated households have been increased by the provision of these facilities.



More than 50% of the relocated households have replied that host area facilities have increased the acceptability of the project affected persons in the host community. It is to be noted that nobody has answered that it has decreased their acceptability. The acceptability of the relocated families is a good step towards their integration into the host community.

Major Findings and Conclusions

6.1 Major Findings

In the previous section data collected from field survey have been categorized under the head of broad parameters and data was analyzed to find out various indicators under each broad parameter. This section examines each indicator in turn and tries to assess whether the PAPs have been able to restore their pre-project status with respect to that particular indicator. The summary of major findings, as well as some other observations is listed below:

6.1.1 Purchase of Replacement Land and Landownership

It is found in the study that only 34.4% of the land-losing PAPs have been able to purchase full replacement land. Only 35% of the households have used their full compensation for purchase of land and 50% of the households have not at all used their compensation money for the purchase of replacement land.

Land ownership of the directly affected households has reduced about 30% for the tenure categories that 'Cultivate Own Land' and 37% for the tenure categories that 'Cultivate Own Land + Rent Out'. Also availability of land has decreased – less than 2/3rd land is available for cultivators who solely depend on 'Rented In' land.

Land ownership for indirectly affected households has also reduced substantially though no land was acquired from this category of households. Average land ownership has reduced by 49% for the tenant farmers and 55% for the farm workers. Land available to rent in for the tenant farmers has also reduced by 21%.

The targeted program to provide homestead land for the Squatters and Uthulies has been a success. The homestead-landless Squatters and Uthulies now on average own a homestead land of 4.86 decimals.

It is evident that the Project Affected Persons of the Jamuna Multipurpose Bridge Project have not been able to recoup the

amount of land they lost due to acquisition. Despite the encouragement and initiatives (payment of full replacement value for purchase of replacement land) provided through the resettlement program, it was practically impossible for the land losers to find such huge quantity of purchasable land in the area. 4000 acres of land was unavailable in the land market. Again purchase of land was further constrained by the delay in award of compensation due to disputes regarding ownership of land and inability to produce conventional landownership documents. The fact that more households have now become disjointed and that the landless Uthulies now own some homestead land have also contributed to the reduction in average land holding.

6.1.2 Income and Employment Opportunities

The total income for the directly affected households has reduced marginally (by 5.67%) in the post-project stage. The reduction in income is caused by income loss they suffered from the source of business/trade and other sources. Despite reduced land ownership and less availability of land to rent in, household income from agriculture has increased from taka 26381 to taka 26643 per annum. The income from agricultural and non-agricultural labour and from employment has also increased as the share of total income.

Less percentage of the directly affected households are now earns from agricultural product in the post-project period. In the pre-project period 86% of the households had a potion of income from agricultural product. At present the percentage of households has reduced to 67%. Two points may be noted here. Less percentage of households is now dependent on agriculture and average household income from agriculture has increased. Less dependence on agriculture in a land scarce country like Bangladesh is positive. And

more income from agriculture using less land signifies productivity of the land has increased. Productivity in agriculture is likely to have increased due to construction of flood protection embankment as a part of the project and also increased accessibility of the farmers to irrigation, better seeds and modern agricultural techniques.

The average annual income of the tenant farmers from the rented in land and of the farm and non-farm workers has increased considerably. Despite the reduction in average amount of rented in land, the present annual income of the tenant farmers from the rented in land has increased from Tk.8400 to Tk.13200. The average annual income of the farm and non-farm workers from agricultural and non-agricultural labour has increased from Tk.11200 to Tk.19500.

6.1.3 Home and House Ownership

Both average number of houses and average sleeping/living area per household have decreased in the post-project stage. Project affected persons now own 27.3% less in terms of number of houses and occupy a sleeping/living area which is 13.13% less than that of pre-project stage.

The overall quality of housing, in terms of amenities/utilities associated with the households has improved greatly. Households having Electricity, Tubewell and Latrine have increased 8, 2 and 6 times respectively in comparison to pre-project stage. The culture of staying close to relatives and having informal social organization still exists.

6.1.4 Marginalization

The prime measure of the status of marginalization for the affected population of the Jamuna Bridge Project is the reduction in their land holding size. The land ownership of both the directly and

indirectly affected households has decreased substantially. As the income and livelihood of the project affected persons are very much dependent on land and agriculture, this is the prime source of marginalization.

Despite the reduction in land ownership, average income of directly affected households has virtually remained unchanged in the post displacement period. The average annual income of the indirectly affected households, namely, the tenant farmers and the farm and non-farm workers have increased substantially.

The project affected persons has been marginalized in terms of number of houses they own and square feet of living area used per household. Though there is a decline in number of houses owned or in sleeping/living area utilized, the overall quality of housing has improved. It is manifested by the increased use of amenities/utilities in the affected households

6.1.5 Access to Health Services and Sanitation

The project affected persons have now easier access to health services. The distance of the nearest health-care facilities from the place of resident of the project affected persons has reduced from 9.5 km to 2.7 km in average at the post-displacement stage. The general feeling of the population with regard to their present access to health services is also positive. About 70% of the project affected persons surveyed acknowledged that their present access to health services is better.

There is a marked increase in the access to safe drinking water and sanitation facilities for the affected households in the post-project period. In the pre-project period only 45% population had Tubewell of their own; now more than 80% of the households have Tubewell. The same figure for Ring/Slab/Sanitary Latrine is 16% and 90% in the pre and post project stage.

6.1.6 Access to Common Property Resources

Four parameters - access to khas or fallow lands, access to fishing in river or beels, access to grazing land and access to burial ground were used to compare the pre and post project status of the project affected persons regarding their access to common property resources.

The access to fishing in river and beels has reduced from 80% to 60% in the post-project stage. The limited access of the affected population to khas or fallow land has further reduced in the post-project period. Access to grazing land and access to burial ground virtually remain the same in the post-project period.

6.1.7 Social Disintegration

Three parameters were used to evaluate the status of social interaction of the project affected persons. These are (a) whether they live close to relatives, kin & clan members, (b) do they live in joint or single family, and (c) Is there exists any informal social organization like salish etc. Only marked difference observed is that the pre-project percentage of joint family (29%) has reduced to 8% in the post-project stage.

It is observed that provision of host area facilities creates a welcome atmosphere for the self relocating PAPs. More than 50% of the relocated households have replied that host area facilities have increased their acceptability in the host community.

During the course of the research it was felt that the parameters used for measuring social interaction/disintegration was not enough. More rigorous study is required to ascertain the actual status of social interaction/disintegration.

6.2 Conclusions

Impoverishment of the affected persons is the central risk in development caused involuntary population resettlement. The central requirement for the resettlement program is to protect and reconstruct the livelihood of the population. Cemea's Risk and Reconstruction Model captures both the concepts of risk and reconstruction – Involuntary Displacement and Livelihood Reestablishment. Conceptualization of the model and examining its applicability in the experience with resettlement and rehabilitation of Jamuna Bridge Project, proved that the model is an excellent tool to unravel the total reality - to find the best means to gauge problems and develop solutions to them.

Despite the adoption of a generous Resettlement Action Plan by the Jamuna Multipurpose Bridge Authority (JMBA) and a relatively fair and efficient implementation of the programs, the project affected persons have not been able to reconstruct & restore completely their pre-project living standards in the post-project stage. The major failure was the inability of the affected population to regain or recoup the amount of land lost due to acquisition. The biggest problem identified is the acquisition of huge quantity of land in a densely populated area. The project affected person's income and livelihood were solely dependent on land and for them landlessness brings in a cluster of vulnerabilities that give rose to impoverishment.

There has been a marked increase in the average annual income of the indirectly affected households namely tenant farmers and the farm and non-farm workers in the post project period. The directly affected households may also be considered to have restored the status of pre-project income. For the affected population homelessness has never appeared as chronic condition; their

present housing may have suffered quantitatively but gained qualitatively.

Some targeted program like access to health services, drinking water and sanitation have also proved to be successful. The program to provide squatters and uthulies with a piece of homestead land has also produced splendid result. It appears that occupational training and credit program have not made significant effect on the income generation of the people. More percentage of the households is now engaged in agricultural labour to earn their living and overall income of the households from trade/business has declined.

Learning from the experience gathered while conducting the research, it is felt that in future projects entailing displacement and resettlement the following points should be taken into consideration by the implementing agency:

1. The extent and intensity of the risks or impoverishment processes in the project area must be assessed at the start of project preparation.
2. Should concentrate more on reducing the quantity of land need to be acquired.
3. Where population displacement is unavoidable, it should be minimized by exploring all viable project options.
4. Measures to be taken to facilitate Effected Population to get their compensation fast and avoid delay in resolving the disputes regarding ownership of land or for examining its documents. Special civil court may be set up for projects requiring large acquisition of land with powers for quick disposal of land disputes and having limited appeal facility.
5. Should promote participatory methods in risk identification and assessment to reveal how the affected people themselves perceive these risks. If people are inadequately

consulted, the resettlement decisions might not conform to their needs or desires.

6. When land acquisition is huge, the authority should include, as components of the resettlement program, works like flood protection measures, irrigation facilities etc. in order to increase the productivity of the land. They should also consider ways to bring new land into cultivation.
7. Attention should be given so that small landholders at the vicinity do not lose land as a consequence of the project.
8. Provide package compensation of home losers which includes allocation/purchase of homestead plot, house construction grant and credit facilities for home improvement.
9. The income restoration strategy for the poor people with occupational training and credit has to be designed carefully. It is to be remembered that too many people buying the same thing poses the danger of harmful over competition, an unsustainable strategy.
10. Targeted program components should be designed aiming at particular group of people or to provide particular facility to the affected population.

This research is an attempt to ascertain whether the Affected Persons of the Jamuna Multipurpose Bridge Project have been able to reconstruct and restore the pre-project standard of living after more than a decade of land acquisition. This research also aims to understand the factors that are responsible for non-restoration of pre-project standard of living. In pursue of these gigantic objectives, the research constrained by the limitation of time and money, conducted a small scale survey covering the different categories of affected population. The research within its limited scope identified the status of the affected population and the

various factors responsible for the status. It is felt that no comprehensive study has been done since the completion of the project. The findings of the research warrants further structured and more refined research works in the project area.

ANNEXURES

SURVEY OF DIRECTLY AFFECTED HOUSEHOLDS

Name of Household Head :
(পরিবার বা খানা প্রধানের নাম)

Father's Name (পিতার নাম) :

Identity Number *(আইডি নম্বর)* :

Age (বয়স) :

Sex (লিঙ্গ) :

Male *(পুরুষ)*	Female *(মহিলা)*

Member of the Household :
(খানার সদস্য সংখ্যা)

Present Place of Residence *(বর্তমান বাসস্থানের ঠিকানা)* :

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

Old Place of Residence *(পুরাতন বাসস্থানের ঠিকানা)* :

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

Category of Directly Affected Household *(সরাসরি ক্ষতিগ্রস্থ খানার ধরণ)* :

Lost both Homestead & Agricultural Land *(বসতভিটা ও কৃষিজমি)*	Lost Agricultural Land but no Homestead Land *(শুধুমাত্র কৃষিজমি)*	Lost Homestead Land but no Agricultural Land *(শুধুমাত্র বসতভিটা)*	Other Losses *(অন্যান্য)*

Quantity of Land Lost to the Project (in decimals) *(প্রকল্পে অধিগ্রহণকৃত জমির পরিমাণ)* :

Homestead Land *(ভিটাজমি)*	Agricultural Land *(কৃষিজমি)*	Fallow Land *(পতিত জমি)*	Others *(অন্যান্য)*	Total *(মোট)*

1. Present Land Ownership *(জমির বর্তমান মালিকানা) :*

Homestead Land *(ভিটাজমি)*	Agricultural Land *(কৃষিজমি)*	Fallow Land *(পতিত জমি)*	Others *(অন্যান্য)*	Total *(মোট)*

2. Tenure and Land *(জমি ভোগ দখলের বিবরণ) :*

Cultivate Own Land *(নিজস্ব জমি চাষ)*	Rent In *(বর্গা চাষ)*	Rent Out *(বর্গা দেয়া)*	Total *(মোট)*

3. Present Household Occupation (To be ranked 1,2,3 for Primary, Secondary & Tertiary) :
(বর্তমান পেশা)

Agriculture *(কৃষি)*	Employment *(চাকুরী)*	Trade/Business *(ট্রেড/ব্যবসা)*	Daily Labor *(দিন মজুর)*	Weaver *(তাঁত)*

Fishing *(মৎসজীবি)*	Others *(অন্যান্য)*

4. Household Income (Yearly) [*পরিবারের আয় (বাৎসরিক)***] :**

4. A. Total Agricultural Income *(কৃষি হতে মোট আয়) :*

Crops *(শস্য)*	Quantity (maunds) *[পরিমান (মন)]*	Price/maund *(মনপ্রতি দর)*	Total Taka*(মোট টাকা)*
Paddy *(ধান)*			
Jute *(পাট)*			
Wheat *(গম)*			
Rabi Crops *(রবিশস্য)*			
Others *(অন্যান্য)*			

4.B. Total Income from Agricultural Labor *(কৃষি শ্রমিক হিসাবে মোট আয়) :*

Member No. *(সদস্য নং)*	Days Worked *(দিন)*	Wage/day *(মজুরী)*	Total Taka*(মোট টাকা)*
1 *(১)*			
2 *(২)*			
3 *(৩)*			

4.C. Total Income from Non - Agricultural Labor *(অ-কৃষি শ্রমিক হিসাবে মোট আয়) :*

Member No. *(সদস্য নং)*	Days Worked *(দিন)*	Wage/day *(মজুরী)*	Total Taka*(মোট টাকা)*
1 *(১)*			
2 *(২)*			
3 *(৩)*			

4.D. Total Income from Other Sources *(অন্যান্য খাত হতে মোট আয়) :*

Source *(উৎস)*	LS Taka/year(বছর প্রতি টাকা)
Fishing *(মৎস চাষ/মাছ ধরা)*	
Employment *(চাকুরে)*	
Weaving *(তাঁত)*	
Trade/Business*(ব্যবসা)*	
Others *(অন্যান্য)*	

5. Present Housing *(বর্তমান বাসস্থানের ধরণ) :*

No.of Houses*(ঘরের সংখ্যা)*	Total Living Area (Sft) [থাকা-খাওয়ার জন্য ব্যবহৃত মোট স্থান (বর্গফুট)]

6. Whether the Household has Electricity? *(বাড়ীতে বিদ্যুৎ আছে কি ?)*

Yes *(হ্যাঁ)*	No *(না)*

7. Whether the Household has a Tubewell ? *(বাড়ীতে টিউবওয়েল আছে কি ?)*

Yes *(হ্যাঁ)*	No *(না)*

8. Type of Toilet / Latrine the Household Uses? *(বাড়ীতে কি ধরণের পায়খানা রয়েছে)*

Ring Slab / Sanitary (রিং-স্লাব/স্যানিটরী)	Others *(অন্যান্য)*

9. Distance of Health Care Facilities from the Place of Residence :

(বাড়ী হতে নিকটতম চিকিৎসা কেন্দ্রের দূরত্ব কত ?)

Pre - Project *(প্রকল্প পূর্ব)*	At Present *(বর্তমানে)*

10.General Feeling about Access to Health Services in Post - Project Period (tick one) :

(প্রকল্প পরবর্তী সময়ে স্বাস্থ্য সুবিধা বিষয়ে মতামত?)

Better *(অপেক্ষাকৃত ভাল)*	Worse*(অধিকতর খারাপ)*	Same *(একই রকম)*

11. Status of Food Security in Pre-Project and Post-Project Period :

(প্রকল্পের পুর্ববর্তী ও পরবর্তী সময়ে খাদ্য নিরাপত্তা বিষয়ক তথ্য)

Parameter (নির্ণায়ক)	Pre-Project *(প্রকল্প পূর্ব)*	Post-Project *(প্রকল্প পরবর্তী)*
Avg. Food Grain Yeild per year *(প্রতি বছর শস্যের গড় উৎপাদন)*		
Avg. Surplus Food Grain per year *(প্রতি বছর উদ্বৃত শস্যের পারিমাণ)*		

12. Access to Common Property Resources :

(জনগণের সম্পত্তি বলে বিবেচিত বিভিন্ন সম্পত্তিতে প্রবেশাধিকার)

Parameter (নির্ণায়ক)	Pre - Project *(প্রকল্প পূর্ব)*	Post - Project *(প্রকল্প পরবর্তী)*
Do they have access to khas or private fallow land ? *(ব্যক্তিগত মালিকাধীন পতিত জমিতে প্রবেশাধিকার আছে কি ?)*		
Do they have access to fishing in river or beels ? *(নদী বা বিলে মাছ ধরতে পারে কি ?)*		
Do they have access to grazing land ? *(চারণভূমি ব্যবহার করতে পারে কি ?)*		
Do they have access to burial ground ? *(কবরস্থান/শ্মাশান ব্যবহার করতে পারে কি ?)*		

13. Status of Social Interaction :

(সামাজিক মেলামেশা বিষয়ক তথ্য)

Parameter *(নির্ণায়ক)*	Pre-Project *(প্রকল্প পূর্ব)*	Post-Project *(প্রকল্প পরবর্তী)*
Do they live close to relatives, kin and clan members ? *(আত্মীয় বা জ্ঞাতীদেও কাছাকাছি বসবাস করে কি ?)*		
Type of Family - Joint or Single ? *(একক কিম্বা যৌথ পরিবার)*		
Do informal Social Organizations exist for Salish or to take collective decisions? *(বিচার বা শালিশের সামাজিক প্রথা রয়েছে কি ?)*		

14. Utilization of Comensation Received ***(প্রকল্প হতে প্রাপ্ত ক্ষতিপুরণের ব্যবহার)*** **:**

14.A. Approximate percentage of compensation money spent on items :

(বিভিন্ন ক্ষেত্রে ক্ষতিপুরণের অর্থ ব্যবহারের শতকরা হার)

1. Consumption *(প্রাত্যহিক ব্যয় মেটানো)*	2. House Repair/Construction *(বাড়ী মেরামত/নির্মাণ)*	3. Land Purchase *(জমি ক্রয়)*	4. Business *(ব্যবসা)*	5. Wedding & Other Ceremonies *(বিয়ে ও অন্যান্য উৎসব)*

6. Loan Repayment *(ঋণ পরিশোধ)*	7. Medical Care *(চিকিৎসা)*	8. Saved in Banks *(ব্যাংকে জমা)*	9. Paid for Mortgaged Land *[বন্ধকী জমির (উদ্ধার) জন্য ব্যয়]*	10. Others *(অন্যান্য)*

14.B. Has the household purchased replacement land for the whole amount of land lost ?

(প্রকল্পে অধিগ্রহণকৃত জমির সম্পূর্ণ অংশই ক্রয় করেছেন কি না ?)

Yes *(হ্যাঁ)*	No *(না)*

14.C. If No, then identify the major constraints :

(যদি ক্রয় না করে থাকে, তবে কারণসমূহ)

Unavailability of Land *(জমির অপ্রাপ্যতা)*	Too High the Cost *(অতিরিক্ত দাম)*	Too Low the Compensation *(ক্ষতি পূরণের টাকা নেহায়েতই কম)*	Money spent for Consumption, Ceremonies etc. *(প্রাত্যহিক ব্যয়, উৎসব ইত্যাদিতে ব্যয়)*	Money Invested elsewhere *(অন্য কোথাও বিনিয়োগ)*

15. Has the Project Facilities improved the quality of life (residence of Resettlement Sites) ?
(রিসেটেলমেন্ট সাইটে নির্মিত সুবিধাদি জীবনযাত্রার মানকে কিভাবে প্রভাবিত করেছে ?)

Improved *(উন্নত করেছে)*	Deteriorded *(ক্ষতিগ্রস্থ করেছে)*	Not effected *(প্রভাবিত করে নাই)*

16. Has the Host Area Facilities increased their acceptability (residence of Host Areas) ?
(হোষ্ট এরিয়ায় নির্মিত সুবিধাদিও প্রভাব কি ?)

Increased acceptability *(গ্রহনযোগ্যতা বাড়িয়েছে)*	Decreased acceptability *(গ্রহনযোগ্যতা কমিয়েছে)*	Not effected *(প্রভাবিত করে নাই)*

17. Comment on the resettlement package. *(প্রদত্ত ক্ষতিপূরণ/পূর্ণবাসণ সুবিধাদি সম্পর্কে মন্তব্য করুন)*

17.How the resettlement package could be made better ? *(প্রদত্ত ক্ষতিপূরণ/পূর্ণবাসণ সুবিধাদি কিভাবে আরো উন্নত করা যেত)*

17. What helped you most in attaining your present status ? *(আপনার বর্তমান অবস্থার উন্নয়নে কি আপনাকে সবচেয় বেশী সাহায্য করেছে)*

SURVEY OF FARM AND NONFARM WORKERS

Name of Household Head :
(পরিবার বা খানা প্রধানের নাম)

Father's Name (পিতার নাম) **:**

Identity Number *(আইডি নম্বর)* **:**

Age : *(বয়স)*

Sex (লিঙ্গ) **:**

Male	Female

Member of the Household :
(খানার সদস্য সংখ্যা)

Present Place of Residence *(বর্তমান বাসস্থানের ঠিকানা)* **:**

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

Old Place of Residence *(পুরাতন বাসস্থানের ঠিকানা)* **:**

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

1. Present Land Ownership *(জমির বর্তমান মালিকানা)* **:**

Homestead Land *(ভিটাজমি)*	Agricultural Land *(কৃষিজমি)*	Fallow Land *(পতিত জমি)*	Others *(অন্যান্য)*	Total *(মোট)*

2. Present Household Occupation (To be ranked 1,2,3 for Primary, Secondary & Tertiary) :
(বর্তমান পেশা)

Agriculture (কৃষি)	Employment (চাকুরী)	Trade/Business (ট্রেড/ব্যবসা)	Daily Labor (দিন মজুর)	Weaver (তাঁত)
Fishing (মৎসজীবি)	Others (অন্যান্য)			

3. Total yearly Income from Agricultural Labor (কৃষি হতে বাৎসরিক মোট আয়):

Member No. (সদস্য নং)	Days Worked (দিন)	Wage/day (মজুরী)	Total Taka(মোট টাকা)
1 (১)			
2 (২)			
3 (৩)			

4. Total Yearly Income from Non - Agricultural Labor (অ-কৃষি শ্রমিক হিসাবে মোট বাৎসরিক আয়):

Member No. (সদস্য নং)	Days Worked (দিন)	Wage/day (মজুরী)	Total Taka(মোট টাকা)
1 (১)			
2 (২)			
3 (৩)			

SURVEY OF TENANT CULTIVATORS

Name of Household Head
(পরিবার বা খানা প্রধানের নাম) :

Father's Name *(পিতার নাম) :*

Identity Number *(আইডি নম্বর) :*

Age : *(বয়স)*

Sex (লিঙ্গ) :

Male *(পুরুষ)*	Female *(মহিলা)*

Member of the Household :
(খানার সদস্য সংখ্যা)

Present Place of Residence *(বর্তমান বাসস্থানের ঠিকানা) :*

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

Old Place of Residence *(পুরাতন বাসস্থানের ঠিকানা) :*

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

1. Present Land Ownership *(জমির বর্তমান মালিকানা) :*

Homestead Land *(ভিটাজমি)*	Agricultural Land *(কৃষিজমি)*	Fallow Land *(পতিত জমি)*	Others *(অন্যান্য)*	Total *(মোট)*

2. Amount of Land Rented In *(মোট বর্গা জমির পরিমান)* **:**

3. Present Household Occupation (To be ranked 1,2,3 for Primary, Secondary & Tertiary) :
(বর্তমান পেশা)

Agriculture *(কৃষি)*	Employment *(চাকুরী)*	Trade/Business *(ট্রেড/ব্যবসা)*	Daily Labor *(দিন মজুর)*	Weaver *(তাঁত)*

Fishing *(মৎসজীবি)*	Others *(অন্যান্য)*

4. Household Income (Yearly) from Rented In Land (*বর্গা জমি হতে বাৎসরিক আয়ের পরিমান*) :

Crops *(শস্য)*	Quantity (maunds) *[পরিমান (মন)]*	Price/maund *(মনপ্রতি দর)*	Total Taka*(মোট টাকা)*
Paddy *(ধান)*			
Jute *(পাট)*			
Wheat *(গম)*			
Rabi Crops *(রবিশস্য)*			
Others *(অন্যান্য)*			

5. Availability of land to Rent in post-project period in comparison to pre-project period :
(প্রকল্প পূর্ববর্তী সময়ের তুলনায় প্রকল্প পরবর্তী সময়ে বর্গা চাষের জন্য জমির প্রাপ্যতা)

More than before (আগের চেয়ে বেশী)	Less than before (আগের চেয়ে কম)	Same (একই রকম)

6. Whether there is any difference in the terms of Contract / for renting land :
(বর্গাচাষের চুক্তিতে কোনো পরিবর্তন এসেছে কি ?)

Yes *(হ্যাঁ)*	No *(না)*

7. If Yes, What (*যদি হ্যাঁ হয়, তবে কি ?*) ?

SURVEY OF SQUATTERS AND UTHULIS

Name of Household Head :
(পরিবার বা খানা প্রধানের নাম)

Father's Name (পিতার নাম) :

Identity Number *(আইডি নম্বর)* :

Age : *(বয়স)*

Sex (লিঙ্গ) :

Male	Female

Member of the Household :
(খানার সদস্য সংখ্যা)

Present Place of Residence *(বর্তমান বাসস্থানের ঠিকানা)* :

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

Old Place of Residence *(পুরাতন বাসস্থানের ঠিকানা)* :

Village *(গ্রাম)*	Union *(ইউনিয়ন)*	Upazila *(উপজেলা)*	District *(জিলা)*

1. Present Land Ownership *(জমির বর্তমান মালিকানা)* :

Homestead Land *(ভিটাজমি)*	Agricultural Land *(কৃষিজমি)*	Fallow Land *(পতিত জমি)*	Others *(অন্যান্য)*	Total *(মোট)*

2. Present Household Occupation (To be ranked 1,2,3 for Primary, Secondary & Tertiary) :
(বর্তমান পেশা)

Agriculture *(কৃষি)*	Employment *(চাকুরী)*	Trade/Business *(ট্রেড/ব্যবসা)*	Daily Labor *(দিন মজুর)*	Weaver *(তাঁত)*

Fishing *(মৎসজীবি)*	Others *(অন্যান্য)*

3. Total yearly Income *(মোট বাৎসরিক আয়)*:

4. Total Land Area Occupied by the Household
(বসত ভিটায় জমির পরিমান):

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TABLE- VIII

CONSUMER PRICE INDEX AND INFLATIONRATE IN BANGLADESH

(Base: 1995-96=100)

Period	CPI	Inflation (General)		CPI	Inflation (Food)		CPI	Inflation (Non-food)		CPI Of Major Non-Food Items/Groups					
	General	Point-to-Point	12-Month Average	Food	Point-to-Point	12-Month Average	Non - food	Point-to-Point	12-Month Average	Clothing & footwear	Gross rent, fuel & lighting	Furniture furnishing & other	Medical care and health expenses	Trasport & communications	Recrea entertair educa &cu
Weight	100	End period		58.84	End period		41.16	End period		6.85	16.87	2.67	2.84	4.17	
1996-97	103.96	...	3.96	103.67	...	3.67	104.47	...	4.47	105.42	103.36	104.56	103.32	108.3	
1997-98	112.96	...	8.66	114.51	...	10.46	110.73	...	5.99	110.03	110.78	110.46	107.54	115.97	
1998-99	120.94	...	7.06	125.16	...	9.3	115.1	...	3.95	114.03	114.61	116.06	115.39	120.7	
1999-2000	124.31	...	2.79	128.52	...	2.68	118.64	...	3.08	118.45	116.31	118.21	122.55	127.9	
2000-2001	126.72	1.66	1.94	130.3	0.77	1.39	122.25	3.14	3.05	121.94	119.41	120.92	129.82	135.92	
2001-2002	130.26	3.58	2.79	132.43	1.94	1.63	127.89	4.14	4.61	124.62	124.95	126.07	136.22	144.36	
2002-2003	135.97	5.03	4.38	137.01	5.22	3.46	135.13	4.68	5.66	130.55	131.2	132.32	145.25	159.52	
2003-04	143.90	5.64	5.83	146.50	6.64	6.92	141.03	4.26	4.37	136.25	136.19	137.95	154.96	170.79	
2004-05	153.23	7.35	6.48	158.08	9.19	7.90	147.14	5.46	4.33	142.15	141.43	143.18	162.47	179.94	
July	147.46	5.65	5.88	150.42	6.54	6.97	144.02	4.38	4.39	138.76	138.80	140.28	160.94	175.34	
August	148.47	5.51	5.91	151.78	6.17	7.00	144.55	4.57	4.43	139.21	139.35	140.59	161.02	176.74	
September	152.12	7.35	6.06	157.58	9.48	7.28	145.12	4.17	4.38	139.73	139.66	140.89	161.18	178.01	
October	154.03	7.92	6.21	160.46	10.46	7.57	145.72	4.18	4.33	140.83	139.80	141.66	161.20	178.55	
November	152.85	6.36	6.19	158.33	8.05	7.58	145.96	3.91	4.24	141.32	139.97	142.36	161.23	178.45	
December	152.40	5.50	6.10	157.29	6.70	7.49	146.28	3.69	4.15	141.64	140.27	142.69	161.26	178.77	
January	152.90	5.52	6.06	157.48	6.52	7.41	147.09	3.89	4.14	142.48	141.34	143.31	161.89	179.32	
February	154.32	6.38	6.11	159.23	7.70	7.46	147.97	4.21	4.16	142.77	142.66	143.63	162.36	179.84	
March	155.20	6.72	6.18	160.43	8.22	7.53	148.48	4.34	4.18	143.46	142.81	144.20	163.41	181.06	
April	155.33	6.62	6.24	160.29	8.02	7.60	149.09	4.45	4.20	144.00	143.17	145.59	163.87	182.85	
May	156.29	6.90	6.34	161.16	8.26	7.74	150.18	4.80	4.24	145.49	143.99	146.22	165.05	185.16	
June	157.45	7.35	6.48	162.51	8.73	4.91	151.20	5.32	4.33	146.14	145.34	146.78	166.21	185.39	

2005-06															
July	158.79	7.68	6.65	164.24	9.19	8.12	151.89	5.46	4.42	146.58	146.08	147.61	166.79	186.39	
August	160.25	7.93	6.86	166.10	9.43	8.40	152.80	5.71	4.52	146.86	147.30	148.20	167.31	186.48	
September	162.79	7.01	6.83	168.92	7.20	8.20	155.07	6.86	4.74	147.29	150.61	149.42	167.87	189.50	
October	165.24	7.28	6.78	172.36	7.42	7.95	156.10	7.12	4.99	147.84	151.66	149.86	168.54	191.52	
November	165.00	7.95	6.91	171.92	8.58	8.00	156.22	7.03	5.25	148.06	151.78	150.03	168.60	191.59	
December	163.17	7.07	7.04	168.52	7.14	8.03	156.71	7.13	5.54	148.36	152.60	150.55	169.04	191.74	
January	162.97	6.59	7.13	167.98	6.67	8.03	156.95	6.70	5.77	148.70	152.82	151.02	169.12	191.85	
February	163.14	5.72	7.07	168.04	5.53	7.84	157.26	6.28	5.94	148.84	152.85	151.54	169.42	192.60	
March	164.78	6.17	7.02	170.20	6.09	7.66	158.24	6.57	6.13	149.04	153.90	152.83	171.06	193.89	
April	166.91	7.46	7.08	173.55	8.27	7.69	158.67	6.43	6.29	149.24	154.29	153.69	171.79	194.28	

Source: Bangladesh Bureau of Statistics
... = Not Available

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