

**Patterns and Predictors of Psychological Coping
and Adjustment among Riverbank Displacees in an Urban
Environment: A Case Study of Squatters in Bangladesh**

**By
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Submitted to the Faculty of Graduate studies
in Partial Fulfillment of the Requirements
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AMONG RIVERBANK DISPLACEDS IN AN URBAN ENVIRONMENT: A CASE STUDY OF
SQUATTERS IN BANGLADESH**

BY

DAVID HUTTON

**A Thesis/Practicum submitted to the Faculty of Graduate Studies of The University of
Manitoba in partial fulfillment of the requirement of the degree**

of

DOCTOR OF PHILOSOPHY

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Abstract

This study is designed to examine the impact of riverine hazards and displacement upon displacees, both males and females, in Bangladesh. The specific objectives of the study are to: (a) determine the magnitude of psychological distress associated with riverine hazards and displacement in Bangladesh, (b) examine patterns and predictors related to the economic, social, and psychological adaptation of male and female displacees, and (c) identify patterns of psychological coping common to displaced persons.

Research was conducted during the 1998 flood season in Bangladesh. Subjects consisted of 238 displacees randomly sampled from four squatter settlements in the city of Serajganj in Bangladesh. A comparison group of 223 demographically comparative non-displacees was drawn from three rural villages in the thana (sub-district) of Shariakandi. Structured interviews were conducted at the respondents' households over a six week period using trained university students.

The findings show that the constant threat of riverbank erosion has contributed to the development of a distinct set of characteristics related to disaster-induced displacement in Bangladesh. Although frequent displacement is common among the floodplain residents, less than one-fifth of the displacees had perceived riverbank erosion to be a serious problem and just one-tenth believed they would eventually be permanently displaced.

Although displacees exhibit significantly higher level of distress than non-displacees, this is related primarily to socioeconomic deprivation rather than displacement per se. The commonly hypothesized factors such as loss of land

and frequency and duration of displacement are not found to have a significant association with distress levels. Among both displacees and non-displacees, chronic survival concerns, daily hunger, and marginal living conditions were predictive factors of psychological distress.

The need to integrate disaster management within a social, cultural and psychological context is emphasized. Popular development and psychological theory usually associates low personal control with maladaptive passivity and dependency. In this study, displacees have more often responded to their difficulties with active problem-solving efforts, with fatalism being among the least utilized forms of coping. It appears that low aspirations and self-efficacy generated by poverty may in some instances be psychologically adaptive. These attributes can reduce levels of frustration and distress, without diminishing determination and perseverance.

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Chapter I

Introduction

This study examines the impact of riverine hazards and riverbank erosion-induced displacement upon male and female displaced persons in Bangladesh. It assesses the magnitude of psychological distress among displaced squatters living in the city of Serajganj, as well as attempting to identify underlying economic and social predictors of distress. The specific objectives of the research are to: (a) determine the magnitude of psychological distress associated with riverine hazards and displacement in Bangladesh, (b) examine patterns and predictors related to the economic, social, and psychological adaptation of male and female displaced persons, and (c) identify patterns of psychological coping common to displaced persons.

Bangladesh is among the world's poorest and most densely populated countries in the world. Over 123 million people live in area of 143,998 square kilometers, about one-third the area of Manitoba, Canada, resulting in an average density per square kilometer of 854 persons. With an income per capita of only US\$220, Bangladesh is also among the poorest nations in world and is near the bottom of the ladder in most measures of human development (Economist, 1997). According the World Bank (1998), 53% of the population in 1995-1996 was classified as poor and 36% very poor. Over 60% of the populace is illiterate and only 20% functionally literate (World Bank, 1998).

With only about 18% of the country's population living in urban areas, Bangladesh remains an essentially a rural nation. Over 64% of the Bangladesh labor force was employed in agricultural activities in the early 1990s, most often

as owner-occupiers, tenants, share-croppers or landless agricultural workers (Labour Force Survey, 1991). In terms of people-land ratio, the figure of 13 persons per hectare is among the highest in the world, and is projected to reach 20 persons/hectare by the year 2020 (World Bank & Bangladesh Centre for Advanced Studies, 1998). The massive population size of Bangladesh, combined with entrenched socio-economic inequities and the uneven distribution of arable land, has meant that per capita land holdings have steadily declined, from 1.4 hectares in the 1970s to 0.9 hectares in the 1980s (World Bank & Bangladesh Centre for advanced Studies, 1998). More than one-half of all rural households are now functionally landless (Alexander, 1993; Bangladesh Bureau of Statistics, 1995).

Because Bangladesh is situated on the delta of the Ganges-Brahmaputra-Jamuna river systems, it is also among the world's most vulnerable countries to the effects of flooding and riverbank erosion. In normal flood years, some 18% of Bangladesh's total land mass may be covered by flood waters while in severe years close to 50% may be flooded (Chowdhury, 2000). In this century, there have been at least 14 major floods in Bangladesh, including catastrophic flooding in 1954, 1955, 1977, 1987, 1988 and 1998. The 1988 and 1998 floods remain among the most devastating. The 1988 flood affected 46% of the countryside, causing some 2,000 deaths and uprooting more than 40 million persons (Haque & Zaman, 1994). In 1998, flood waters covered over two-thirds of Bangladesh, causing over 900 deaths and displacing 30 million persons. It also damaged 16,000 and 6,000 kilometers of roads and embankments respectively, affected 6,000 square kilometres of standing crops (Chowdhury, 2000).

Because of the braided nature and immense size of Bangladesh's river system, severe bank-line erosion is also a significant problem. Islam and Islam (1985) have estimated that between 2,000 to 3,000 kilometers of bank-line experience major erosion annually. In reviewing the impact of erosion between 1980 and 1988, Baqee (1998) found that the number of *thanas* affected by erosion ranged from 50 in 1982 to 201 in 1988, with the annual average being 98. According to a study conducted by the Institute of Engineers of Bangladesh, the Brahmaputra-Jamuna river has shifted about 115 kilometers in the past 70 years, first by a dramatic flooding event and subsequently by the gradual bank erosion processes (Coleman, 1969). Along more erosion prone sections of the Jamuna River, Hossain (1984) found rates of more than one kilometre and in some areas more than 2.2 kilometres per year.

Each year tens of thousands of people are made homeless through riverbank erosion. In assessing the impact of riverbank erosion in the Kazipur district between 1972 and 1982, Hossain (1984) and Haque et al. (1985) found that 32% of the population had been at least partially affected by erosion while some 30,000 persons had been displaced. Currey (1979) has estimated that 66 *thanas*, or about 14% of the main rural administrative units in Bangladesh (average population of 200,000) are liable to regular flooding and riverbank erosion. One estimate has suggested that over 50% of the landless rural households in Bangladesh are victims of riverbank erosion (Januzzi & Peach, 1980). In total, approximately one-tenth of the total population in Bangladesh (130 million) is at risk of riverbank erosion (Rogge & Haque, 1987).

Displaced persons have become an increasingly visible component of Bangladesh's urban society. A significant proportion of the country's 5% annual

rate of urban growth can partly be attributed to involuntary migration stemming from riverbank erosion (Akhter, 1984). Baqee's (1998) assessment of six slums in Dhaka showed that over three-quarters (80.3%) of the dwellers had migrated from high erosion-prone areas located mostly along the rivers Padma and Meghna. Greenberg's 1986 study of squatter settlements in Serajganj displacees showed 90% the surveyed displacees regarded themselves as permanent residents of the area. On average, displacees had lived in the city for twelve years, some for as many as 50 years. Some 60% indicated that even if they had sufficient means to purchase agricultural land, they would choose not to because of fears of being displaced again.

Riverbank erosion-induced displacees have nevertheless remained economically and socially marginalized within the urban context. In urban centers, where demand for agricultural skills is limited, displacees have been largely confined to informal, low paying employment which has contributed to downward mobility in terms of income, social status and amenities (Hossain, 1989). Because local authorities generally consider displacement as a temporary problem, which will be resolved when the displacees' land reemerges, assistance is rarely forthcoming (Haque, 1988; Rogge & Elahi, 1989). One study found that 80% of displaced households in Serajganj had never received assistance from local authorities (Greenberg, 1986).

Displacees attempt to cope with their uprootment by clinging together for mutual sustenance, usually in illegally occupied *bastees* or squatter settlements located on unused government land (Haque, 1988; Hossain, 1989). Most communities live without such basic amenities as fresh water, sanitation and access to health care. Moreover, because the magnitude of industrialization in

Bangladesh has never been with the country's rapid pace of urban growth, the prospect for new economic opportunities remains marginal. This situation has given rise to high levels of unemployment, particularly within the formal economic sector, and has inevitably increased the strains associated with involuntary relocation. Among displacees in Serajganj, for instance, Haque (1986) reported that 11% of surveyed households had experienced increases in physical illness and 22% increases in mental illness. Hossain's (1989) survey of displaced households in the Serajganj area showed that 39% had experienced a general deterioration in family cohesion.

It is now recognized that major negative life events, such as flooding and displacement, have significant effects upon both physical and psychological health (Thoits, 1983). As *stressors* and precursors to *psychological distress*, these events can be expected to disrupt a displacee's life pattern to the extent of requiring some form of physical, social, and/or psychological change or adjustment (Pealin et al., 1981). When stressors are sudden, unexpected and/or highly threatening, they may overwhelm an individual's every day coping responses. When recurrent or persistent, stressors may lead to a gradual erosion of the individual's coping resources, culminating in a state of physical, emotional or mental exhaustion (Thoits, 1995; Wheaton, 1983).

In the case of Bangladesh, psychological distress may arise not only from the loss of land and homestead, but also from the resettlement experience per se. Because hazard-induced migration is involuntary, without predisposing positive motivations to resettle elsewhere, the displacee is *pushed* rather than *pulled* towards the new destination (Kunz, 1981). As such, the migration experience may be seen as a highly disruptive (and stressful) occurrence marked by

significant socio-emotional loss and change. Unlike the voluntary migrant who is motivated to move elsewhere for purposes of self-gain, the involuntary migrant is uprooted and moves only reluctantly. Such a migrant is often less prepared both economically and psychologically to deal with urban living, and is likely to perceive resettlement in terms of losses rather than gains, as an *end of* rather than a *beginning* of a new way of life (Kunz, 1973). Psychologically, the displacement experience represents "an [unexpected and sudden] interruption and frustration of life expectations, with all the related anxieties and potential damage to the self-concept" (David, 1969, p. 17).

The socioeconomic adaptation difficulties encountered by displacees during resettlement may at the same time take their toll in much the same way as the more acute losses associated with displacement (Cronkite & Moos, 1984). Research has shown that socioeconomic marginalization and poverty are strongly associated with elevated levels psychological distress and symptomatology (Birtchnell, 1988; Brown et al., 1975; Hirschfeld et al., 1982; Thoits, 1995). Poverty not only exposes individuals to a greater number of negative life events, but increases the likelihood that these experiences will have a negative impact because of the limited personal resources which these persons have (Dohrenwend & Dohrenwood, 1974). Pearlin et al. (1983) have further observed that the abiding life conditions to which lower socioeconomic persons are exposed often leaves these individuals convinced of their own deficiencies and helplessness, which in turn leads to demoralization, anxiety and depression.

The psychological impact of riverine hazards and displacement has to date received little attention in Bangladesh. Research during the 1960s and 1970s focused predominantly upon the physical characteristics of flooding and

riverbank erosion and the potential structural solutions to these hazards. This was broadened during the 1980s to address the economic and social adaptation patterns of displacees, but still to the exclusion of issues related to psychological health.

The following literature review (presented in chapters 2, 3, and 4) not only examines the problem of displacement from a disasters research perspectives, but attempts to integrate the displacement/resettlement process into a psychosocial model of adaptation. Involuntary migration in the present context is seen as a process of multiple change which demands both socioeconomic and psychological adaptation on the part of the individual. The approach assumes that displacees are subject to a multitude of stressors, both as result of their displacement and because of their subsequent economic destitution. The degree to which a displacee exhibits vulnerability or resistance to the associated psychological distress can be broadly conceived as *coping*, and is dependent upon the availability of both external (socio-economic) and internal (psychological) resources.

The literature review which follows is aimed at creating a theoretical basis for the proposed research. This review includes a synthesis of the problem of riverine hazards and displacement in Bangladesh, the psychological implications of displacement both as a disaster and as a major negative life event (stressor), and a model of psychological coping and adjustment.

Chapter II

Flooding and Riverbank Erosion in Bangladesh

The impacts of flooding and riverbank erosion in Bangladesh reflect a complex combination of physical, economic, social, and political conditions. Erosion almost always threatens the most vulnerable segments of society, namely impoverished and marginalized groups which have the least ability to resist, cope with, and recover from the natural hazard (Haque, 1997; Rogge & elahi, 1989). Although this process is clearly influenced by the magnitude and destructiveness of physical events, the capacity of people to reconstruct their livelihoods following flooding and land loss is almost always a function of their socioeconomic position and resource relationships.

Poverty and Natural Disaster Relationships in Bangladesh

Flooding and riverbank erosion is an endemic and recurring natural hazard in Bangladesh. It has been estimated that at least one million persons are annually displaced by flooding and riverbank erosion, with this figure reaching as high as five million persons in 1984, 1987 and 1988 (Rogge & Elahi, 1989). According to a study conducted in Kazipur in the mid-1980s, two-thirds of the inhabitants in the lower Brahmaputra (Jamuna) floodplain had been displaced at least once in their lifetime; about 17% had been displaced three times and 15% displaced ten times (Haque, 1986). Among squatter households in urban Serajganj, Greenberg (1986) found that 74% had been displaced more than once in their lifetime. Some 20% had been displaced twice, 29% three to four times, and 21% more than four times.

Displaced households in Bangladesh are overwhelmingly comprised of the more economically marginal peasants who lack adequate resources to offset the effects of riverbank erosion (Rahman, 1991). While large landowners also commonly lose land, their numbers are low, and their involuntary displacement is rare. Hossain (1989) found that only 10% of the displacee-squatters surveyed in Serajganj could be regarded as having been wealthy prior to their displacement. Rogge and Elahi (1989), in examining the assets of displacees in Kazipur, reported that only 9.2% had sufficient resources to purchase new land after their displacement; in Chilmari this figure dropped to 7.7% and in Bhola to 6.4%. In examining losses relative to their assets, Bhattacharya's (1989) study of 54 relief camps in Dhaka city following the 1988 floods showed that 60% of surveyed families had suffered losses of approximately 50% of their total assets (dwelling, livestock, crops, furniture and other durables).

Arguments have been frequently made in literature to emphasize societal dimensions rather than the physical qualities of natural hazards to explain people's vulnerability (Blaikie et al., 1994, Cannon, 1994; Haque, 1997; Varley, 1994). Bangladesh is among the most affected nations in terms of its susceptibility to natural catastrophes, having suffered 63 disasters between 1960-1981 (Alexander, 1993). Each year hundreds of thousands of people are uprooted from their original place of residence by natural events such as floods and riverbank erosion, often leading to abject poverty (Islam, 1976, 1979). At the same time, the country's extreme poverty and demographic pressure has made a vast proportion of its population liable to disasters.

Cannon (1994) has asserted that "disasters are not natural: they happen to people who are put at risk as a result of their vulnerability" (p. 19). Cannon

explains that nature has both inherent opportunities for production (natural resources and materials) as well as a range of hazards which put constraints on production and other aspects of livelihood. The inequalities associated with these opportunities and risks, however, are a function of socioeconomic systems which ultimately determine the place of people in relation to each other and to the environment. "This means that there are no really generalized opportunities and risks in nature, but instead there are sets of *unequal access to opportunities and unequal exposure to risks* ... [which make] some groups of people, some individuals, and some societies more prone to hazards than others" (p. 14).

In Bangladesh, rural communities are made vulnerable by deeply entrenched economic, social and political inequities which affect existing patterns of land ownership and distribution. Although land ownership and re-allocation reforms were enacted in the 1970s to ensure that landless farmers had access to accretion lands at a nominal price, 52% of the rural population remained functionally landless in the 1980s, up from 18% in 1961 and 38% in 1973-74 (Hong, 1980). Land-person ratio during this same period dropped from 0.35 acre in 1961 to 0.27 in 1974 and 0.25 in 1980 (Hong, 1980). It has been estimated that 36% of rural households in Bangladesh possess no arable land while 19% remain functionally landless holding less than 0.50 acres (Januzzi & Peach, 1980; Rogge & Elahi, 1989). Over one-half (55%) of rural households own slightly less than one percent of total arable land in Bangladesh; 75% of the land is owned by 23% of the populace (de Vylder, 1982; Rogge & Elahi, 1989).

The rural poor are made further disadvantaged by their relative powerlessness in securing available lands. Rogge and Elahi (1989) have observed that when mid-channel islands or *char* lands emerge through the process of

accretion, "small land-owners consistently appear to be the losers while large landowners gain control - often through violence - of most accretion or char lands, thereby extending and intensifying the near feudal patron-client relationships that govern society and economy throughout most of the riverine areas in Bangladesh" (p. 5). Local landlords and owners commonly maintain linkages with both local and state level government institutions, allowing them to influence the allocation of lands through bribery of land settlement officers and the illegal manipulation of land regulations and titles (Greenberg, 1986; Rogge & Elahi, 1989; Zaman, 1988). In more remote *char* areas, the use of violence by powerful landlords (including murder, rape, arson, looting and the confiscation of crops and animals) is widely used to resolve land disputes (Baqee, 1988; Wahed et al., 1983; Zaman & Wiest, 1985; Zaman, 1987). Data collected from two national dailies between 1975-1990 indicated that 390 persons died in violent clashes during this period, while 704 were injured and 189 went missing. An estimated 1,344 houses were burnt and 545 cattle stolen (Baqee, 1998).

The inequities in capital and resources means that the poor are largely dependent upon an uncontested land elite for their sustenance, exchanging cheap and bonded labour for free-use right of land or share cropping privileges (Zaman, 1988). Rogge and Elahi (1989) have observed that lack of resources means that disadvantaged social classes in Bangladesh do not so much adjust to disaster events, "but react within the constraints set by the prevailing relations and resource control characteristics" (p. 28). This often means that the poor are forced to live on the most physically vulnerable and unstable lands, coping annually with flooding and riverbank erosion with the most rudimentary divesting measures. In a survey of 280 displaced households in Sreenagar during

the 1988 flood, Haque and Zaman (1988) found that adjustment responses were limited to the following measures: moving family members (66%) or livestock to safer areas (26%), dismantling and salvaging of housing materials (39%), borrowing money (39%), selling of belongings (26%) or livestock (17%), and/or spending savings (24%).

Once assets are lost or sold, displacees have little opportunity to rebuild their former way of life (Rogge & Elahi, 1989; Saleheen, 1991). Most displacees are left in debt, dependent upon either relatives or neighbours for access to land (common) or upon a local landlord as a tenant or share-cropper farmer (very common). When this is not possible, displacees face either becoming agricultural day labourers (very common), or migrating out of the area to resettle on government land elsewhere (occasional) or in a nearby urban center (common).

Displacement and Resettlement Patterns

Riverbank erosion-induced displacement in Bangladesh should be seen as an involuntary or forced process characterized by few positive outcomes. This process is distinguished from voluntary migration by both the lack of power to decide to undertake the migration, and second, by the absence of positive motivations to move from the place of origin (Haque, 1997).

Research has shown that the majority of displacees relocate with little deliberation and only a narrow range of destination. Saleheen's (1991) study of displacees showed that one-fourth began considering moving to other areas only a month before they were actually displaced, and one-half had considered no suitable destination other than the embankments to which they had relocated. Haque's (1988) study of displacees in the *thana* of Kazipur, for example, showed

that less than 3% moved more than five miles during their last displacement, 23% moved less than one-quarter of a mile, 33% moved one-quarter to one-half mile, and 22% moved from one-half mile to one mile. The most common reasons for this pattern of limited migration include; (a) lack of alternative places of shelter, (b) lack of economic resources to cover the cost of moving to a more distant location, (c) hope of regaining access to eroded land should it re-emerge, and (d) availability of kin and local *samaj* groups, which often continue to serve as a primary source of support and assistance. (Haque, 1988; Hossain, 1989).

The majority of displacees forced to move to urban centres take shelter on public land, often forming illegal squatter settlements along flood protect embankments or most railway lines (Haque, 1997). These migrants quickly become among the disadvantaged and impoverished urban inhabitants, confined to the low paying, informal day labour. A study conducted by Greenberg (1986) showed 55% of 1,180 displacees residing in Serajanj squatter settlements felt that their economic conditions had deteriorated since their displacement. About 71% were earning lower wages, despite encountering a higher cost of living, while 56% reported being unemployed. This unemployment rate among displacees far exceeded the national rate of 32% to 35% (Hossain, 1992).

Similar findings have been reported by Haque (1988) and Hossain (1989). Haque's study of displaced households in rural Kazipur revealed that 61% were earning less than the average annual income in Bangladesh, with the average annual income of displacee households (Tk 12,575/US \$350) falling significantly below that of non-displacee households (Tk 14,452/US \$400). In assessing living conditions among displacee-squatters in Serajanj, Hossain (1989) found that 81% felt that their housing conditions had deteriorated since their displacement.

About 35% reported their houses to be too old, 50% indicated their houses were in need of repair, and 15% reported a lacking living space. Greenberg's (1986) survey of Serajganj displacees showed that 18% lacked access to a latrine and 35% did not have access to a tube-well, requiring that water be drawn from the river or ponds. In comparison, a 1979 study of slum populations in Dhaka, Khuna, Rajshahi and Chittagong showed that only 4% of the households lacked access to a latrine (Islam, 1979).

The long-term prospects for Bangladesh's displacees are uncertain. Greenberg (1986) observed that almost 49% of squatters who had resided in Serajganj for six to ten years, and 56% who reported residence of eleven to fifteen years, had remained in the informal employment sector. Over 60% of the employment could be found in four occupations; daily labour (37%), rickshaw pulling (11%), milling (10%) and shop-keeping (5%). Most respondents reported little or no improvement to their standards of living. Sixty-four percent believed that educational facilities for their children had deteriorated while 41% reported a deterioration in access to health services. Almost as many respondents (40%) felt that their own health had deteriorated, including almost 50% of the displacees with six to ten years of residence and 40% of those with ten or more years of residence.

As such, displacees can be regarded as economically and socially marginalized, existing on the periphery of society with little opportunity to better their plight. Haque (1997) observes that displacees have been largely excluded from mainstream activities, viewed as a subordinate and distinct group which is less deserving of government support and assistance. In this respect,

displacees are doubly disadvantaged, being among the poorest inhabitants, and also having the least access to the political system.

Exclusion and Marginalization

Displacement in Bangladesh is generally regarded by public officials as a short-term rural phenomenon, to be resolved through land re-allocation or the displacees' return migration upon the re-emergence of their land. Consequently, the influx of displacee-squatters generally tends to receive little sympathy and support from local town-folk and administrators alike, who view displacees as endangering the 'normal' and 'peaceful' life of the urban dwellers (Haque, 1997; Rogge & Elahi, 1989).

Previous studies have shown that displacees are largely excluded by local government agencies from any attempt at integration (Haque, 1997). Greenberg (1986) found that 80% of surveyed households in Serajganj had never received assistance from local authorities, while Zaman and Weist (1991) reported that only 6% of displacees in Kazipur had received assistance from local government relief agencies. Following the 1988 floods, Haque and Zaman (1995) found that less than 12% of 280 displaced households in the Sreenagar *thana* had received support from either local or national government sources. Forthcoming aid was most often from relatives (79%), other villagers (33%), and non-governmental relief agencies (51%).

In order to survive, Bangladesh's displacee-squatters have had to rely upon their own individual and collective resources. Despite obvious social disruptions caused by involuntary migration, displacees have been able to develop reciprocity networks which often take the form of traditional kinship-

neighbourhood structures (Haque, 1989). The primary social grouping in this case can be identified as the *samaj*, an informal but very common social village grouping which acts as the primary forum within which members interact on a regular basis. *Samaj* are based on kinship and neighbourhood patronage involving "networks of social and religious links and interdependence whose participants are obliged to assist one another in the event of a difficult situation" (Haque & Zaman, 1994, p. 75). This can take the form of physical assistance, financial aid, food and/or other material supports. Zaman (1988) reported that the single most important factor in determining the displacee's choice of destination in the Kazipur *thana* was the presence of friends and patrilineal relatives, with most displacees limiting their migratory distance so to remain as close as possible to their kin and local *samaj* groups.

Displacees have consequently tended to form relatively distinct and separate communities in Bangladesh's urban environment, furthering their peripherization within the urban context. Rogge and Elahi (1989) have observed that the maintenance of these rural reciprocity networks, while providing a minimum level of economic and social support, nevertheless limits both interaction and integration within the urban community. Hossain (1989) delineates this point in his observation that "to create a sense of social security within themselves, they [the displacees] remain deeply attached to their rural values, and because they seldom have an opening into the urban mainstream, they maintain their past rural culture, developing a village entity within the parameter of the town" (pp. 119-120).

In addition to remaining on the periphery of urban society, the deeply entrenched socioeconomic inequities which displacees are subject may well

contribute to an unequal human or psychological capacity to actively adapt to the loss and change. In studies of Galachipa *thana*, an area of Bangladesh subject to tropical cyclones, Islam (1974) has found that economic and social constraints frequently contributed to an *inborn fatalism*. Despite the fact that the majority of inhabitants expected future cyclones, they continued making their living in the same place. Islam suggests that this willingness to remain in a hazard-prone area is indicative of an adjustment process in which decision-making is not so much a function of the "natural events system", but of an "innate optimism" or submission to the "will of God" as well as a lack of knowledge about alternatives of making a subsistence. Haque (1988) and Hossain (1989) similarly found that riverbank displacees in Bangladesh often attribute their displacement to the "will of Allah", sometimes believing that riverbank erosion is a curse and punishment imposed upon them for the wrongdoings of society.

The vulnerability experienced by the poor in Bangladesh means that many fall into what has been termed as the *deprivation trap*, a mutually reinforcing situation of powerlessness, poverty and isolation (Chambers, 1983; Ingham, 1993). In the absence of economic, technical and educational opportunities, and without access to land, the poor peasant has little alternative but to accept the conditions offered by the local landed elite, namely bonded labour (Zaman, 1988). In face of riverine hazards such as riverbank erosion, most can only assume reparative actions only *after* the event has occurred, which for many means becoming displaced once land is lost (Rogge, & Elahi, 1989). Lacking means to attain any degree of economic security, and having little control over their lives, it is a short step for the poor to *internalize* their social and economic and powerlessness (Somjee, 1991).

In summary, one must recognize the problem of displacement in Bangladesh in relation to both physical and human vulnerability. The effects of the country's natural riverine hazards have been exacerbated by acute population pressures which have induced large numbers of rural poor to settle along unstable river bank lines and mid-channel *char* lands, areas most prone to flooding and riverbank erosion. Vulnerability to Bangladesh's riverine hazards must at the same time be seen as function of the socio-economic and socio-political relations which dominate riparian life in Bangladesh; that is, because control of land and resources is largely in the hands of the landed elite, the rural poor remain relatively powerless to mitigate the debilitating consequences of flooding and erosion once their land is lost. Once displaced to urban areas, most displacees remain confined to low paying daily labour jobs, which in turn intensifies their pauperization and downward spiral of development.

Such a pattern of chronic human suffering can have significant bearing on emotional and psychological health. The uprooting and unrelenting impoverishment which displacees experience may well eventually exhaust a person's emotional and mental resources. In many cases, this process can culminate in levels of distress which not only erode motivation and initiative, but impede management of even basic daily living affairs.

Chapter III

Disasters and Psychological Vulnerability

This chapter examines the psychological impacts of disasters, both from a general perspective, but also within the context of Bangladesh. It discusses disasters not only as abnormal and acute events, which may serve to overwhelm everyday coping responses, but within the context of a socio-structural perspective. That is, disasters are seen as a product of the interface between natural and social affairs, with daily economic, social, and cultural activities having as much influence in determining human responses as the actual physical magnitude of natural hazards.

Disasters within the conventional psychological perspective are typically viewed as extreme crises or negative life events which require significant adaptive responses from survivors (Bolin, 1989; Gist & Lubin, 1989). Disasters almost always produce major physical, economic and social changes which disrupt normal every day patterns of living. These disruptions may best be conceptualized as stressors, both acute and chronic. A *stressor* can be defined as any change in the environment that disrupts an individual's normal life patterns and is sufficient in magnitude to require some form of physical, social or psychological change or adjustment on the part of the person (Holmes & Rahe, 1967).

Acute stressors refer to sudden, unanticipated changes which require major behavioral readjustments within a relatively short period of time. These stressors often take the form of sudden, unpredictable, and undesirable or threatening

events which occur outside the usual range of human experiences and overwhelm normal coping responses (e.g. death of a family member). *Chronic stressors*, in contrast, are persistent, unresolved or recurrent demands which require readjustments over prolonged periods of time (e.g. disabling injury, poverty, marital problems) (Thoits, 1995). Unresolved chronic stressors gradually erode normal coping responses, often leading to a state of physical, emotional, and/or mental exhaustion (Mitchell & Everly, 1995; Wheaton, 1983).

The manner in which people adjust to stressors may be termed as *coping* and can be defined as any cognitive and/or behavioral efforts which people use to modify adverse or potentially threatening aspects of their environment (Lazarus & Folkman, 1984). When stressors are appraised by an individual as taxing or exceeding his/her coping resources (economic, social or psychological), these may lead to a state of physiological and psychological arousal known as the stress response. Physiologically, there may be a significant arousal of the sympathetic nervous system and the endocrine system which is marked by increases in blood pressure, heart and pulse rate, electrodermal activity and catecholamine levels. When stress is protracted, biogenic neurotransmitter processes may be altered by exceedingly high levels of amine utilization, resulting in net amine depletions which in turn affect cognitive and affective processes (Aldwin, 1994). Cognitively, this is manifested in disturbed concentration, memory dysfunction, confusion in thinking and decision-making. Affectively, there is often intense feelings of anxiety or fear, helplessness, demoralization and depression. Common physical responses include fatigue, weakness, muscular and joint pain, disturbance in sleep and appetite, and

respiratory and dermatological complaints (Oliver-Smith, 1982; Thoits, 1983; Tyhurst, 1951, 1977).

It is now known that exposure to one or more major negative life events during a six to twelve month period may predict both psychological distress as well as the onset of a more severe emotional or psychiatric disorder (Thoits, 1995). Unresolved stress most often leads to moderate but problematic psychological reactions. Shephard (1977) and Tennant et al. (1982) found that upwards to 90% of mental illness in the community may be classified as *minor psychiatric morbidity* (MPM). Symptoms associated with MPM include sleep and appetite disturbance, physical health complaints, loss of self-esteem, irritability, distractibility, frequent loss of emotional control, anxiety, and social withdrawal. More severe stress reactions include depression, uncontrolled emotional responses (particularly related to grief, hostility and anger), decreasing ability to conduct daily living activities, suicidal and/or homicidal ideation, paranoia, and moderate to severe thought disorders (Lystad, 1988).

Characteristics of stressful events that influence stress reactions include magnitude (departure from baseline conditions), intensity (rate of change), duration, unpredictability, and novelty (Cronkite & Moos, 1984; Koopman et al., 1994). In general, events that are threatening and/or negative, which occur suddenly and without warning, and which require significant individual adjustment produce more psychological distress and more serious forms of disturbance; positive, benign or minor events are only weakly related to psychological disturbance (Bolin, 1989; Brown & Harris, 1978; Thoits, 1983). In the aftermath of violent disasters, an estimated 12% to 15% of victims may exhibit transitory decompensated responses marked by confusion, anxiety and

severe affective reactions. Some 5% to 10% of victims, and as many as 30% depending upon the severity of the disaster, may be at risk of developing more serious and persisting forms of psychopathology (Chapman, 1962; Kinston & Rosser, 1974).

Psychological difficulties related to disasters most often include mourning and bereavement, physical health complaints, depression and anxiety, and in cases of severe trauma, either the acute stress disorder or the posttraumatic stress disorder (PTSD) (Gleser et al., 1981; Kinston & Rosser, 1974; Lima, 1986). Mourning and bereavement should be regarded as a normal response to significant loss; of a spouse, child or parent, but also to loss of health, savings, status, and other similar variables. Common symptoms include sadness, apathy, distractibility, restlessness, somatic distress, preoccupation and anxious pining. Loss not dealt with through normal mourning may produce prolonged, delayed or distorted grief patterns; an estimated 25% to 35% of a population may be at risk of experiencing abnormal grief reactions. Persons most at risk are those lacking socio-economic supports, who have past unresolved losses, or who have experienced multiple recent losses or a sudden, severe and unexpected loss (Tomb, 1995).

Physical and somatic complaints are also among common reactions to stress. In assessing physical morbidity in the aftermath of a 1980s Fijian cyclone, Fairley et al. (1986) found that exposed victims were two to three times more likely to report physical health complaints than non-exposed controls. A study of the 1985 Puerto Rican flash floods by Escobar et al. (1992) showed similar results; 36% of the exposed survivors reported a new physical symptom versus 29% of the unexposed population. Melick's (1978) study of flooded Pennsylvanian

communities after Hurricane Agnes likewise revealed a deterioration in the health of victims, with 16% of the victims versus 4% of the controls reporting health difficulties one year after the event.

Depression and anxiety should also be regarded as common reactions to events such as disasters which involve loss and danger such as disasters; phenomena of this type often reveal to the victims their uncontrollability and powerlessness, contributing to a loss of self-efficacy, self-regard and self-esteem (Mikulincer, 1994; Finley-Jones & Brown, 1981). Depression is most often associated with loss events, anxiety with threats or danger events, and a mixture of depression and anxiety with events involving both loss and danger (Finley-Jones & Brown, 1981). Parker's (1977) study of the Darwin cyclone evacuees, and Murphy's (1990) study of the Bhopal chemical accident, showed that about 22% of both samples demonstrated persisting adjustment difficulties related mainly to depression and anxiety. Patrick and Patrick (1981), in assessing the impact of the 1978 cyclone in Sri Lanka, found that 84% of victims demonstrated psychiatric symptoms over the subsequent twelve months, most often related to severe anxiety (84%), phobic reactions (68%), and depression (41%). Lima et al. (1990), in comparing the psychological profiles of three disaster populations in Columbia and Ecuador, found the most prevalent symptoms to be related to anxiety, while symptoms most predictive of severe emotional distress (ranging from 38% to 55%) were related to depression.

The acute stress disorder and the *posttraumatic stress disorder* (PTSD) are expected reactions of anyone experiencing severe trauma, usually a life-threatening event which is either directly experienced or witnessed. Symptoms include nightmares and intrusive memories of the event, avoidance of stimuli

similar to the trauma, heightened arousal, hypervigilance, poor concentration, and a marked startled response. The acute stress disorder, in which PTSD symptoms predominate, typically dissipates after one to two weeks; if lasting longer than one month, the diagnosis should be changed to PTSD. Depending on the severity of a disaster, diagnoses of PTSD may vary from between 5% to 22% (Green & Lindy, 1994).

Generally speaking, the duration and extensiveness of stress-related reactions in a disaster's aftermath will reflect the level of damage and disruption caused by the event. Severe and long-term psychological disturbance most often occurs when individuals are exposed to acute and overwhelming stress, for example, when close to the epicenter of sudden and unpredictable disasters, who feel that their lives are in acute danger, who are exposed to wide-spread death and/or destruction, or when suffering an injury to themselves or a household member.

In gradual-onset disasters such as flooding, the likelihood of victims experiencing acute psychological reactions is much less likely. Flooding generally affords warning periods of days or even weeks, during which time communities are able to prepare themselves both physically and psychologically, thereby limiting threats to safety, minimizing damage and loss, and mitigating overall individual and community disruption. Nevertheless, in cases where flooding is severe, and associated with displacement as in Bangladesh, these events may cause sufficient disruption in life patterns to tax or overwhelm normal coping responses.

Displacement and Psychological Vulnerability

Riverine hazards are an endemic and recurring phenomena in Bangladesh. Monsoon rains and seasonal flooding are in fact much anticipated throughout the country, with agriculture being entirely dependent upon the annual rains. During the flood season, flood losses by riverbank communities are minimized as housing materials are dismantled, property and livestock moved to higher ground, and family members relocated to safer areas (Haque & Zaman, 1994). The evolvement of this *disaster subculture* not only mitigates the physical impact of riverine hazards, but fosters a kind of *psychological socialization* or *habituation* which reduces the degree of psychological strain usually associated with disasters. The integration of riverine hazards into everyday experience and thinking both lessens the threatening perception of the risk while fostering a sense of human controllability and predictability (Alexander, 1993).

Flooding and riverbank erosion can nevertheless be defined as disasters, as "collective stress situations that happen (or at least manifest themselves) relatively suddenly in a particular geographical area and involve some degree of loss, interfere with the social life of the community, and are subject to human management" (Alexander, 1993). Extreme poverty and demographic pressure means that a large proportion of Bangladesh's population remains acutely vulnerable to the affects of riverine hazards. Particularly for poorer peasants living along highly unstable river banklines or on mid-channel char lands, even normal seasonal flooding may erode some or all of their land, resulting in significant loss, if not in life, then in property and dignity; interfering severely with everyday activities; overtaxing local resources; and causing problems that

continue far longer than those which arise from the normal vicissitudes of life. For these displacees, even normal levels of flooding may constitute a disaster event (Maskrey, 1989; Taylor, 1988). "It is a moot point as to whether, to be so called, disasters have to be unexpected, sudden, widespread and utterly devastating. It is conceivable that situations are no less catastrophic if they are predictable, insidious, restricted, debilitating, and less limited in their scale of destruction" (Taylor, 1988, p. 536).

In Bangladesh, the loss of land and livelihood through riverbank erosion-induced displacement can be reasonably assumed to constitute an extraordinary negative event which may be of sufficient magnitude to tax or overwhelm normal coping resources (Rahim & Cederblad, 1986). In traditional riparian societies, land is the primary source of subsistence and an important indicator of wealth, status and power in every day village life. This relationship often gives rise to strong feelings of allegiance or attachment to the land, which in turn is closely tied to the individual's own sense of belonging and identity (Tuan, 1974). Related to the social nature of land (or *desh*) in Bangladesh is the notion that through consuming its produce one becomes part of the *desh*, and strengthened and empowered by it (Daniel, 1984). Daniel observes that the substance of a *desh* - soil, water, and agricultural produce - is seen as auspicious and of particular value. When these qualities are consumed by villagers, the villagers are said to become a full part of their *desh*.

Displacement almost always leaves people in a state of social and economic disarticulation (Oliver-Smith, 1982). It only removes people from the main economic and social foundations upon which their livelihoods are constructed, but forces them to face the uncertainties of surviving in a new and

unpredictable environment. Urban life to most displacees means living in sub-standard housing in crowded and unsanitary slums, with neither employment nor income. Psychologically, loss of the economic and social stability not only fosters strong feelings dissatisfaction, pessimism, negativity and demoralization (Fuller et al., 1996; Kettel, 1996), but places displacees in a tenuous position. "If they fail to make ends meet, their misery is qualitatively different from any they had ever experienced back home. Poverty is then perceived in a new light: not merely as a state of affairs, but as a threat, a snare" (Rahim & Cederblad, 1986, p. 727).

While this experience may not necessarily precipitate acute forms of psychological disturbance which are associated with traumatic stress experiences (for example, PTSD), displacement can be expected to result in marked emotional and psychological distress (David, 1969; Perry & Lindell, 1978). Partridge (1989) has observed that "from the perspective of displaced people, forced resettlement is always a disaster" (p. 375). It is never the fulfillment of a wish, but is an enforced choice which constitutes "a brutal interruption of personal history, a brutal process of transplantation that produces a period of mourning for the loss, in different degrees, of a sense of social and institutional belonging" (Majodina, 1989, pp. 87-88).

Bar-Yosef (1968) has observed that migration, particularly when involuntary, is one of the most obvious instances of a complete disorganization of an individual's role system, leading to varying degrees of isolation, insecurity and anxiety. Rural to urban migrants in developing countries generally bring an overlay of traditional behaviors, customs, and practices which are not readily adapted in the urban context. The migrant's initial posture in the urban

environment usually involves both responses to his/her old culture and conflicts and tensions with the new urban context and its unfamiliar demands and roles. Especially in the early stages of residence, the newcomer may lack sufficient experience and criteria to decide what parts of the urban way of life to embrace or reject, and what parts of his or her former way of life should be pushed into the background or preserved (Breese, 1966).

Difficulties in adapting to the urban environment can be expected to contribute to high levels of psychological distress through the perpetuation of the migrants' marginal status. In Bangladesh, for example, the vast majority of displacees have found themselves living in *bastees*, under conditions that are often worse than the rural areas from which they have migrated. Coming from predominantly subsistence-oriented livelihoods, the displacees have moved from relatively isolated and economically stagnant areas into market economies where most lack both the economic skills and knowledge of urban life to compete successfully above the day-labourer level. The displacees have consequently fallen into a pattern of *subsistence urbanization*, having merely enough to survive with little opportunity to better their condition.

It can be reasoned that displacement results in additive and interactive stressors which may carry on well after initial resettlement, contributing to symptoms of psychological distress which may arise months or years after the actual disaster event. Displacement not only results in sudden and negative changes in every day living patterns (acute stress), but generally forces displacees into a state of chronic destitution (chronic stress). It is now known that the nagging persistence and proximity of chronic stressors, particularly when occurring in a facet of life of central importance, can have a cumulative and

taxing effect on a person's ability to cope (Pearlin et al., 1981). In many cases, Mattlin et al. (1990) further observe, efforts to cope with chronic difficulties are much less likely to succeed, and lead to anxiety and depression, than efforts to cope with acute events.

It is now recognized that lower socioeconomic status (SES) in general, and economic poverty in particular, can act as chronic stressors which gradually erode coping resources, culminating in a state of physical, emotional, and/or mental exhaustion (Thoits, 1995). Mirowsky and Ross (1989) have argued that this powerlessness and social alienation is a predictable and inevitable outcome of the "inability to achieve one's ends, from inadequate resources and opportunities, from restricted alternatives, and from jobs in which one does not choose what to do or how to do it ... experienced disproportionately by those with low education and low income, possibly by women" (p. 207).

A considerable body of literature has been established on the effects of poverty on mental health. Kessler (1979) observes that persons of lower socioeconomic status generally become vulnerable in two ways; they are firstly exposed to more chronic socioeconomic problems than higher income groups and, secondly, comparable events often affect them more severely than they would a higher status group because of their reduced resource base. Ulbrich et al. (1989) have noted that poverty and ongoing difficulty in acquiring the necessities of life often serve as a residual and chronic stressor, acting to reduce levels of life satisfaction, straining socio-economic resources and increasing vulnerability to both new economic problems as well as more discrete events. Wheaton (1983) observes the chronic poverty is characterized by basic conditions which are conducive to feeling of vulnerability and powerlessness. These include

the perception of barriers in the achievement of life goals or the stagnation in the improvement of life conditions; the perception of inequity, that is, the inadequacy of rewards in life roles in comparison with invested effort or qualifications; the presence of either excessive or inadequate demand in the environment compared to the response capacity of the individual, that is, bad person-environment fit; frustration of role expectations; and/or the absence of necessary resources needed to achieve a reasonable standard of living.

Because the poor typically are unable to insulate themselves from potential losses through the accumulation of reserve resources, the addition of even a minor loss or disruption may push their resources to the limit (Taylor, 1988). This state of socioeconomic impoverishment not only reinforces the sense of vulnerability and lack of control common to lower SES persons, but serves as an enduring symbol of the inadequacy of their efforts to resolve problems. Pearlin et al. (1981) have observed that chronic and difficult life conditions are especially inimical to a person's sense of self-esteem and mastery, serving as enduring symbols of the inadequacy of his/her efforts to resolve problems.

“Problems that by their nature are short-lived, or those readily responsive to efforts to solve them, do not leave people convinced of their own deficiencies; in fact, successful encounters with these kinds of problems might enhance the self ... It is the abiding problems to which people can see no end, those that seem to be fixtures of their existence, that are intrinsically uncongenial with positive self-concept “ (p. 345).

Epidemiological research confirms that the chronic strains built into the life of more disadvantaged socioeconomic status groups contribute to higher rates of both physical and psychological illness (Ulbrich et al., 1989). Dohrenwood (1969) found that 20 out of 25 studies from which this relationship could be judged showed higher rates of symptomatology in the lowest social classes. In a study of over 1,600 residents in Florida, Schwab et al. (1969) reported that the lowest socio-economic respondents were five times more likely to experience high psychological distress than their higher socioeconomic cohorts. Brown et al. (1975), in a study of 220 residents of London, England, similarly found that working class females were five times more likely than upper class females to develop depression in the year prior to interviewing, particularly when experiencing a negative life event and lacking a close, confiding relationship.

In developing countries, where rapid rural-urban migration has led to a proliferation of slums and squatter settlements, the relationship between chronic urban stressors and psychological distress and morbidity has received increasing attention. A review of research suggests that at least 10% and as much as 30% of community samples can be expected to demonstrate significant levels of distress. In a survey of over 1600 persons in four developing countries, Harding et al. (1989) reported rates of psychiatric morbidity of 10.6% (Sudan), 10.8% (Colombia), 16.3% (Philippines), and 17.7% (India). In Ethiopia, Tafari et al. (1991) found a case rate of 17.2% among 2000 adults living in a rural community while Jacobsson (1985) reported a prevalence of 18% among 465 outpatients attending an urban general hospital. In Khartoum, Sudan, Rahim and Cederblad's (1989) survey of 204 inhabitants showed that 40.3% had at least one

psychiatric symptom while 16.6% exhibited clinical syndromes. In a subsequent study, Cederblad and Rahim (1989) found that 28% of 104 Khartoum inhabitants exhibited significant impairment. In India, Sen and Williams (1987) found clinically recognizable depressive phenomena among 43% of 202 adult attenders of three primary health care clinics in Calcutta, with 23% being diagnosed with depression of marked intensity. Naik and Wig (1980) and Banerji et al. (1987) similarly found 20% rates of among persons attending general medical practitioners in Chandigarh and Calcutta respectively.

Research has further shown a positive association between the stressors of poverty and urbanization and mental health deterioration. Ndeti and Vadher (1982), for example, found that lack of regular employment and income were significant vulnerability factors among clinically depressed persons in Nairobi, Kenya. In an epidemiological survey in Iran, Bash and Bash-Liechti (1974) similarly found that morbidity was higher among the urban poor (19.8%) than middle class (13.6%) or well-to-do persons (14.3%). In assessing psychiatric morbidity and alcoholism in an industrial suburb in Buenos Aires, Argentina, Tarnopolsky et al. (1977) found a higher proportion of cases among respondents of lower socioeconomic status, the poorer residential districts, the less educated and the foreign-born.

Bahar et al. (1992), in assessing the impact of rural-urban migration in Palembang, Indonesia, reported similar results. While only 8% of 1,033 non-migrants were found to have significant mental health problems, this figure rose to 26% among the 546 migrants. Psychological symptoms were found to be strongly associated with poverty; whereas 23% of low income respondents were identified as experiencing mental health difficulties, this figure fell to 14% and

11% among middle and upper income persons respectively. Respondents living in poor traditional dwellings also had a higher case rate than those living in more permanent housing (23% versus 14%). Fewer cases were identified among persons who had access to electricity (16% versus 30% of those without), tap water (16% versus 25%), and a television set (15% versus 26%).

Mari (1987), in assessing the prevalence of mental health problems in three primary health care centers in Sao Paulo, Brazil, also found a strong association between poverty and psychological disturbance. Rates of *minor psychiatric morbidity* (MPM) were found to be significantly higher among slum-area residents living in 'irregular' housing which lacked adequate water and sanitation; 56% of these subjects were identified as mental health cases in comparison to 48% of those residing in more stable neighbourhoods with 'regular' housing (houses or apartments). Women residing in 'irregular' housing conditions were nearly three times more likely to be classified as high scorers than women residing in regular housing. Over 75% of the low income women exhibited MPM symptoms in comparison to 55% of women with moderate incomes and 44% of those with high incomes.

Reichenheim and Harpham (1991) assessed the mental health status of 1,048 mothers living in the largest squatter settlement in Rio de Janeiro. Mental health was again found to be strongly associated with poverty status. Some 47% of low income mothers were found to be in poor mental health, in comparison to 34% and 30% of the middle and upper income mothers respectively. Almost one-half (48%) of the mothers living in the poorest living conditions were experiencing mental health difficulties, in comparison to 33% and 15% of the mothers living in moderate or good conditions. The highest proportion of

'probable cases' (50%) was found among migrant mothers who had remained in the lowest socioeconomic bracket despite residence of ten or more years.

It can be assumed that involuntary migration may increase the risk of psychiatric morbidity. Displacement can be conceived as a major negative life event which almost always results in additive and interactive stressors. These include loss of livelihood and community, subsistent living standards, and deprivation of basic amenities. Such hardships and difficulties can be expected to have a cumulative effect on an individual's mental health, gradually eroding coping resources to the point of physical or psychological exhaustion (Thoits, 1983).

It is important to keep in mind, however, that human exposure to stressors alone is never a sufficient explanation for the onset of physical or psychological illness. The impact of every stressor is determined by a number of individual and environmental factors which may either increase or decrease a person's potential for dealing effectively with stressors (Pearlin & Schooler, 1978). As shall be discussed in Chapter IV, the capacity of people to respond to environmental threats is a function of not only the physical forces which affect them, but of the way people see and adjust themselves in relation to these forces.

Chapter IV

Psychological Coping

This chapter reviews literature relative to psychological coping and adjustment processes, particularly in relation to natural hazards. It not only provides a broad overview of human responses to adversity and stress, but discusses coping and adjustment in the context of displacement and marginalization in Bangladesh.

One can assume that persons placed within highly stressful circumstances are at risk of experiencing a negative change in either their physical and/or psychological health (McFarlane, 1988). However, distress and morbidity are separate phenomena and exposure to threatening or unpleasant life events is a potent cause of distress but not necessarily of a psychiatric disorder (Pearlin & Schooler, 1978). Moreover, life events are not equally stressful to all persons (Wheaton, 1983). Pearlin et al. (1981) observe as a determinant of an individual's response, the objective nature of a situation is less important than is the person's construal of the situation. People vary considerably in their propensities to respond in particular ways to situations, and these individual differences play an important role in determining what coping strategies people use.

People typically confront stress-provoking conditions with a variety of perceptions, behaviors, and cognitions designed to alter or mediate the impact of the situation. These responses may be referred to as coping. *Coping* can be defined as any and all cognitive, emotional and/or behavioral efforts used by an individual to master, reduce or tolerate specific internal and/or external

demands that are appraised as taxing or exceeding the resources of that person (Folkman & Lazarus, 1980). Coping as such is viewed as independent of its outcome, that is, coping refers only to efforts or tactics exerted to manage demands, regardless of their success.

Conceptually, coping behaviors can be categorized into three major groups: (a) responses that change the situation, (b) responses that change the meaning of the stressor, and (c) responses aimed at controlling distressful emotions (Pearlin & Schooler, 1978). Lazarus and Folkman (1984) have broadly divided these coping responses into two classes: (a) actions that eliminate or directly modify a threatening situation (problem-focused coping), and (b) thoughts or actions oriented toward relieving the emotional impact of the event (emotion-focused coping).

Problem-focused coping consists of both cognitive and behavioral strategies oriented toward modifying an unpleasant or threatening situation. These efforts almost always involve attempts to do something active to alleviate stressful circumstances (Mikulincer, 1994). Folkman et al. (1986) have observed that problem-solving coping most often takes the form of following responses: (a) confrontative coping, characterized by action-oriented strategies used to change a situation, (b) seeking social support strategies, characterized by efforts to obtain emotional comfort and information from others, and (c) planful problem-solving, deliberate and sequential problem-focused and often action-oriented efforts to solve a problem.

Emotion-focused coping, in contrast to problem-focused coping, involves efforts to manage the cognitive and emotional consequences of a stressful situation. This is usually accomplished by either by modifying the meaning of

the problem or through the regulation of the associated emotional distress (Mikulincer, 1994). These strategies can be divided into four coping strategies: (i) reorganization, or changes in priorities, plans or projects which resolve to person-situation mismatches, (ii) reappraisal, usually involving selective attention to the positive rather than negative aspects of a situation, thereby reducing distress associated with person-situation mismatches, (iii) emotional-management, which may take the form of either the venting of emotions, self-control or the regulation of emotions, and/or distancing or deliberate detachment from a stressful encounter, and (iv) avoidance, characterized by such activities as behavioural disengagement, active forgetting, wishful thinking or daydreaming.

Research shows that people typically use multiple strategies when coping with major life events or chronic strains (Mikulincer, 1994; Pearlin & Schooler, 1978). Folkman and Lazarus (1980) found that both problem-focused and emotion-focused strategies were used by subjects in 98% of some 1,300 stressful episodes. The efficacious of any one coping tactic, however, depends very much upon contextual features of the stressor.

In situations which are amenable to problem-solving, active coping can result in constructive change, lead to feelings of competence, and generalize to later stress experiences (Collins et al., 1983, Kaloupek & Stoupakis, 1985; Kaloupek et al., 1984). However, in situations which are not amenable to instrumental control, persistent problem-solving efforts can lead to negative feelings of failure, frustration and helplessness (Folkman, 1984; Collins et al., 1983). Emotional-focused coping in controllable circumstances may similarly have negative outcomes. In this case, focusing on the negative aspects of a

stressor may not only exacerbate the associated distress, but distract from more active coping efforts which might resolve the situation (Scheir & Carver, 1977).

No one coping strategy is efficacious across all situations. Thoits (1995) has observed that "the effectiveness of any one strategy or coping style may depend on abstract properties of a stressor (e.g., chronic versus acute, controllable versus uncontrollable), on specific subtypes of stressors (e.g., death of a loved one, illness, interpersonal problem), or perhaps on some combination of both aspects" (p. 61). In general, controllable situations favour problem-focused coping, uncontrollable situations favour emotional-focused coping (Folkman & Lazarus, 1988). Folkman (1984) observes that for problem-focused coping to be effective, subjective appraisals of controllability must match the objective controllability of the stressor (conversely, for emotion-focused coping to be effective, situations should be objectively uncontrollable and accurately perceived as such). "A time-honored principle of effective coping is to know when to appraise a situation as uncontrollable and hence abandon efforts directed at altering that situation and turn to emotion-focused process in order to tolerate or accept the situation" (Folkman, 1984, p. 849).

Coping in the Context of Involuntary Displacement in Bangladesh

As stated earlier, the poor and disadvantaged in Bangladesh do not so much adjust to disaster events as "react within the constraints set by the prevailing relations and resource control characteristics" (Rogge & Elahi, 1989, p. 28). In the absence of economic, technical and educational opportunities, the rural peasant often falls into a *deprivation trap* characterized by fatalistic attitudes which reflect the displacees' inability to exert control in both his/her physical

and socio-economic environments. Baqee (1988), commenting on the inequities of land, power and control of the *char* lands in Bangladesh, writes:

“The winners of this power game are those who can pull all possible strings in terms of administrative and government connections as to clinch it in their favour and secure a strong foothold in society. The losers, who outnumber the winners many times, are either evicted from their *char* sites or in most cases fall into the grip of extreme poverty ... The settlement process is a major factor in determining the extent of control over these resources by rival groups where 'might is right'. An inexorable fate, ever nurturing the seeds of nemesis, perpetually loom over the *char* lands. Helplessness, resignation and surrender to forces unleashed by them in their struggle for existence - but over which they have no control – mark the lives of the *char* lands denizens. Their attitudes bespeak a passivity towards the misfortunes that befall them. Blind, unquestioned acceptance of 'whatever will be, will be' pervades the *char* land ethos” (p. 2)

It is now recognized that the generalized beliefs and attitudes that a person holds in relation to his/her potential for controlling and mastering the environment can both directly deter distress, that is, enhance well-being, and mediate the potential adverse consequences of stressful conditions (Antonovsky, 1979; Pearlin & Schooler, 1978). Of particular interest in the present context are the concepts of personal control or mastery versus fatalism. Personal control and mastery as a psychological attributes refers to the extent a person regards his/her internal states, behavior and life-chances as being under his/her control in contrast to being fatalistically ruled (Pearlin & Schooler, 1978). *Fatalism*, in contrast, refers to the tendency to believe in the efficacy of the environment

rather than personal forces in terms of the causes of life outcomes, including both success and failure outcomes (Wheaton, 1983).

Conventional Western psychological research has generally shown that beliefs in personal control are advantageous in buffering the deleterious effects of stress exposure. Anderson (1977) and Pol et al. (1980), for example, have reported that persons with high sense of personal control not only experience less distress than persons with low control when confronted by stressors, but achieve better outcomes in managing both acute and everyday problems. Individuals with high personal control have been found to rate their overall health better, are sick and depressed less often, and recover better and more rapidly from illness and injury than people with low personal control (Bandura, 1992, Gecas. 1989). When faced by stressors, these persons react with more favorable outcome expectancies, exhibit greater feelings of competence and more active problem-solving efforts, and resort to fewer interfering responses such as avoidance and self-blame (Anderson, 1977; Brisset & Nowicki, 1973; Gibbs, 1989). Thoits (1987) has reported that a sense of control may well lessen the psychological impact of even fateful events by encouraging active problem-solving in their aftermath. Inversely, loss of control and fatalistic attributions are likely to lead to feelings of frustration and helplessness, reducing motivation and making the goals of social action less attainable (Wheaton, 1980).

Although conventional psychology often associates fatalism with powerlessness, passivity; and impotence, contributing to the *deprivation trap* of poverty (Somjee, 1991), one must also recognize fatalism as an adaptive coping response. In face of uncontrollable physical conditions (flooding, riverbank erosion), and enduring socio-economic inequities (lack of means of production,

chronic poverty), the poor in Bangladesh in fact have few options by which to better their life circumstance. Moreover, the struggle for survival and subsistence among the poor in Bangladesh requires self-determination and daily physical exertion, which are the antithesis of passivity. As Hartmann and Boyce (1990) observed in Bangladesh, "to blame the villagers' poverty on their fatalism would be to put the cart before the horse, to confuse symptom with cause. Fatalism is simply the way villagers explain the reality they are up against" (p. 224).

From a Western coping perspective, it can be argued that active problem-solving efforts in such circumstances where success is unlikely may serve to only reinforce the villagers' sense of powerlessness. The individual might better relieve the associated distress of his/her life circumstances by accepting these as inevitable, in this case attributing them to the "will of Allah". This sense of fatalism, while implying a lack of individual control which is typically associated with depression, serves to integrate the individual into a belief system which allows the person to accommodate life circumstances (including displacement) into a understandable reality without being overwhelmed by it (Krause & Tran, 1989; Neff & Hoppe, 1993; Pearlin & Schooler, 1978).

Gilsenan (1982) has observed that ecstatic worship in Islam tends to be associated with the socially repressed and dispossessed, not least because it provides important psychological outlets. Whilst the powerful are likely to declare 'Allah helps those who help themselves', the poor tend to assert that 'Allah gave this position, so how can we change it'. Allah in this latter context is seen by the poor as intrinsically linked with their daily life and destiny, and provides reason for their impoverishment, suffering and sacrifice. As Gardner (1995) observed in rural Bangladesh, "landless villagers told me that the wealth

of their neighbours was a 'test' given the rich by Allah, to see if they would redistribute it as alms" (p. 234).

Fatalism, and *religiosity* in particular, McCrae and Costa (1986) observe, provide people with a sense of meaningfulness and positive interpretation. For example, a person who holds a firm belief that all things are part of God's larger plan may experience less distress following negative life events than a person who does not hold this view (Wortman et al., 1992). Similarly, people who have the perspective that bad things can happen at any time and that suffering is part of life may find it easier to cope with loss and change than persons who believe that if they work hard and are good people, they will be protected from misfortune (Janoff-Bulman & Frieze, 1983).

The commonality which displacees share in terms of beliefs, experience, needs and priorities may be also seen as an integrative force. In order to survive, Bangladesh's riverbank displacees have relied largely upon their collective resources, resettling within geographical clusters which allow for the re-establishment of kinship-neighbourhood structures that traditionally furnish support and assistance during disastrous circumstances (Haque, 1989; Zaman, 1988). Although individual and communal resources may be diminished through displacement, the continuity of village structures not only allows for provision of *shahaja* (assistance and charity to the poor) but can promote a sense of familiarity and emotional connection, interpersonal commonality and solidarity which can offset feelings of uprootedness, loss and isolation (McMillan & Chavis, 1986).

It is generally accepted that social support is instrumental in buffering or protecting individuals from the potentially pathogenic influence of stressful events, accounting for as much as for 5% to 10% of the variance associated with

such disorders as anxiety, somatic complaints, and depression (Cohen & Wills, 1985; Ganster & Victor, 1988). Social support here can be broadly defined as an individual's social network and support systems, including family, kin, friendships and neighbourhood ties, from which can be drawn on for tangible or material assistance, emotional support, and informational or directive guidance/support (Barrera & Ainley, 1983; Schaefer et al., 1982).

In the event of a highly negative community event such as displacement, the presence of supportive others may be particularly relevant to the coping and adjustment process. Lieberman and Borman (1979) have observed that social units which move-in-mass (not unlike many displaced villages in Bangladesh) often function as loosely structured 'self-help groups'. The retention of kinship-neighbourhood structures can not only provide for day-to-day expressive and instrumental needs among members through the sharing of resources and information, but can relieve the uncertainties and anxieties of displacement by promoting an expectation and confidence that others are present to provide support in times of need (Wills, 1985). Alexander (1969) has noted that the re-establishment of community structures provides migrants "with at least one familiar reference point in an otherwise strange society" (p. 72), thereby furnishing an important sense of socio-emotional connectedness and reciprocity. Taft (1973) and Bochner (1981) point out that such structures allow for a sense of socio-cultural continuity, thereby allowing the individual "to reflect on the novelty of new experiences and to regain the inner security and self-respect so essential to effective continuation of normal life processes" (David, 1969, p. 27).

Interestingly, the importance of social support is often most evident when these supports are lacking. Antonucci (1985) and Kaniasty and Norris (1993)

found that while the *presence* of social support may not necessarily lessen the immediate impact of a disaster event, the *absence* of support will almost always be detrimental and contribute to more severe psycho-pathology. Becker and Schmalzing (1991) have noted that while social support may reduce feelings of helplessness and low self-regard, the lack of it will more likely lead to anxiety and depression - even in the absence of a severe life threat. The authors note that in the event of exposure to a severe life event, social support has the effect of enabling the individual to perceive the event as both less threatening and more capable, thereby reducing or buffering its adverse impact.

In Bangladesh, where patronage and charity between kin is an integral component of economic and social relations, seeking social support should be viewed as an important mediator of both socioeconomic and psychological adaptation. However, this process can also be expected to be influenced by individual predispositions towards types of coping (problem-focused or emotion-focused), as well as personal beliefs and attitudes, such as controllability versus fatalism, which determine an individual's willingness/ability to persist in face of obstacles or aversive experiences (Bandura, 1977).

Chapter V

Theoretical Considerations

This study is designed to examine, from an interdisciplinary perspective, patterns of psychological coping and adaptation among riverbank erosion-induced displacees in Bangladesh. It not only attempts to identify the nature and characteristics of human responses to riverine hazards and displacement, but also to delineate underlying economic, social, and cultural relationships which shape this process.

Psychological studies of disasters have traditionally adopted an environment-behavior paradigm to explain behaviors occurring before, during, and after extreme events. Human responses are seen to be a product of an interactive and reciprocal process in which characteristics of disasters (e.g., predictability, duration, intensity and magnitude) interact with cognitive and psychological factors (perception, cognition, attitudes, and coping processes). Disasters that are unexpected, occur suddenly, and cause widespread damage are generally assumed to be traumatic and associated with the a high degree of psychological disturbance (Bolin, 1989; Koopman et al., 1994; Thoits, 1983).

This psychological perspective tends to view natural hazards and disaster events as extraneous, discrete, and abnormal events which overwhelm normal coping mechanisms. Human coping is seen as the relative ability of people to resolve symptoms of distress associated with loss and damages, rather than in terms of how people regain their physical and social livelihoods in adverse circumstances. This process is assumed to be influenced by a number of socio-

demographic variables, such as low income, old age and female gender, which increase both physical and psychological vulnerability to disasters. People of different social backgrounds not only encounter different hardships and problems, as well as opportunities, but may vary in their physical and psychological capacities to fend off the stresses resulting from difficulties.

These factors are generally studied as discrete variables, without consideration of how societal processes at large intersect with nature to foster vulnerability and risk to natural hazards. The manner in which people cope, and their degree of coping efficacy, is assumed to be determined by internal attributes such as self-esteem and mastery, which underlie psychological well-being and resilience (Antonovsky, 1979). The stronger these psychological resources, the more resilient people are to stress, and the greater is their persistence and efforts in resolving difficulties (Gibbs, 1989; Thoits, 1987; Wheaton, 1983).

It is important to acknowledge that this perception of human health is rooted within a Western scientific perspective, often to the exclusion of cultural-ecological interpretations which emphasize the role of indigenous knowledge and customs in mediating health and adjustment. Western psychology typically emphasizes an egocentric approach which prizes individualism, self-reliance, and problem-solving as avenues for adaptive functioning (Triandis, 1996). Although economic and social support may be considered mediating factors in physical and emotional recovery, they nevertheless remain peripheral to psychological coping - a process based on intrapersonal rather than interpersonal resources.

In contrast to the individualist emphasis common to psychological studies approach, recent disaster studies have integrated natural hazards and disasters into a socio-structuralist framework. Disasters are seen not merely as extreme geophysical events detrimental to human activity systems, but as a complex mix of geophysical processes, on one hand, and social, economic, and political processes, on the other (Blaikie et al., 1994; Cannon, 1994; Varley, 1994). Blaikie et al. (1994) have in fact argued that 'natural' and 'human' dimensions of disasters are so inextricably bound together that these events can not be understood to be natural in any straightforward way. Rather, disasters are a complex product of the interface between natural and social affairs in which "activities of daily life comprise a set a points in space and time where physical hazards, social relations, and individual choice converge" (Blaikie et. al., 1994, p. 13).

This approach "puts the main emphasis [of disaster studies] on the various ways in which social systems operate to generate disasters by making people vulnerable" (Blaikie et al., 1994, p. 11). Although personality traits and attitudes may influence how people perceive and respond to hazards, these attributes are seen not merely in terms of internal psychological processes, but as being intricately linked to prevailing economic, social and political institutions. These systems not only determine resource relations and what people can and not achieve, and therefore also how people view their level of personal efficacy and competence, but influence people's choice of coping strategy. Persons with access to resources and savings usually have some degree of flexibility and choice in responding to natural hazards, whereas the disadvantaged poor are forced to adopt passive coping strategies because they are without means to either prepare for or mitigate these conditions.

The present study has adopted an integrative perspective toward disaster studies. On one hand, it is recognized that psychological coping is essentially an internal process, which is at least partially influenced by the intensity and magnitude of stressors. Hazards that are clearly perceived to be threats because of their potential for widespread destruction are more likely to evoke self-protecting responses, while disasters which cause widespread damages and especially deaths can be expected to cause the greatest level of emotional distress. However, it is further maintained that exposure to threatening life events is not always a sufficient explanation for the onset of psychological illness. The impact of any stressor is mitigated not only by the effectiveness of individual coping, but also by non-psychological resources such as material and social support which may be used to resolve problems and hardships.

It is also acknowledged that natural hazards must be viewed within the context of daily life, rather than as distinct and abnormal phenomena. This is particularly applicable in the case of Bangladesh. As Alexander (1993) has asserted, the recurring and endemic nature of riverine hazards in this country has meant the emergence of distinct disaster characteristics, which has allowed the poor to minimize their losses through indigenous mitigation measures. Agriculture, for example, has become finely attuned to seasonal flooding, such that damage results mainly from floods that are unexpected or particularly intense, but not from normal seasonal flooding. So long as people are able to protect their homes and livelihoods, flooding is seen as a normal seasonal activity. In this context, riverine hazards are seen not as abnormal events, but as being a natural and recurring facet of rural life.

The ability to cope with the hazards must also be considered within a larger societal structure, rather than solely at the individual level. The poor are almost always more vulnerable to hazards because they live in areas more prone to these events, and because they have far fewer resources to overcome damages and hardships. Although psychological coping is an internal process, one can assume that basic psychological attributes such as perceived self-efficacy and controllability are determined by a person's daily efforts to achieve success in the environment. That is, people who have access to resources to achieve their ends are more likely to believe they are capable of effecting change in their environment, and will be more active in their attempts, than people who lack resources and must depend upon others for their livelihood.

Finally, it is important to acknowledge that perception and coping behavior is significantly influenced by culture and societal practices. Rather than adopting the conventional Western scientific approach, it is recognized that each society has its own particular 'perspective' through which people interpret and organize their activities and reality, resolve difficulties and problems, and create new social arrangements (Guinness, 1992; Kleinman et al., 1978). As such, it may be argued Western psychology is only one of many perspectives with which to study human behavior, and in fact may be vastly different from many non-Western perspectives. In this respect, this study has adopted an integrative cultural-ecological perspective which recognizes the role of social organization, indigenous values, and cultural knowledge in determining how people interact and respond to changes in their physical environment.

Research Objectives and Hypotheses

The present study has undertaken an interdisciplinary approach to natural hazards and disaster. Although it is primarily concerned with the psychological processes by which people adjust to riverbank erosion-induced displacement, it is recognized that human responses to natural calamities are a function of a multitude of geophysical and social forces which can not be accounted for by a singular academic discipline. As asserted by Beaujeu-Garnier (1976), this requires a more holistic and cohesive approach to research and analysis, one in which differential disciplines are viewed as complementary, rather than as alternatives, and can thus overcome the narrowness of traditional disciplines (Harbert, 1979; Johnston, 1982).

In this study, human perception and decision-making is viewed as a complex interface between the physical environment, economic relationships, and social and cultural practices. The capacity of people to respond to environmental threats is a function not only of the physical forces which affect them, but also of the economic conditions which determine what they can and can not do in response to natural calamities. This is further influenced by indigenous social and cultural belief systems, which shape how people interpret and organize life activities.

The research is designed to examine the impact of riverine hazards and displacement upon displacees, both males and females, in Bangladesh. The specific objectives of the study are to: (a) determine the magnitude of psychological distress associated with riverine hazards and displacement in Bangladesh, (b) examine patterns and predictors related to the economic, social,

and psychological adaptation of male and female displacees, and (c) identify patterns of psychological coping common to displaced persons.

A review of literature clearly suggests that displacees will show higher levels of psychological morbidity than non-displacees. Although involuntary displacement resulting from this hazard may not have a *traumatic* psychological impact which is associated with more sudden and violent disasters, it is associated with significant loss: if not of land, then of community and lifestyle. Moreover, displacement can be expected to lead to significant levels of psychological distress as a consequence of increased impoverishment and marginalization. Displacement almost always leads to pauperization and social marginalization (Haque, 1988; Hossain, 1989), with the vast majority of displacees being forced into slums and shanty towns (Haque, 1997; Hossain, 1989).

According to popular literature, such chronic socioeconomic stressors not only gradually erode coping resources, culminating in a state of physical, emotional, and/or mental exhaustion (Thoits, 1995), but reinforce beliefs of personal vulnerability and inadequacy (Anashenal, 1992). Behaviorally, one might expect displacees to respond to their impoverishment and marginalization with less problem-focused attempts and more passive coping efforts. In this case, the loss of personal efficacy associated with successive failure to overcome poverty is anticipated to undermine coping efforts oriented to changing a situation, and contribute to a tendency to reduce associated distress through such emotional-management techniques as avoidance and disengagement. In the context of Bangladesh, one might also expect enduring poverty and strong religious beliefs of fatalism to contribute to an attitude of relative powerlessness.

It is also expected that social support will have a determining impact upon levels of psychological distress. Clannishness is an essential feature of rural life in Bangladesh, with interdependent kinship and neighbourhood networks promoting survival through the obligatory exchange of physical, financial, and material supports during times of need (Novak, 1993; Zaman, 1994). In the case of displacees, who often resettle en-masse, kinship not only provides an important source of mutual assistance and support, but can reduce feelings of uprootedness and alienation. However, one can also anticipate that a proportion of displacees, for example, women and the elderly, may nevertheless experience significant isolation and loneliness, and thus also higher levels of distress.

Accordingly, the hypotheses of the study are:

1. Displacees will exhibit higher rates of psychological distress than non-displacees.
2. Psychological distress among displacees will be related to identifiable stressors associated with displacement, such as loss of land and frequency and duration of displacement.
3. Psychological distress among displacees will be associated with identifiable resettlement stressors including economic and social marginalization.
4. Displacees will exhibit more passive coping styles than non-displacees.

Chapter VI

Research Methodology

This chapter describes the sampling procedures and research methodology of the present research. Considerable attention is also applied to the limitations of a number of conventional research instruments, selected but later deleted from the survey. The need to develop more culturally sensitive instruments in order to account for language and cultural nuances is discussed.

Sample and Sampling Procedure

Field data of this study was collected in city of Seraiganj and the *thana* (sub-district) of Shariakandi in Bangladesh. The locations of these sub-districts in are presented in Figure 1. The sample of 238 displaced persons (i.e., displacees) was drawn from four squatter settlements located in Seraiganj in Bangladesh (Figure 2). Of these displacees, 120 are male and 118 female.

A control group of 223 non-displaced persons, of which 107 are male and 116 female, was drawn from three villages located in the rural *thana* (sub-district) of Shariakandi (Figure 3). While non-displaced respondents may have lost land because of riverbank erosion, none had been previously displaced from their homestead.

In addition, 87 respondents (44 males/43 females) were sampled from the *thana* headquarters of Shariakandi itself. This population can be described as municipal rather than rural. It had originally been sampled due to difficulty accessing non-flooded areas. However, because it is not a typical rural population, with considerably different living patterns than the rural control

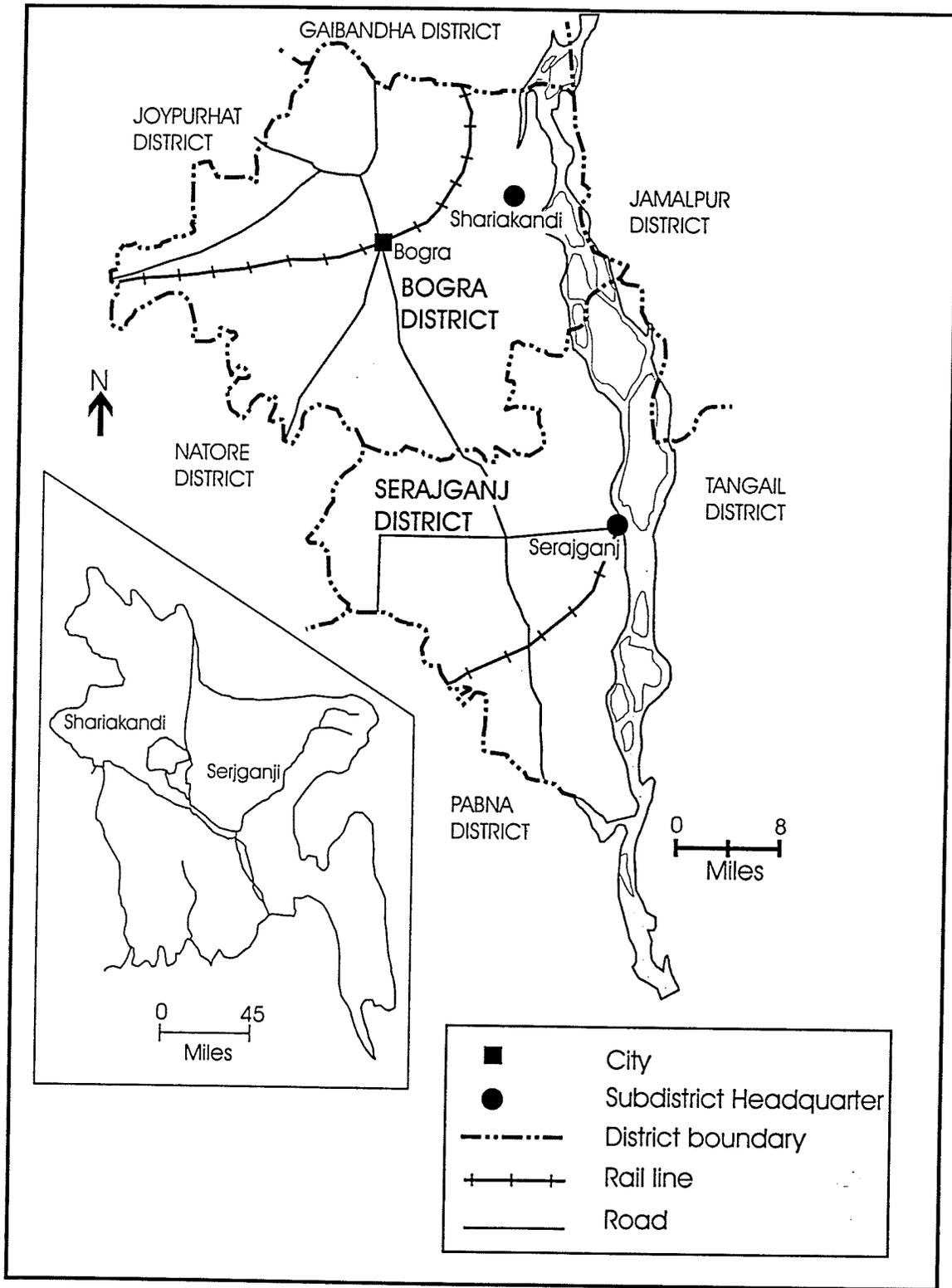


Figure 1: Location of Serajganj and Shariakandi Subdistrict Headquarters, Serajganj and Bogra Districts.

group, it has been excluded from the analysis of the data unless specifically indicated. This sample is treated as a special group throughout the study.

Sample of Displaced Persons

Displaced respondents are defined as persons who have migrated to and are living in Serajganj as consequence of having lost their homestead and land (owned or rented) through riverbank erosion. Only displacees who have been displaced within the past five years are sampled. The sample range has been limited to up to five years in order to examine the acute effects of involuntary displacement vis-à-vis more chronic stressors associated with urban poverty.

The sampling tract of Serajganj was chosen because it is among the more erosion prone areas in Bangladesh. Since its inception as a town in the late nineteenth century, Serajganj has been under almost constant threat of riverbank erosion (Hossain, 1989). Of the 53 *mohallas* or localities which comprise the twenty square kilometers of Serajganj, 25 are regularly affected by annual flooding and erosion activities (Hossain, 1989). In the past decades, over 100 villages have been directly impacted by erosion (Hossain, 1984). In 1986, three villages, a ferry station, and more than half a mile of the flood protection embankment were eroded by the Jamuna River (Islam & Rahman, 1987).

Research has shown that a relatively high proportion of Serajganj's population is comprised of displacees. Of the 30,000 slum dwellers, squatters or homeless residing in Serajganj in 1989, approximately 5,550 were erosion-affected displacees. This constituted about 5% of Serajganj's total population of 100,000 and over 18% of the city's slum population (Hossain, 1989). At the time of this study in 1998, municipal officials estimated the number of slum dwellers in

Serajganj to be 35,000, but were unable to accurately identify the proportion who were displacees. One municipal estimate placed the number of displacees in Serajganj at 20,000, an extremely high figure given that only 5,500 displacees were living in the area in 1989. According to a BRAC official, between 700 to 1,000 displaced households, or between 4,200 and 6,000 adults and children, had resettled in Serajganj in the past five years.

Municipal officials reported that the vast majority of recently displaced households had migrated within the previous two years. The greatest proportion of these households had originated from the union of Kaowakhola, a previously stable union (self-governing unit usually consisting of 12 to 15 villages) bordering the Jamuna River. The sudden erosion of Kaowakhola was generally attributed to the construction of the 4.8 kilometre Jamuna Bridge. This project, located downstream from Kaowakhola, included two guide embankments of about 2.2 kilometers designed to train of the river and regulate water flow. Some 39,000 persons are estimated to have been directly affected by the construction of the bridge through loss of agricultural and/or homestead properties (Jamuna Multipurpose Bridge Authority, 1999). Additionally, 117 villages and about 24,000 persons have been estimated to be at risk of increased riverbank erosion through to the year 2000, although this risk is primarily downstream and as a consequence of over-bank water spill into the upper Dhaleswari River.

A reconnaissance assessment of Serajganj's squatter settlements with the assistance of the Serajganj municipal office showed that the Kaowakhola displacees had been concentrated in three squatter settlements located on unused government land. These settlements are located in an abandoned brickyard (178 households), along a central railway line (283 households), and the flood

protection embankment (121 households) in the southern end of the city. In addition, a concentration of 173 displaced households originating from the village of Biara, located to the south of Serajganj prior to its erosion, is located along the flood protection embankment approximately one kilometer to the west of the municipal boundary. These sampling tracts are presented in Figure 2.

Although each of the squatter settlements is relatively distinct in structure, the brickyard and the railway settlements in particular bear little semblance to the natural landscape of Bangladesh from which the displacees have migrated. Rural Bangladesh is immensely lush and villages are often built around ponds and along rivers. Although village typology may be nucleated or clustered, scattered (dispersed), or linear (usually along rivers and roads), there is generally a clustering of individual houses/homesteads (or *baris*) which share common and interlocking courtyards, along with associated landuses like kitchen gardens, orchards, and artificial ponds (Islam, 1997).

The brickyard settlement consists primarily of huts constructed of corrugated siding and roofs. These households are concentrically located in a low lying area of abandoned land subject to flooding. Limited space means that the houses are densely constructed with limited living space and privacy. During the time of the survey, the settlement was flooded with four to five feet of water, which had been caused by a breaching of the flood protection embankment. Households were accessible only by a makeshift bamboo walkway.

The railway settlement is located in a railway yard dating back to British rule (prior to 1947). Houses are symmetrically located along a main railway line, which in some locations remains in use while in others has been abandoned. Housing material tends to be either corrugated tin sheeting or a mixture of

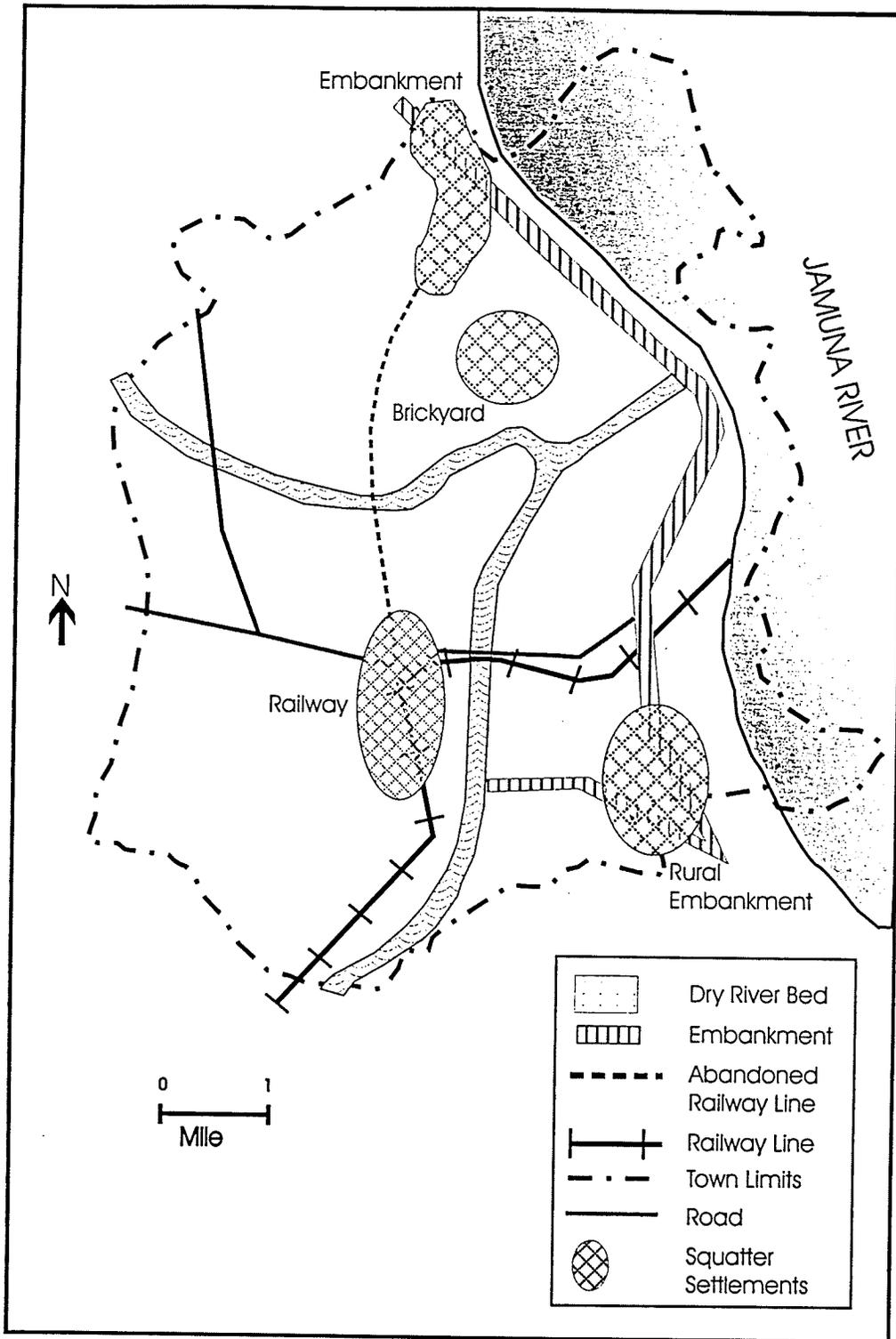


Figure 2: Location of Serajganj Urban Squatter Settlement Sample Areas.

thatch, straw and bamboo. A significant number of huts along the active segment of the railway have been built within ten feet of the tracks. Villagers reported that a number of cattle had been accidentally struck by trains.

The settlements located on the flood protection embankment, on the other hand, lie outside of what might be described as the urban environment of Serajganj, and thus bear a greater semblance to rural living. Houses of these settlements are constructed along either side of the flood protection embankment, and provide greater living space and opportunities to retain traditional practices such as fishing and minor agriculture. Unlike the railway and brickyard settlements, a noticeable proportion of these displaces has been able to retain livestock (most often cattle and poultry).

Sample of Non-Displaced Persons

The control group was originally to be drawn from the displacees' three most common areas of origin. During the time of the study, however, Bangladesh was subject to severe flooding which affected over three-quarters of the country. The union of Serajganj, with the exception of the city itself, was among the most heavily flooded areas, with waters inundating the vast proportion of land outside of the municipal areas (Ministry of Foreign Affairs, October, 1998). The control group was therefore selected from three villages located in the *thana* of Shariakandi, which lies adjacent to the Jamuna River approximately 100 kilometres north of Serajganj (see Figure 1). This area, which is less prone to flooding because of its higher elevation, is also subject to heavy riverbank erosion and was therefore considered an appropriate alternative to Serajganj. A report furnished by the Halcrow Consulting Company, a British

engineering firm overseeing the construction of three riverbank groins in the area, showed that between July and September of 1997 some 47 meters of riverbank had been eroded in front of the village of Digalkhandi, one of the three sampling tracts.

The three villages selected for sampling are relatively distinct from one another (see Figure 3). Digalkhandi, consisting of some 660 households, is located directly along the Jamuna River. Although subject to heavy erosion, the construction of a groin just prior to the study meant that this village is among the most protected areas in Shariakandi. The second village selected is Dhap, which is comprised of 169 households. This village is also located directly on the banks of the Jamuna, but it lies outside of the protection of the groins and is therefore directly exposed to the effects of flooding and riverbank erosion. In the weeks prior to the survey, Dhap had been heavily flooded and evidence of erosion was clearly visible along the bank of the river. The third village, Kuptola (636 households), is located approximately one kilometer from the Jamuna River. Although Kuptola is not subject to riverbank erosion because of its inland location, lower areas are heavily flooded during the wet season. At the time of the study, high water levels meant that many of the sampled households were accessible only by boat.

As previously explained, an additional 87 respondents (44 males/43 females) were sampled from the *thana* headquarters of Shariakandi. This sample is treated as a special case in the study.

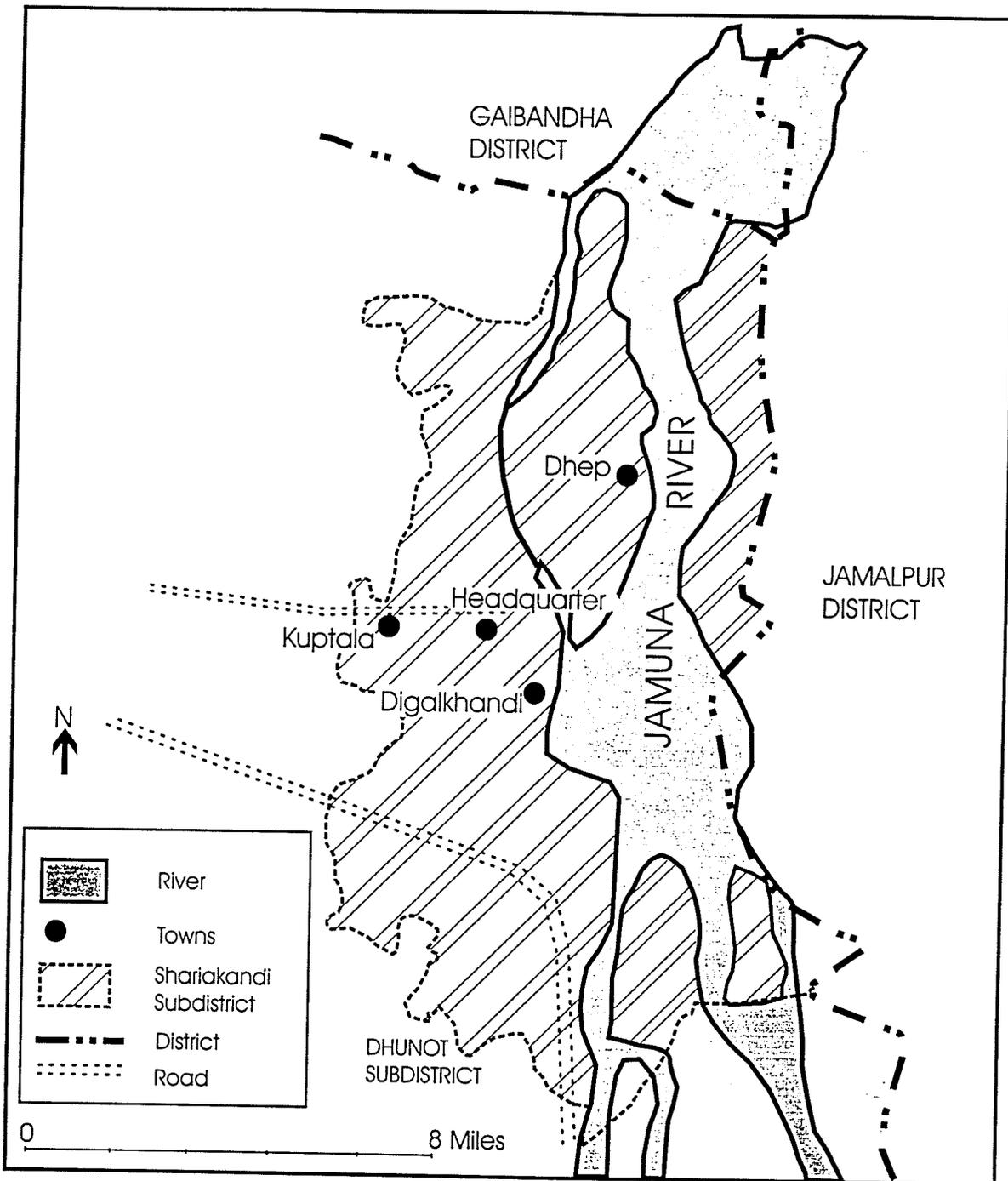


Figure 3: Location of Shariakhandi Rural Sample Areas.

Sampling Procedures

The sampling unit in this study is the household. In Bangladesh, the household (or *khana*) generally consists of a group of persons, not always related, who share both living quarters and principal meals. Household size can vary from a single person to an extended family (Haque, 1988). In the present study, household size among displacees varies from 1 to 14 members, with a mean size working of 5.77 ($SD = 2.44$). Among non-displacees, household size ranges from 1 to 13 members and averages 5.25 members ($SD = 2.05$). Respondents from each household consist of either the household head (*griha karta*) or the female spouse to the household head.

Although previous research in rural Bangladesh had shown that women may be uncooperative with interviewers because of strict conventional practices associated with *pardah* (Hossain, 1989), this was not found during the research. Consultation with women showed the vast majority to be agreeable to being interviewed, and women consistently declined the option having a female interviewer. Female household members were consistently willing to speak to the researcher and several times initiated contact to ask questions, requested to be interviewed, and/or provided information regarding their living conditions.

The Probability Proportional to Size (PPS) procedure (Mosser & Kalton, 1972) was used to calculate sample sizes for each of the selected settlements, thereby increasing the representative value of the sample. Upon the completion of this procedure, the selection of households to be surveyed in each location was determined by a simple random sampling procedure (Sudman, 1976, 1983). This procedure was accomplished by first assigning numbers to each of the identified displaced households, then using a table of random digits to determine the

selection of households to be interviewed. Random sampling was then used to determine which gender of the chosen households was to be interviewed. Two substitute households per selected household were also randomly selected to ensure sample size in the event that the head or acting head of the household originally selected could not be located or refused to be interviewed. These households were also utilized to balance potential gender sample discrepancies arising from the absence or non-participation of male or female respondents. A break down of the sample by community and gender is presented in Table 1.

Table 1: Distribution of Respondents by Status and Tract

Displacees	Male	Female	Total
Railway	29 (42.6%) *	39 (57.4%)	68
Brickyard	31 (58.5)	22 (41.5)	53
Embankment	25 (54.3)	21 (45.7)	46
Biara (embankment)	35 (49.2)	36 (50.8)	71
Total	120 (50.2)	118 (49.8)	238

Non-Displacees	Male	Female	Total
Dhigalkhandi	42 (48.8)	44 (51.2)	86
Kuptola	41 (47.7)	45 (52.3)	86
Dhap	24 (47.1)	27 (52.9)	51
Total	107 (47.9)	116 (52.1)	223

* Figures within parentheses are percentages.

Participation in the study was voluntary and was without monetary compensation. To ensure informed consent, leaders of each of the sampled communities were consulted during the reconnaissance survey and all respondents were informed of the purpose and content of the questionnaire prior

to its administration. Respondents in no way were coerced, deceived or otherwise misled to encourage their participation in the study. All questions and concerns were answered in a forthright manner. An introductory statement was used to ensure that pertinent information relating to the study was consistently disseminated by interviewers. Any respondent wishing to withdraw from the study, for any reason and at any time during the interview, was permitted to do so without penalty.

The data was collected through in-person interviews which were administered at the respondents' households. The interviews were conducted over a 6 week period utilizing ten interviewers during the months of August and September of 1998. Because more than one visit was often required before a respondent was successfully contacted, interviewers were expected to visit a selected household three times prior to initiating contact with the substitute household. These visits were conducted at different times during the day (morning, afternoon, evening), on at least two different days, to increase the likelihood of successful contact. A call record form was used to ensure the recording of unsuccessful contacts, refusals, and the arranging of follow-up appointments.

Subject responsiveness was assessed to ensure the quality of interviews and provide feedback regarding potential subject bias. Questions related to subject bias were integrated into the questionnaire itself and were completed by the interviewer at the completion of each interview. These items were drawn from the Winnipeg Area Study (1996) and addressed: (a) the respondent's level of cooperation, (b) quality of the interview, and (c) sources of interference if the quality of the interview was regarded as poor or otherwise questionable by the

interviewer. Results showed that almost 95% of the respondents were judged to be cooperative and 84.4% of the interviews were rated as good or excellent.

Interviewers were recruited from the Department of Psychology at the University of Rajshahi. Emphasis in selection was placed on prior course and/or field work in the area of mental health and research design. Particular attention was given to the interviewers' understanding and ability to communicate with the local people. To ensure consistency and standardization in the administration of the questionnaire, all interviewers were trained prior to the survey.

Training consisted of a two day orientation and training session based on procedures outlined by Backstrom and Hursch-Cesar (1981). Content was oriented to ensuring understanding of the study's methodology and procedures, as well as to address specific interpretative concerns of the questionnaire. Interviewers were oriented to the purpose and objectives of the study, field conditions and characteristics of the target population, as well as to principles of sampling, sources of sampling bias, and general interviewing procedures (including issues related to interviewing attitudes and personal conduct, standardized interviewing behavior, and potential interviewer and respondent biases). All interviewers conducted two practice interviews in the field to gain first-hand experience. During the interviewing phase, randomly chosen households were re-contacted to ensure that interviews were being completed in a professional manner.

Apparatus

A Displacement and Adjustment Questionnaire was specifically developed to elicit information from displaced persons in Bangladesh. An

abridged version was administered to the sample of non-displacees. The questionnaire consists of groups of items which assess both quantitative and qualitative data regarding the respondents' socio-demographic characteristics, displacement history, social relationships, and economic status.

The displacee-questionnaire (Appendix A) is comprised of 54 questions, the non-displacee-questionnaire 35 questionnaires. Excluded from the non-displacee-questionnaire (Appendix B) are items which assess displacement history and perceived economic, familial and social disruptions caused by displacement. Items which assess the perceived risk and causes of riverbank erosion are included to provide a comparative perspective of riverbank erosion. Erosion and displacement-related items are based on previous research conducted in Bangladesh by Greenberg (1986), Haque (1989), Hossain (1989) and Zaman (1992).

The displacee-questionnaire is delineated as follows: (a) household and demographic background (e.g., age, gender, education of household members), (b) history and details relating to riverbank erosion and displacement, including land ownership patterns, risk perception and hazard preparation, and level of perceived life disruption, (c) particulars of resettlement, including support received from local authorities, level of affiliation with the local populace, and degree of support available from immediate and extended family. (d) household economic conditions, including daily living conditions and household survivability, (e) perceptions of personal control and patterns of psychological coping, and (f) level of psychological functioning as measured by the Self-Reporting Questionnaire and General Health Questionnaire.

Prior to pre-testing in Bangladesh, the questionnaire was reviewed and back-translated by two bilingual professors at the University of Rajshahi. The translated displaced questionnaire was then pre-tested among 15 displaced persons outside of the sampling tracts in the Serajganj district. This was primarily to clarify ambiguous response variables, improve question sequence and interviewing procedures, and economize the duration of the interview. The pre-test revealed a number of significant shortcomings, foremost of which was the length of the questionnaire. Pre-testing showed that the average duration of time required to complete the questionnaire was one hour. Observations of respondent attentiveness showed the optimal length of interview to be between twenty to thirty minutes.

In addition, a number of the psychological scales originally selected were found to be culturally insensitive and lacking conceptual meaningfulness when administered to persons with a low level of literacy and lacking familiarity with Western psychological concepts. Psychological concepts such as coping, self-esteem, and personal mastery were often not understood and usually required considerable explanation. Confusion tended to be intensified by the effects of fatigue and diminishing interest as interviews progressed.

On the basis of the pre-test findings, the questionnaire was reduced significantly in length, in the case of the displacement version from 75 to 54 items. The most significant changes included the deletion of the Ways of Coping Questionnaire (Folkman & Lazarus, 1988), the UCLA Loneliness Scale (Russell et al., 1980), and Pearlin and Schooler's (1978) Personal Mastery Scale.

The modified version of the questionnaire is discussed by section below. These include: riverine hazards and displacement; economic and living

conditions; social support, psychological coping and personal control; and psychological distress. Questions pertaining to each of the above are outlined at the end of each section.

Riverine Hazards and Displacement

Riverbank erosion and displacement are contextually examined as both a natural hazard and a major psychosocial stressor. Items addressing riverbank erosion and displacement itself are drawn heavily from prior research conducted in Bangladesh. This includes the research of Greenberg (1986), Haque (1989), Hossain (1989) and Zaman (1992). These studies assessed general patterns of social and economic adaptation among riverbank displacees living in Serajganj, though to the exclusion of psychological adjustment. In the final version of this questionnaire, twelve questions were included to assess riverbank erosion and displacement.

Several aspects related to riverbank erosion-induced displacement are examined. Items addressing place of origin (Item 20), land ownership (Item 21), reasons for migrating to Serajganj (Item 30), and received assistance (Item 24) are included primarily for the purpose of obtaining information. Of particular interest are items addressing number of times displaced (Item 18), duration of current displacement (Item 19), and hazard awareness (Items 26-29). These items are included to assess the hypothesis that respondents who had previously been displaced would not only perceive riverbank erosion as a more serious threat to their households (Item 27-28), but be more knowledgeable of both the causes of riverbank erosion (Item 26) as well as how they might better survive if again displaced (Items 29).

Data was collected on a number of the above variables from the non-displaced control group to provide a comparative before/after perspective. Of particular interest is the degree of threat awareness demonstrated by non-displacees, assessed by Item 14 ("Do you think riverbank erosion is a serious threat to your household?" and Item 15 ("Do you think you will one day be destitute because of riverbank erosion?").

Economic and Living Conditions

Socioeconomic status is among the more predictive variables of psychological distress (Fuller et al., 1986; Rahim & Cederblad, 1986). Items in this section provide both quantitative and descriptive data relating to respondents' socioeconomic status and quality of daily living conditions. A comparative examination between displaced and non-displaced respondents has been undertaken for the following issues: (a) living conditions and household amenities, for example, type of roofing, number of rooms, access to clean water and a latrine (Item 4), (b) average daily household income (Items 5), (c) current occupation (Item 42), and (d) proportion of household members (including children) contributing to household income (Items 50 and Item 53). Items 6 and 7 are oriented toward household survivability ("Do you ever worry about how you and your family will survive because you just do not have enough money to get by day to day?" and "Do you, and other members of your household, ever go hungry because you just do not have enough money to buy food?"). Item 13 provides a broad measure of current physical health, while Item 8 relates to ability to pay for medication during times of illness.

Social Support

Social support was originally to be assessed through the UCLA Loneliness Scale (Russell et al., 1980). The UCLA Loneliness Scale is a multi-dimensional measure of loneliness which assesses perceived loneliness in relation to intimate others, social others, and the affiliative environment (Austin, 1983, Hartshorne, 1993). It is strongly correlated with the widely used Social Support Questionnaire (Sarason et al., 1983) and has been employed in an array of diverse setting including China (Lu et al., 1993), Japan (Matsuzaki et al., 1990; Shima, 1991), India (Bhogle, 1991; Pradhan & Misra, 1995), Chile (Rojas-Castillo et al., 1995), Turkey (Sahin & Sahin, 1995), Sudan (Rahim & Cederblad, 1989), and Zimbabwe (Wilson et al., 1992).

The UCLA Loneliness Scale was deleted following the reconnaissance survey and pre-test. Consultation with displaced communities showed that the vast majority of displacees had migrated as family units and were living in communities which had remained largely intact through migration. Additionally, displacees generally reported that their principal concern was related not to social isolation or loneliness but a reduced ability to assist and rely on one another because of loss of assets and increased poverty. Moreover, Haque (personnel communiqué, October 20, 1998) has reported that while the Western conceptualization of social support may be associated with emotional affiliation and loneliness, social support in Bangladesh is more often perceived in terms of the exchange of instrumental or tangible assistance.

Social support in this study has been operationally defined as the "perceived or actual instrumental and/or expressive provisions supplied by the community, social networks and confiding partners (Lin, 1986, p. 18). The

specific dimensions examined are: (a) spousal presence versus separation or widowhood (Item 43), (b) degree of experienced loneliness (Item 32), (c) presence of a confidante to share thoughts, feelings or worries (Item 34), (d) access to reliable support/ assistance during times of need (Item 34), and (e) affiliation with a *samaj* (Item 36). Item 31 was included to assess the degree to which displacees felt accepted by local townspeople. These questions are listed below for reference.

31. Do you feel that people who have lived here their entire lives are accepting of you?
32. Do you ever become lonely?
33. Do you have someone to you can tell your innermost thoughts, feelings and worries?
34. We all need to rely on our relatives and samaj some time for support and assistance. Sometimes we need food or money, other times information and advice. Or emotional support. In times of need, do you have people you can always count on to help you?
35. Do you feel you are part of a samaj?

Psychological Coping

Psychological coping has been examined both to identify common patterns of coping as well as to examine the issue of personal control between displacees and non-displacees, and males and females. It is expected that the chronicity of conditions faced by displacees will contribute to more passive, emotional-focused coping mechanisms. Similarly, the reduced role and status of females in Bangladeshi society, which limits the ability of women to effect change in society, is expected to contribute to more passive coping strategies among female respondents.

The Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, 1988) was originally selected to assess patterns of coping. The WCQ is a 68 item coping inventory that has been used in such diverse settings as Japan (Motoaki et al., 1990; Nakano, 1991), Hong Kong (Chan, 1995; Chan & Hui, 1995), Thailand (Nolrajsuwat, 1996), Czechoslovakia (Krivohlavy, 1989), and Iran (Haghighatgou & Peterson, 1995). Although the inventory was reduced to a more manageable length of 20-items, even this abridged version of the WCQ was found to be excessive in length, in part because it was integrated into a larger questionnaire. Moreover, a significant number of the items, particularly those related to cognitive coping efforts, were often poorly understood by illiterate respondents unfamiliar with Western psychological concepts. Examples include 'I try to grow as a person as a result of the experience' and 'I accept the reality of the fact that it happened'.

The difficulties associated with the WCQ led to the subsequent use of a six item coping checklist developed Stone and Neale (1984), revised by Mattlin et al. (1990). This checklist was originally designed to assess situational determinants of coping effectiveness across a variety of life events and chronic difficulties (e.g., job loss, financial strain, illness, relationship problems). Although the use of an abbreviated scale rather than a multi-item measure must be regarded as a limitation because of reduced sensitivity to the subtle variations of psychological coping, the 6-item scale provides the study with an established coping measure which is sufficiently short to reduce the affects of fatigue but allow for a reasonable examination of the respondents' coping patterns.

The Stone and Neale (1984) scale assesses avoidance, reappraisal, religion, active cognitive coping, active behavioral coping, and social support. This was

increased to 10 items in order to define more fully the respondents' motivations for seeking social support (instrumental or emotional), as well as to include the coping dimensions of emotional expression and fatalism. For each item, respondents were required to indicate how much they reacted to their hardships in the defined manner (ranging from 'rarely do this' to 'do this almost all the time'). An open-ended question was included to elicit non-referenced information regarding the respondents' single most common way of coping (Item 17).

The ten questions (Item 16) used to assess coping are as follows:

1. How much do you do things to take your mind off your problems or difficulties, that is, you do something so that you will not think about your problems or difficulties?
2. How much do you try to think about your problems and difficulties in a different way so that they will not upset you so much?
3. How much do you rely on Allah to help you through your problems or difficulties?
4. How much do you try to think of different ways which will solve or lessen your problems and difficulties?
5. How much do you try to do concrete things which will lessen or solve your problems or difficulties?
6. How much do you talk to other people about your problems and difficulties so that you can get help or advice?
7. How much do you talk to other people about your feelings about your problems and difficulties?
8. How much do you talk to other people so that you can forget about your problems and difficulties?
9. How much do you let your feelings out? For example, you cry or get angry.
10. How much do you just accept that you can not change the situation?

Personal Control

The second dimension of coping, personal control, was originally to be assessed through Pearlin and Schooler's (1978) 7-item scale of personal mastery. This scale consists of five negatively worded items and two positively worded items which assess a respondent's perceived degree of personal mastery over life outcomes (e.g., "I can do just about anything really set my mind to.").

During the pre-test this scale was shown to lack conceptual relevance. This in part can be attributed to the fact that the scale treats self-mastery as a global psychological construct, that is, a general sense of control over salient facets life, without distinguishing between perceived ability to perform a particular task (self-efficacy) or perceived internal versus external control (locus of control). Self-control in this context is viewed as a trait-like state, based on the assumptions that people retain the ability to manipulate their environment and that successful action will result in a general belief of personal mastery. While this premise is generally applicable in Western society where less pronounced inequities in resources and opportunity mean that most people can achieve relative success in living, it is less relevant in developing countries where the marginalization process frequently blocks individual initiative and potential.

In the case of Bangladesh, the impoverishment and marginalization of displacees means that these persons do not control their life choices, either on a daily or long-term basis. Displacees not only lack control over the loss of their land, and lack access to new land, but have neither the resources, education nor skills to alleviate their descent into poverty. As such, these persons can only take reparative actions which reflect a reality of powerlessness. As such, any measure

of their perceived environmental control and mastery is likely to be reflective of the prevailing socioeconomic conditions and inequities which these people must contend, rather than a psychological trait per se.

It is important to observe as well the influence of religion, in this case Islam, in determining perceptions of personal control. Gilseman (1983) has observed that Islam leaves little room for mediation between Allah and His human creation. Islam means submission to Allah, and the divine power of Allah is intricately intertwined with daily life. Respondents in this study, when asked how Allah affected their lives, confirmed the conviction that Allah and life are inseparable. Allah was described as Life, the creator and destroyer; Allah alone is responsible for making people rich and poor. While individual human effort is seen as necessary to survive, the outcome or success of these efforts is determined by Allah. For example, when displacees were asked if it is through work or Allah that they acquire money to live, most replied that while labour is required, the amount of money earned is determined by Allah. When asked about the loss of land and what might happen in the future, most displacees responded that their displacement had been the "will of Allah", and that "Allah willing", their land would one day be returned.

The issue of perceived personal control in this study is largely limited to determining whether displacement and involuntary migration acts to reduce perceptions of personal control, and contributes to more passive coping patterns. Personal control is operationally defined by five items. These include Item 10 ("Do you think you have control over the things that happen in your daily life?"), Item 11 ("Would you say what happens to you in the future depends mainly on you, or mainly on Allah?"), and items 4, 6 and 8 of the General Health

Questionnaire ("You feel capable of making decisions about things", "You feel incapable of solving difficulties", and "You are able to solve your own problems" respectively).

Psychological Distress

The primary measure of psychological distress in this study is the Self-Reporting Questionnaire (SRQ) (Harding et al., 1980). The 12-item General Health Questionnaire (GHQ) (Goldberg, 1972) is included as a supplementary psychological measure.

Symptom Reporting Questionnaire

The Self-Reporting Questionnaire (SRQ) (Harding et al., 1980) is a 24-item symptom inventory originally designed by the World Health Organization to assist non-specialized health personnel in low literacy countries to identify conspicuous psychiatric morbidity (without specific diagnoses). Twenty items of the SRQ screen for minor psychiatric morbidity (depression, anxiety, psychosomatic symptoms) while four optional items screen for psychotic disturbance. Each item requires either a positive (yes) or negative (no) response, and is scored as 1 or 0 respectively for a maximum score of 20. Because previous research has shown that scores can reflect factors such as language, method of administration, and the sampled population, no global cut off score is recommended and each study should determine its own (WHO, 1994). Based on MacCarthy and Crissati's (1989) use of the SRQ to assess for emotional disturbance in a community sample of Bangladeshi immigrants in London, England, a cut off score of eight or more on the MPM sub-scale was considered a probable case of psychiatric morbidity.

Items of the SRQ are derived from four previously developed psychiatric research instruments which had used in a variety of cultural settings: the Patient Self-Report Symptom Form, developed and tested in Cali, Colombia (Climent & Plutchick, 1980); the PGI Health Questionnaire N2 developed in Chandigarh, India (Verma & Wig, 1977), the short version of the Present State Examination (Wing et al., 1974); and the General Health Questionnaire (Goldberg, 1972). The SRQ was originally validated among 1,624 primary health care patients using in-depth psychiatric questionnaires in Colombia, Sudan, India and the Philippines, showing sensitivities in the range of 73% to 83% and specificities of 72% to 85% (Harding et al., 1983). The SRQ has also been validated in studies in Kenya and Brazil, showing similar sensitivities and specificities of 79% to 83% and 75% to 89% respectively (Busnello et al., 1983; Dhadphale et al., 1983; Mari & Williams, 1986).

The SRQ has been chosen for this study both because of its brevity, and because it is considered among the most reliable screening instruments for low literacy countries such as Bangladesh. It has been widely utilized across a variety of settings and cultures including Italy (Carta et al., 1993), Hong Kong (Chen et al., 1993), India (Sen et al., 1987), Nicaragua (Penayo et al., 1989), Sudan (Cederblad & Rahim, 1989) and Ethiopia (Kortman, 1988; Kortmann & Horn, 1988; Tafari, 1991). In Rio de Janeiro, Brazil, Reichenheim and Harpham (1991) used the SRQ determine levels of mental distress among urban squatter settlements, while Mari (1987) used to the SRQ to determine the incidence of poor mental health among rural to urban migrants in Sao Paulo. In Latin America, the SRQ has been employed to assess for psychological disturbance among victims of 1986 volcanic eruption in Armero, Colombia (Lima et al. 1987;

Lima et al., 1991) and the 1987 earthquake in Ecuador (Lima et al., 1989). The SRQ has also been used to assess the impact of war and displacement on refugees in Somalia (Mocellin, 1993) as well as in Ethiopia (Martens, 1998).

The pre-test showed that the questions comprising the SRQ were easily understood by the respondents with the exceptions of item 14 ("Are you unable to play a useful part in life?") and item 16 ("Do you feel that you are a worthless person?"). These items often required explanation. In addition, illiterate respondents in particular demonstrated a tendency to report symptoms positively regardless of frequency, leading to extremely high scores ($M = 16.62$). This was addressed by adopting a four point Likert type scoring system, with response categories ranging from 'not at all' (1) to 'almost all the time' (4). The summation of these scores produces a total score ranging from 20 to 80. However, to yield a dichotomized score consistent with the original SRQ scoring system, all symptoms rated as occurring 'not at all' or 'some time's are coded as 0, while symptoms occurring 'many times' or 'almost all the time' coded as 1. The change in scoring system proved to be effective in assisting respondents to consider the frequency rather than the mere presence of a symptom while maintaining the basic scoring structure of the SRQ.

Below are items comprising the Self-Reporting Questionnaire.

1. Do you often have headaches?
2. Is your appetite poor?
3. Do you sleep badly?
4. Are you easily frightened?
5. Do your hands shake?
6. Do you feel nervous, tense or worried?
7. Is your digestion poor?

8. Do you have trouble thinking clearly?
9. Do you feel unhappy?
10. Do you cry more than usual?
11. Do you find it difficult to enjoy your daily activities?
12. Do you find it difficult to make decisions?
13. Is your daily work suffering?
14. Are you unable to play a useful part in life?
15. Have you lost interest in things?
16. Do you feel that you are a worthless person?
17. Has the thought of ending your life been in your mind?
18. Do you feel tired all the time?
19. Do you have uncomfortable feelings in your stomach?
20. Are you easily tired?

General Health Questionnaire

The General Health Questionnaire (12-item version) has been included as a supplementary psychological measure of distress following the modification of the SRQ scoring system. The GHQ, developed by Goldberg (1972), is a first stage screening instrument designed to detect minor psychiatric disorders in community and primary health care settings (Piccinelli et al., 1993). The 12-item version is derived from an original 60-item version, and is the preferred instrument when time constraints preclude the use of the longer GHQ version (Piccinelli et al., 1993), when illiteracy is of concern (Gureje, 1991), and when the GHQ must be translated (Sriram et al., 1989).

The GHQ has been a frequently used instrument in assessing psychological disturbance among disaster-impacted populations. Examples include an Australian railway disaster (Singh & Raphael, 1981), Cyclone Tracy (Parker, 1977) and the 1983 Fijian cyclone (Fairley et al., 1986), the Australian Ash

Wednesday fires (McFarlane & Papay, 1992), as well as the 1989 Newcastle earthquake (Carr et al., 1992; Webster et al., 1985) and the Chernobyl nuclear accident (Viinameaki et al., 1995). In Bangladesh, a translated version of the 12-Item GHQ has been used to assess the relationship between mental health and social support among parents with mentally handicapped children (Banu & Akhter, 1996), and to assess occupational stress and mental health among factory workers (Rahman, 1989) and working women (Sarkar & Rahman, 1989).

Reliability measures have shown the GHQ-12 to have a high degree of internal consistency, with alpha values ranging from 0.82 to 0.90 (Gureje, 1991). Validity coefficients of the GHQ-12 have been found to be comparable to those of the GHQ-20, GHQ-30 and GHQ-60 item versions (sensitivity: \bar{M} = 74%; specificity: \bar{M} = 82%; misclassification rate: \bar{M} = 18%) (Chan & Chan, 1983; Piccinelli et al., 1993). Studies examining the validity of the GHQ-12 in languages other than English show validity coefficients similar to those of the English version (Chan, 1985; Sriram et al., 1989).

The present study uses a previously translated version of the GHQ-12 (Sarkar & Rahman, 1989). The original English language scoring system, which measures symptoms in the terms of occurring 'less than usual' or 'more than usual', was not been retained by Sarkar and Rahman (1989) because it lacks a clear linguistic equivalent in Bengali. It was therefore also excluded in this study. The adapted scoring system instead scores all positively worded items on a 4 to 1 point Likert scale, the negatively worded items from 1 to 4. Total scores range from 12 to 48, with low scores being indicative of poor mental health.

Although the GHQ has been previously used in Bangladesh (Banu & Akhter, 1996; Sarkar & Rahman, 1989), the administration of the questionnaire in

the present study revealed a number of difficulties. Primary among these is the high proportion of items based on Western conceptualizations of psychological health. Questions which respondents had difficulty comprehending in this study include Item 3 ("Felt you are playing a useful part in things?"), Item 10 ("Been losing confidence in yourself?"), and Item 11 ("Been thinking of yourself as a worthless person?"). Additionally, inconsistent and conflicting responses were occasionally observed between Item 9 ("Been feeling unhappy or depressed?") and Item 11 ("Been feeling reasonably happy, all things considered?"). This may have reflected either fatigue and inattentiveness, particularly as the GHQ-12 is located at the end of the questionnaire, and/or an expressed tendency among the respondents to fatalistically accept their marginalized and dissatisfied position in life.

The items of the General Health Questionnaire are as follows:

1. You can concentrate on your daily activities.
2. You lose much sleep over worry.
3. You feel that you are playing a useful part in things.
4. You feel capable of making decisions about things.
5. You feel under constant strain.
6. You feel incapable of solving difficulties.
7. You are capable of enjoying common daily activities.
8. You are able to solve your own problems.
9. You feel unhappy and depressed.
10. You are losing self-confidence.
11. You feel that you are a worthless person.
12. Considering everything, you feel happy.

Subjective Well-Being and Event-Impact Items

Items addressing subjective-being are used primarily as interpretative data. These include Item 9, a general measure of current life satisfaction, and Item 12, which assesses optimism about future living conditions. Item 14 has been included to provide a global stress index. The items follow:

9. Thinking about your daily life here, that is your living conditions, way of life, and so forth, how satisfied are you with your life?
5. Compared to your life today, do you think conditions will be better, worse, or about the same in one or two years from now?
6. When you are faced with many problems, do you ever find it difficult to handle them? That is, when you have been unable to sleep, worried a great deal, or felt depressed or nervous?

Items 36-39 are included to examine more specifically the psychological impact of land loss. These are drawn from the 15-item Revised Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979), designed to measure subjective distress resulting from a serious life event (e.g., natural disasters, assault, unexpected illness or personal injury). The 15 items of the scale are comprised of 7 intrusive symptoms, which describe the involuntary entry into awareness of ideas, memories, and emotions (coefficient alpha = .78), and 8 items of avoidant symptoms, referring to conscious attempts to divert attention from thoughts and feelings related to the event (coefficient alpha = .82). A sample of studies employing the Impact of Event Scale includes: Israeli veterans of the 1982 Lebanon war (Solomon, 1989), Bosnian children exposed to war traumas (Preiss, 1995), survivors of the Kalamata earthquake in Greece (Laube, 1986), rescue workers involved with the Sun Valley plane crash (Foreman, 1989), American tornado survivors (Stenglass & Gerrity, 1990), Australian survivors of the

Newcastle earthquake (Carr et al., 1995), and survivors of Estonian sinking in Sweden (Lundin, 2000).

The present study uses only four intrusion items and one general avoidant item. The Revised Impact of Event Scale was not used its entirety in part because riverbank erosion in Bangladesh is an endemic hazard with a gradual and often predictable onset, rather than being a sudden and unpredictable traumatic stressor which the Impact of Event Scale is more specifically designed (Horowitz et al., 1990). Additional concerns were related to the length of the questionnaire in general, to cultural and linguistic nuances associated with a number of the items (for example, " Pictures about it popped into my mind"), and to subtle differences between a number of items which were unlikely to be distinguished by illiterate respondents unfamiliar with Western conceptualizations of psychological distress (e.g., "I tried not to think about it" and "I tried to remove it from memory"). To further facilitate comprehension and limit respondent fatigue, the selected items were reworded to better fit the context of riverbank erosion and a 3-point rather than 4-point scale was used. The revised response categories ("rarely", "sometimes", and "many times") were consistent to the response categories used in the remainder of the questionnaire.

The five event-impact questions used in the questionnaire are listed below:

37. How often do you think about the land you lost because of riverbank erosion?
38. In the past seven days, how often have you felt strong feelings about your land or homestead?
39. In the past seven days, how often have you had difficulty sleeping because you are thinking about your land or homestead?

40. In the past seven days, how often have you thought about your land or homestead when you did not mean to?
41. Do you find that you try not to think or talk about your lost land or homestead because you become easily upset?

Chapter VII

Patterns in Coping and Adaptation: Survey Findings

In this chapter, the survey findings are presented and analyzed in order to identify relationships between human responses and riverbank erosion-induced displacement. This includes not only a determination of the magnitude of psychological distress associated with displacement, but also the relative impact of economic, social, and cultural processes on psychological coping and adaptation. Human vulnerability is also examined in the context of such socio-demographic variables as gender, age, and education.

Analyses of data were made using the SPSS statistical computer program (Norusis, 1995). Data derived from each respondent was sequentially loaded into a pre-programmed file, with each variable transcribed into numerical code. These values, unless otherwise indicated, correspond to the questionnaires. For example, gender (Item 3) is coded in the questionnaire and the SPSS program as male (1) and female (2). For Item 27 of the displacement questionnaire, "Before you were displaced, did you think riverbank erosion was a serious threat to your household?", the responses are likewise coded as "Not a serious threat" (1), "Somewhat a serious threat" (2), and "Very serious threat" (3). All non-responses (NR) were coded as 99, non-applicable responses (NA) as 77, and "Don't know" responses (DK) as 88.

Due to the large set of data which the study generated, and because the proportion of responses to particular categories items is on occasion insufficient for analysis, it has been necessary both: (a) to exclude particular responses from

analysis when sufficient data is lacking, and (b) to combine and collapse items to form adequate numerical units of analysis. In the latter case, two of the most similar response categories are usually combined to form one category of analysis. Taking Item 35 as an example ("Are you hopeful you will one day return to your land?"), the response categories of "Very hopeful" and "Hopeful" are combined to form a single response category as "Hopeful" (coded as 1). This responses is then compared with the collapsed response categories of "Not hopeful" and "Have given up all hope", which make up the "Not hopeful" response (coded as 2).

In this chapter, comparisons between the displaced and non-displaced samples, as well as between male and female respondents, are indicated accordingly. Given the data is predominantly nominal and categorical, the Bonferroni t-test and chi square test were considered the most appropriate measures of analyses (Harris, 1998). The means of data categories are compared using the t-test, while tests of independence between categories are performed using chi square tests. Although it is recognized that the multitude of testing may raise the possibility of inadequate specification and experiment wise error, the principal objective of this study is to identify overall patterns of coping and adjustment, rather than singular predictors. To this end, the t-test and chi square measures are appropriate means of data analyses which allows for the determination of tendencies without fulfilling sampling assumptions (Harris, 1998).

To promote clarity, results are presented according to subsections of the Displacement and Adjustment Questionnaire.

Demographic Background

Of the 238 displacees interviewed, 120 are male and 118 female. Of the 223 non-displacee participants, 107 are male and 116 female.

The mean age of the displaced respondents is 35.4 years (range = 18 to 84 years, $SD = 11.5$). Almost one-third of the displacees (78 or 32.8%) are less than 30 years of age, 80 (33.8%) are 31 to 39 years old, 51 (21.5%) 40 to 49 years old, and 28 (11.8%) are 50 years or older.

The mean age of non-displaced respondents is 38.1 years (range = 18 to 82, $SD = 13.1$). The same proportion of respondents (64 or 28.7%) are less than 30 years of age and 30 to 39 years old. Almost one-quarter (54 or 24.2%) of the non-displacees are 40 to 49 years, and 41 or 18.4% are 50 or more years old.

Average length of schooling among displacees and non-displacees is 7.5 and 7.8 years respectively. Only 16.4% of the displaced respondents have more than five years of schooling, whereas 33.3% of the non-displaced subjects have achieved primary education.

Among displacees, 19.3% of the males have completed primary education, in comparison to with 13.6% of the females. Among the non-displacees, the respective rates are 38.3% and 29.3%. For the displaced men and women, the education levels fall markedly below national primary education rates, which are 31% and 43% respectively (Bangladesh Bureau of Statistics, 1997).

Psychological Distress

The primary measure of psychological distress is the Self-Reporting Questionnaire (SRQ). Respondents who indicate experiencing symptoms 'many times' or 'almost all the time' eight or more times are regarded as probable cases

of poor mental health. Scores of less than eight are regarded as non-cases, or not in need of mental health assistance.

Some 33.3% of all respondents (displaced and non-displaced) are identified as SRQ cases. As hypothesized, displacees are significantly more likely than non-displacees to be probable cases of poor mental health. Chi-square analyses shows 39.2% of the displaced respondents in comparison to 26.9% of the non-displacees are identified as SRQ cases, $X^2(1, N = 460) = 7.87, p < .005$. As might be expected, the overall numerical scores between displacees and non-displacees are also significantly different. The mean SRQ score among displacees is 43.9 ($SD = 9.3$), and the mean score among non-displacees is 41.4 ($SD = 8.0$); $t = 3.12, p < .002$.

Psychological distress has also been assessed using the General Health Questionnaire (GHQ). Total scores can range from 12 to 48, with low scores being indicative of poor mental health. Analyses by t-test shows that the means of displacees and non-displacees are significantly different. The mean GHQ score for displacees is 32.0 ($SD = 4.7$) and the mean score for non-displacees is 30.9 ($SD = 4.9$), $t = 2.35, p < .019$.

Findings by tract are presented in Table 2. A tract here refers to a sampled settlement, such as the brickyard or railway settlement. Excluding the Biara embankment displacees, the displaced tracts consistently exhibit higher levels of distress than non-displacee tracts. Probable SRQ cases among the displacee tracts range from 35.6% (embankment) to 54.4% (railway), $X^2(3, N = 237) = 15.90, p < .001$. Chi square analyses did not show significant differences between the non-displaced tracts, with SRQ cases ranging from 24.4% in Digalkhandi to 29.7% in Dhap.

Table 2: Distribution of SRQ Cases by Status and Tract

Displacees	Average	Embankment	Brickyard	Railway	Biara
SRQ Cases	39.2%	35.6%	45.3%	54.4%	22.5%
SRQ Mean	43.9 (9.3)*	44.0 (11.5)	43.9 (11.0)	45.6 (8.7)	42.3 (9.3)
Non-Displacees	Average	Digalkhandi	Kuptola	Dhap	
SRQ Cases	26.9%	24.4%	27.9%	29.4%	
SRQ Mean	41.4 (8.1)	39.8 (8.2)	42.6 (7.5)	42.0 (7.9)	

* Standard deviations are shown in parentheses.

All three demographic variables (education, age and gender) have been found to have a significant influence on SRQ cases. Educationally (defined here as years of schooling), 36.8% of all non-educated respondents are identified as SRQ cases, in comparison to 19.3% of the respondents who have five or more years of formal schooling. Among the displacees, 41.9% of the non-educated respondents but only 25.6% of the educated respondents are SRQ cases, $X^2(1, N = 237) = 3.62, p < 0.057$. Among non-displacees, the respective figures are 12.0% and 34.5%, $X^2(1, N = 223) = 12.76, p < .000$.

Table 3: Distribution of SRQ Cases by Status and Age

	Displacees			Non-displacees		
	18-30 N = 78	31-50 N = 79	50 plus N = 79	18-30 N = 64	31-50 N = 64	50 plus N = 95
SRQ Cases	28.2%	31.6%	57.0%	14.1%	21.9%	38.9%

As shown in Table 3, age is a significant predictor of mental health as well. Among displacees, probable cases increase from 28.2% among 18-30 year olds to 64.3% among 50 plus year olds, $X^2(2, N = 236) = 16.33, p < .000$. Among the non-displacees, cases range from 14.1% among the younger respondents to 58.5% among 50 plus year olds, $X^2(2, N = 223) = 13.19, p < .001$.

In relation to gender, almost one-half (46.6%) of the displaced females have been identified as SRQ cases, in comparison to 32.8% of male displacees. As shown in Table 4, gender differences are consistent across the five displaced sampling tracts. In each of the tracts, a greater number of females than males exceed the cut-off score. Female probable cases range from a low of 25% among the Biara displacees to as high as 59% among the railway and brickyard displacees. In comparison, SRQ cases among displaced males range from 20.6% in the Biara tract to 48.3% in the railway settlement.

Table 4: Distribution of SRQ Cases by Tract and Gender

Displaced	Embankment		Brickyard		Railway		Biara	
	Male N=24	Female N=21	Male N=32	Female N=22	Male N=29	Female N=39	Male N=34	Female N=36
SRQ Cases	25.0%	47.6%	35.5%	59.1%	48.3%	59.0%	20.6%	22.5%
Non-displaced	Dhigalkhandi		Khuptola		Dhap		N/A	N/A
	Male N=42	Female N=44	Male N=41	Female N=45	Male N=24	Female N=27		
SRQ Cases	23.8%	25.0%	29.3%	26.7%	29.2%	29.6%		

Chi-square procedures show that the SRQ differences between displaced men and women are significant, $X^2(1, N = 236) = 5.12, p < .023$. Displaced women are also significantly more likely to be SRQ cases than non-displaced

women, $X^2(1, N = 234) = 9.91, p < .001$. On the other hand, chi square testing did not show a significant difference between displaced and non-displaced men (displacees = 32.8%; non-displacees = 27.4% respectively). Within the non-displaced sample, about 27% of both men and women have been identified as SRQ cases.

These findings are consistent with mainstream research which shows that women, the elderly, and the less educated are generally more vulnerable to the effects of hazards and disasters (Butcher & Dunn, 1989; Gibbs, 1989). Socio-demographic factors are not only associated with resource relationships and thus physical hardship, but are also related to physical and psychological health. These aspects will be elaborated in the forthcoming chapters.

Riverbank Erosion and Displacement

At the time of their last displacement, 13.6% of the displacees had been landless, 21.2% owned only homestead land, 41.5% owned 0.01 to 2.50 acres, and 23.7% more than 2.50 acres. These figures indicate that the majority of displacees had held larger than average landholdings in comparison to the national pattern of land distribution. According to the 1995 Rural Poverty Monitoring Survey (Bangladesh Bureau of Statistics, 1997), about 52% of rural households are functionally landless, 32% own only 0.50 to 2.50 acres, and 16% own 2.50 plus acres.

The vast majority of the displacees report a recurring pattern of displacement (Table 5). Of the 237 displacees surveyed, only 10 have been displaced just one time and 19 two times. Over one-third (38.6%) have been displaced 3-4 times and about the same proportion (35.6%) report having been

displaced between 5-10 times. Some 32 or 13.6% of the indicate that they have been displaced over 10 times. Displacement is particularly chronic among the brickyard and railway respondents. Respectively, 75% and 55.8% of these displacees have been displaced over five times.

Table 5: Distribution of Displacement Frequency and Duration by Tract
(Percentages)

Displaced	Railway N = 68	Brickyard N = 53	Embankment N = 46	Biara N = 71	Mean N = 238
1-2 times	13.2%	5.8%	19.6%	11.4%	12.3%
3-4 times	30.9	19.2	52.2	51.4	38.6
5-10 times	42.6	55.8	19.6	24.3	35.6
10 plus times	13.2	19.2	8.7	12.9	13.6

These rates are markedly higher than found in previous studies. Haque's 1985 survey of Kazipur displacees showed that about 75% had been displaced 1 to 3 times, 14% 4 to 6 times, and 11% over 7 times. In a follow-up study in the same area in 1995, Haque reported that 86% of the displacees had been forced to move 1 to 3 times, whereas only 9% had been displaced 4 to 6 times and 5% 7 to 9 times.

In terms of their current displacement, the majority of displacees (55.3%) in this study have been displaced between 2 and 3 years. About one-third (30%) have been displaced for 3 to 5 years, and only 15% for less than two years. As Table 6 shows, the majority of both the railway (75%) and brickyard displacees (69.8%) have been displaced between 2 to 3 years. In comparison, about one-half

of the Biara displacees (48.6%) have been displaced between 2 to 3 years, while almost 33% of the embankment sample has been displaced between 3 to 4 years.

Table 6: Distribution of Duration of Displacement by Tract
(Percentages)

Duration	Railway	Brickyard	Embankment	Biara	Mean
Less 1 year	0%	.4% (1)*	19.6% (9)	5.7% (4)	5.8% (14)
1 but less 2 years	5.9 (4)	9.4 (5)	17.4 (8)	5.7 (4)	8.9 (21)
2 but less 3 years	75 (51)	69.8 (37)	19.6 (9)	48.6 (34)	55.3 (131)
3 but less 4 years	17.6 (12)	15.1 (8)	32.6 (15)	20.0 (14)	20.7 (49)
4 to 5 years	.4 (1)	.8 (2)	21.1 (5)	20.0 (14)	9.3 (22)

*Frequencies are shown in parentheses.

It had been hypothesized that the displacement-related variables would be positively associated with the SRQ measure. This was not found through chi square test results (Table 7). Although a positive relationship can be discerned between former land ownership and SRQ cases, with probable cases increasing from 28.1% among landless respondents to 48.2% among owners of 2.50 plus acres, the difference is not significant, $X^2(4, N = 235) = 4.35, p < .360$.

Limited variability is also found in relation to times displaced and SRQ cases. About 43% of the respondents displaced only 1-2 times have been identified as SRQ cases, in comparison to about 47% of their cohorts who have been displaced 10 plus times, $X^2(3, N = 235) = 6.52, p < .087$. Similarly, while respondents who have been displaced for less than two years are less often identified as probable cases than persons displaced for both 2 to 3 years (28.6% in

comparison to 39.7%) and three plus years (42.9%), the differences are not significant, $X^2(2, N = 236) = 2.06, p < .356$.

Table 7: Distribution of SRQ Cases by Displacement Variables (Percentages)

Land Ownership	No land	Homestead	0.01-2.50 acres	2.50 plus acres
SRQ Cases	28.1%	36.0%	39.2%	48.2%
Times Displaced	1-2 times	3-4 times	5-10 times	10 plus times
SRQ Cases	42.9	28.6	45.2	46.9
Duration	Less 2 years	2-3 years	3 plus years	N/A
SRQ Cases	28.6	39.7	43.9	N/A

Only hopefulness of regaining land is found to be significantly related to SRQ cases. Respondents who are still hopeful (27.7%) are less likely to be identified as probable cases than respondents who are either not hopeful (35.4%) or have given up all hope (52.6%), $X^2(2, N = 237) = 12.72, p < .001$.

Perception of Riverbank Erosion Hazard

Only 10 of the 236 responding displacees had not been previously displaced prior to their migration to Serajganj. Over one-third (38.6%) had been displaced 3 to 4 times and about the same proportion (35.6%) had been displaced between 5 to 10 times. Despite this pattern of multiple displacements, 89.8% of the displacees stated that they had not expected their last displacement and only 16.9% reported that they had perceived riverbank erosion to be a serious problem prior to displacement. Only 24 displacees indicated that they had anticipated the changes encountered during their resettlement.

When questioned about why they had come to Serajganj, one-half (52.8%) of the displacees stated they had had no other option. Some 15.5% had followed

family or neighbours, while 10.3% had come because of the presence of relatives. Only 11 (4.7%) of the displacees had migrated to Serajganj because of possible work opportunities, while 36 (15.5%) had come because of the possibility of *khas* land (vacant government owned land). This is in contrast to earlier findings by Hossain (1989) in which only 15% of surveyed displacees had come to Serajganj because of they had no other option. Almost 40% have come because of job opportunities and 14% because they had gained access to land.

Table 8: Distribution of Riverine Hazard Awareness (Percentages)

Sees riverbank erosion as problem	Yes	No	Not sure
Displacees	16.9%	83.1%	0%
Non-displacees	96.3	3.7	0
Worries about erosion	Rarely	Sometimes	Many times
Displacees	N/A	N/A	N/A
Non-displacees	3.7	15.4	80.9
Will eventually be displaced	Yes	No	Possibly
Displacees	10.2	89.8	0
Non-displacees	53.4	0	46.6

When asked about the causes of riverbank erosion, the majority of displacees in this study (67.8%) attribute the loss of their land to the construction of the Jamuna Bridge. The remaining one-third (29.2%) attribute it to the will or punishment of Allah. Merely three of the displacees perceive riverbank erosion to be a product of nature. These findings are again in contrast to previous research. Haque (1985; 1995) found that between 27% and 34% of surveyed displacees had perceived erosion to be the will of Allah, with about 70%

attributing erosion events to natural causes such as high flooding and 'fast currents'.

Interestingly, non-displacees reveal a markedly different pattern of threat perception. Although only 51.1% of the applicable non-displacees (N = 133) had lost land through riverbank erosion, 96.3% view erosion to be a problem and 80.9% have chronic worries about it. Only five indicate that they have no concerns about riverbank erosion. Over one-half of the non-displacees (53.4%) believe that they will eventually become destitute because of riverbank erosion. The remaining 46.6% see this as a possibility. None of the surveyed non-displacees believe that they will definitely not be displaced.

The perceptions of non-displacees appear to be somewhat influenced by proximity to the river and erosion exposure, as previously found by Haque (1988). In the case of Dhap (N = 49), which is located directly along the banks of the Jamuna River, 96% of the surveyed villagers report chronic worries about riverbank erosion and 75.5% believe they will eventually become destitute because of it. Almost three-quarters (73.5%) have already lost some land. In comparison, 72.1% of the respondents in the more distant village of Kuptola (N = 84) report chronic worries about erosion and less than one-half (40.5%) believe they would one day be displaced. Only 38.1% of these villagers have lost land through erosion.

The results do not validate the assumption that displacement in and of itself is a predictor of poor mental health. Only hopefulness of regaining land has been identified as a significant predictor of SRQ cases, while the variables of land loss, times displaced, and duration of displacement have been shown to be non-significant.

Socioeconomic Marginalization

Previous research has shown a trend of poor employment prospects and subsistence income to be commonplace among displacee-squatters in Serajganj (Greenberg, 1986; Rogge & Elahi, 1989). Displacees are generally compelled to live on the periphery of urban life, where they gradually become 'marginals' with limited opportunity of becoming assimilated into the mainstream of urban socioeconomic life (Haque, 1997).

Socioeconomic status in this study is defined in terms of occupational status, daily earnings and living amenities, and perception of hardship. The latter measure includes satisfaction with living conditions, incidence of household hunger, and household survival concerns. To promote clarity, findings related to these factors are discussed by subsection. In the case of displacees, the results are also delineated by sampling tract when appropriate.

Occupational Status

The average displaced household size of the displaced respondents is 5.76 members, in comparison to 5.45 members among the non-displaced households. The vast majority of both the displaced (80.4%) and non-displaced (81.4%) households report having only a single income contributor; 16.6% and 14.0% of the respective households report having two income providers. Only 11 displaced and 6 non-displaced households indicate having children who work for income.

A comparison of displacee pre-migration and post-migration occupations are presented in Table 9. Almost three-thirds of the males (69.7%) report that their occupations have changed as result of displacement. This rate is markedly

lower among women (14.4%), in large because the traditional domestic role of displaced women has been retained through displacement.

Table 9: Distribution of Occupation Type by Status and Gender (Percentages)

	Pre-displaced		Displaced		Non-displaced	
	Male	Female	Male	Female	Male	Female
Domestic	0%	89.0% (105)*	0%	83.9% (99)	0%	87.0% (100)
Agriculture	59.7 (71)	5.9 (7)	2.5 (3)	0	41.1 (44)	1.7 (2)
Labour	15.1 (18)	1.7 (2)	26.9 (32)	3.4 (4)	21.5 (23)	4.4 (5)
Rickshaw	3.4 (4)	0	24.4 (29)	0	0	0
Boatman	5.9 (7)	0	11.8 (14)	0	0	0
Semi-skilled	5.0 (6)	2.5 (3)	3.4 (4)	4.2 (5)	9.3 (10)	2.6 (3)
White collar	.8 (1)	0	2.5 (3)	0	4.7 (5)	3.5 (4)
Non-employed	7.5 (10)	.8 (1)	21.1 (23)	4.2 (5)	11.1 (12)	.9 (1)

* Frequencies are shown in parentheses.

Prior to displacement, the most common occupation among male displacees had been farming/agriculture (59.7%). This was followed by unskilled labour activities (15.1%). Other activities included fishing, rickshaw pulling, and boating (10.1%). Skilled or semi-skilled activities such as weaving or masonry accounted for only 5% of the occupations. Among women, 89% had been involved in domestic/household activities. Only 6.6% had been involved in

physical labour (including farming) and 2.5% in semi-skilled or skilled work (usually weaving). In comparison, 52.2% of non-displaced males are found to be engaged in farming/agricultural, 22.4% in labour, and 9.3% in skilled or semi-skilled jobs. Some 86.2% of non-displaced females are involved in domestic activities.

Following displacement, only three respondents - all living along the flood protection embankment - have remained involved in farming or other agricultural activities. The most common activities among the male respondents are physical labour (26.1%) and rickshaw pulling (24.4%). Just over 11.0% report being boatmen and 8.4% are involved in vending. Among displaced women, 83.9% have remained in domestic activities. The most frequent alternative occupations among women are vending ($n = 5$), weaving ($n = 5$), and physical labour ($n = 4$).

This pattern of occupational change is consistent across three of the four sampling tracts, ranging from 48.5% (railway) to 50.0% (embankment) and 52.8% (brickyard). The exception is the Biara sampling tract, of which only 22.5% report occupational change. This can largely be attributed to both: (a) the lower than average proportion of Biara respondents previously involved in farming (19.7%), and (b) the higher than average proportion of Biara respondents previously involved in labour activities (16.9%). In comparison, 29.4% of the railway respondents and nearly one-half of both the urban embankment (43.5%) and brickyard (45.3%) respondents had been involved in agriculture. Only about 5% had worked as labourers.

These findings are consistent with previous research which has shown that riverbank erosion-induced displacees are largely confined to the informal

sector jobs. Greenberg's 1986 study showed that 62% of displacees living Serajganj were day labourers and service sector workers, while an additional 10% were rickshaw pullers. Only 6% of the displacees had found jobs in technical work such as carpentry, masonry, tailoring, and printing press composing.

The influence of occupational change, and loss of traditional livelihood, was assessed through chi square analyses. The results did not show a significant difference in SRQ rates between displacees reporting occupational change (42.0%) and displacees who have remained in their former job type (37.2%), $X^2(1, N = 237) = .552, p < .457$.

Daily Earnings and Living Conditions

With the majority of displacees being engaged in informal, low wage-earning activities, it had been expected that displacees would report lower daily earnings than their non-displaced cohorts. This expected pattern has been supported.

Mean daily earnings among displacees range from a low of 44.8 TK (Taka) to a high of 63.9 TK (45 TK = 1 US dollar). Among non-displacees, daily earnings range from 47.1 TK to 68.0 TK. In way of reference, the 1997 Urban Poverty Monitoring Survey (Bangladesh Bureau of Statistics, 1995) reported an average urban monthly household income to be about 6500 TK, with the poverty line being 3000 TK.

Chi square analyses shows income differences between the displaced and non-displaced samples to be significant, $X^2(3, N = 453) = 14.7, p < .002$. As indicated in Table 10, about 13% of the displacees in contrast to 23% of non-displacees report daily earnings of less than 30 TK. About 62% and 48%

respectively fall into the income bracket of 30-60 TK, while 11% and 18% are earning more than 100 TK. By displacement tract, the embankment and Biara respondents are among the lowest income earners (23.9% and 17.4% respectively). The brickyard respondents tend to earn higher incomes. About 37% of these respondents report daily incomes of at least 60 TK, in comparison to 21% of the displacees in the three remaining three tracts. The differences are not significant, $X^2(9, N = 233) = 15.5, p < .076$.

Table 10: Distribution of Household Income by Status and Tract (Percentages)

Level of Income	Embankment	Brickyard	Railway	Biara	Average	Non-Displacees
Less 30 TK	23.9%	5.8%	7.6%	17.4%	13.3%	23.2%
30-60 TK	58.7	57.7	71.2	59.4	62.2	48.6
60-100 TK	10.9	21.2	13.6	10.1	13.7	10.5
100 plus TK	6.5	15.4	7.6	13.0	10.8	17.7

In relation to living amenities, 57.6% of the displacees in comparison to 48.6% of the non-displacees live in single room dwellings. Less than one-third of the displacees (28.6%) have a latrine and 45.8% a tube-well, in contrast to 50.9% and 66.5% of the non-displacees. Only about 65% of the displaced squatters have corrugated tin roofing, whereas 90.1% of the non-displacees have tin roofing. This is comparable to Greenberg's (1986) study of Serajganj squatters which showed that 60% lacked tin roofing, 18% did not have a latrine, and 35% did not have access to a tube-well.

Table 11: Distribution of Living Amenities by Status and Tract (Percentages)

Living Amenity	Embankment	Brickyard	Railway	Biara	Average	Non-Displacees
Tube-well	45.7%	34.9%	51.5%	49.3%	45.8%	66.5%
Latrine	15.2	35.8	30.9	29.6	28.6	50.9
Tin roofing	52.3	58.5	59.7	84.5	65.5	90.1
One room	35.7	75.5	54.7	60.0	57.6	48.6
0 Amenities	20.5	22.6	17.9	11.3	17.4	5.0
1 Amenity	56.8	37.7	32.8	36.6	39.6	28.3
2 Amenities	13.6	28.3	37.3	29.6	28.5	22.4
3 Amenities	9.1	11.3	11.9	22.5	14.5	44.3

It had been expected that prior land ownership might facilitate economic adjustment by providing displacees with a financial 'safety net'. This was not found through chi square tests. As shown in Table 12, differences are found to be not significant in relation to daily income ($X^2 (2, N = 231) = 1.51, p < .469$), as well as basic living amenities, $X^2 (3, N = 234) = 3.09, p < .377$. About the same proportion of 'landless' and 'landowning' displacees are persistently dissatisfied with their living conditions (landless = 71.9%; landowners = 70.6%), $X^2 (2, N = 236) = .023, p < .988$. Similar findings are attained in relation to experiencing hunger on a daily basis (landless = 18.8%; landowner = 24.0%), $X^2 (2, N = 236) = 1.05, p < .589$. $X^2 (2, N = 236) = 1.05, p < .589$. These results are consistent with previous research which has shown that multiple displacement contributes to a pattern of increasing impoverishment, preventing opportunities to accumulate savings which might ease the hardships associated with displacement (Greenberg, 1986; Haque, 1997).

Table 12: Distribution of Displacée Economic Conditions by Land Ownership (Percentages)

Income	Less 30 TK	30-60 TK	60 Plus TK
Landless	19.4%	54.8%	25.8%
Landowner	12.0	64.0	24.0
Amenity	0-1 Amenity	2 Amenities	3 Amenities
Landless	63.4	30.0	6.7
Landowner	56.2	28.4	15.2
Satisfaction	Satisfied	Dissatisfied	Very Dissatisfied
Landless	28.1	53.1	18.8
Landowner	29.4	52.5	18.1
Hunger	Daily	Weekly	Monthly
Landless	18.8	56.3	25.0
Landowner	24.0	46.4	29.4
Worries	Daily	Weekly	Monthly
Landless	75.0	9.4	15.6
Landowner	54.5	25.7	19.8

Household income and access to amenities (Table 13) have been examined in relation to SRQ cases. Among the displacees, non-significant findings are found in relation to both daily household income ($X^2 (2, N = 232) = 2.18, p < .334$) and living amenities ($X^2 (3, N = 234) = 5.02, p < .169$). However, more conclusive findings are observed among the non-displacees. In terms of income, over one-half (54.9%) of the poorest households earning less than 30 TK are found to be probable SRQ cases, in comparison to 22.4% of the moderate income earners and about 13% of the highest income earners, $X^2 (3, N = 220) = 27.34, p < .000$.

In relation to living amenities, only 17% of the non-displacees who have both fresh water and sanitation have been identified as SRQ cases, in contrast to

36% of those who have only one of these amenities, $X^2 (1, N = 219) = 10.00, p < .001$. Similarly, only 17.5 of the non-displacees who have three amenities (latrine, tube-well and corrugated tin roofing) have been identified as SRQ cases, in contrast to a rate of 45.5% among cohorts who have only one of the amenities, $X^2 (3, N = 219) = 9.47, p < .020$.

Table 13: Distribution of SRQ Cases by Household Income and Amenities (Percentages)

Level of Income	Less 30 TK	30-60 TK	Plus 60 TK	
Displacees	45.2%	41.7%	31.6%	
Non-displacees	54.9	22.4	12.9	
Living Amenity	0 Amenity	1 Amenity	2 Amenities	3 Amenities
Displacees	46.3	37.0	43.3	23.5
Non-displacees	54.9	22.4	13.0	12.8

Perception of Hardship

Measures of perception of hardship include life satisfaction, survival concerns, frequency of hunger, and physical health complaints.

As might be expected, given the level of physical hardship experienced by displacees, these respondents are less satisfied with their lives than non-displacees, $X^2 (2, N = 461) = 20.67, p < .000$. Table 14 shows that only 29.4% of the displacees are satisfied, while 18.1% are very dissatisfied. In comparison, 44.8% of the non-displacees are satisfied and only 6.3% very dissatisfied.

Although considerable variability can be observed between the four displaced tracts, analyses through chi square tests show that the differences are

not significant. The majority of displacees (range = 60.7% to 75.0%) are dissatisfied with their living conditions ($X^2 (6, N = 238) = 9.81, p < .132$), while about 81% of all displacees have weekly or daily worries about the survival of their households, $X^2 (6, N = 238) = 12.31, p < .055$. This is highest among the railway respondents (95.5%) and lowest among the Biara displacees (69%).

Table 14: Distribution of Perception of Hardship by Status and Tract
(Percentages)

	Brickyard	Railway	Embankment	Biara	Average	Non-displacees
Satisfaction						
Satisfied	39.6%	25.0%	21.7%	31.0%	29.4%	44.8%
Dissatisfied	35.8	58.8	56.5	56.3	52.5	55.2
Very Dissatisfied	24.5	16.2	21.7	12.7	18.1	6.3
Survival concerns						
Monthly	25.0	4.5	17.4	31.0	19.5	26.5
Weekly	26.9	22.4	19.6	23.9	23.0	30.0
Daily	48.1	73.1	63.0	45.1	57.2	43.5
Hunger						
Monthly	35.8	32.4	23.9	22.5	28.6	43.5
Weekly	34.0	45.6	65.2	50.7	48.3	30.5
Daily	30.2	22.1	10.9	26.8	23.1	26.0

Statistically, significant differences are found between displaced and non-displaced respondents in regard to both survival worries, $X^2 (2, N = 459) = 8.65, p < .013$, and hunger, $X^2 (2, N = 461) = 17.77, p < .000$. As Table 14 shows, over one-half (57.2%) of the displacees indicate having daily survival worries, in contrast to 43.5% of the non-displacees. Although about the same proportion of

households in both samples lack food on a weekly basis (23.1% and 26.0%), more displaced households go hungry a few times a month (displacees = 48.3%; non-displacees = 30.5%). On the other hand, non-displaced households more often escape hunger altogether (displacees = 28.6%; non-displacees = 43.5%).

Table 15: Distribution of SRQ Cases by Perception of Hazard (Percentages)

Satisfaction	Satisfied	Dissatisfied	Very dissatisfied
Displacees	24.6%	39.2%	62.8%
Non-displacees	20.0	29.4	57.1
Survival worries	Monthly	Weekly	Daily
Displacees	20.0	43.6	43.7
Non-displacees	8.5	28.4	37.1
Hunger	Yearly	Weekly	Daily
Displacees	23.5	36.8	63.6
Non-displacees	14.4	25.0	50.0

All three variables concerning perception of hardship are found to be significantly related to SRQ cases across both samples. As Table 15 shows, satisfaction with living conditions among displacees is inversely related to SRQ probable cases, $X^2(2, N = 237) = 16.17, p < .000$. Probable cases increase from 24.6% among satisfied displacees to 39.2% for those dissatisfied and 62.8% for very dissatisfied respondents. Among non-displacees, probable cases increase from 20% for satisfied respondents to 57.1% for the very dissatisfied, $X^2(2, N = 223) = 9.26, p < .009$.

Survival and hunger concerns are also significantly associated with SRQ cases. Among displacees, only 20% of displacees who have monthly survival

worries are identified as SRQ cases, in comparison to about 44% of those with weekly or daily concern, $X^2 (2, N = 235) = 8.56, p < .013$. In terms of hunger, only one-quarter (23.5%) of the displacees who rarely experience hunger are identified as SRQ cases, in comparison to 36.8% and 63.6% of the displacees who report hunger on a weekly or daily basis respectively, $X^2 (2, N = 237) = 21.04, p < .000$.

Among non-displacees, SRQ cases are also related to survival issues, increasing from 8.5% among respondents who rarely worry to 37.1% among those who worry on a daily basis, $X^2 (2, N = 223) = 15.40, p < .000$. In terms of hunger, probable cases increase from 14.4% among non-displaced villagers who rarely go hungry to 25% and 50% among villagers who go hungry on a weekly and daily basis respectively, $X^2 (2, N = 223) = 23.52, p < .000$.

These results support the hypothesis that impoverishment has a significant impact on mental health and may – as found in this study – be more predictive than displacement per se. This is consistent with general research which has shown that hardship in acquiring the necessities of life can serve as residual and persistent stressor, gradually eroding coping capacities and leaving people with a strong sense of life dissatisfaction.

Social Support

Kinship ties and obligations in Bangladesh play a critical role in both daily survival and adaptation to extreme events such as natural hazards (Greenberg, 1986; Haque & Zaman, 1994; Zaman, 1988). In this study, several aspects of social support are examined. These include marital status, perceptions of received expressive and instrumental support, loneliness, and degree of acceptance by natives of Serajganj (local town's people). Feeling a part of a *samaj* is assessed

among the Biara displacees only. With the exception of relations with the local towns people, variability between tracts is not significant.

The vast majority of displaced (86.6%) and non-displaced respondents (87.9%) are married and living with their spouse. Only 37 or 6.8% of all respondents are single, 15 (2.7%) are married but living apart from their spouse, and 16 (2.9%) are widowed. Only one respondent is divorced. Single respondents are predominantly male (34 of 37), while females are disproportionately separated (12 of 15) or widowed (13 of 16). About as many non-displaced as displaced women are separated (5 and 6 respectively) and widowed (7 and 5).

In order to assess marital status in relation to mental health, unmarried displaced and non-displaced respondents have been combined to form an aggregate sub-group for analysis ($n = 30$). Some 50% of the 30 separated/divorced/widowed respondents are identified as probable cases, in comparison to 25% of the 28 single respondents and 32.4% of the 130 married respondents. Chi square analyses indicated these differences to be non-significant, $X^2 (2, N = 459) = 4.78, p < .091$.

Some 46.4% of the displacees, in comparison to 56.7% of the non-displacees, report having a confidante with whom they can share their thoughts, feelings and worries. This difference, however, is not significant., $X^2 (1, N = 371) = 3.63, p < .056$. Non-significant differences are also found between displaced females (43.2%) and males (50.0%), $X^2 (1, N = 236) = 1.08, p < .295$. A similar pattern is observed between non-displaced males (56.3%) and females (57.1%), $X^2 (1, N = 134) = .010, p < .917$.

The assumption that displacees would experience significantly greater loneliness than non-displacees as a consequence of migration is not validated

through chi square analyses, $X^2 (2, N = 370) = 4.86, p < .087$. As Table 16 shows, about 17.0% of the displacees are persistently lonely, in comparison to about 15% of the non-displacees, while 40.2% and 30.5% of the respective respondents rarely feel lonely.

Table 16: Distribution Of Social Indicators by Status and Gender (Percentages)

	Displacees			Non-displacees		
	Male	Female	Average	Male	Female	Average
Has Confidante	50.0%	43.2%	46.4%	56.3%	57.1%	56.7%
Can count on help	33.6	36.4	34.9	38.3	39.1	38.7
Part of <i>samaj</i>	29.4	16.7	22.9	N/A	N/A	N/A
Rarely lonely	48.3	32.2	40.2	29.7	31.4	30.5
Sometimes lonely	38.1	47.5	42.8	59.4	50.0	54.7
Many times lonely	13.6	20.3	17.0	10.9	18.6	14.7

In relation to gender, about 30% women in both samples rarely feel lonely, while about 20% experience chronic loneliness. The differences are not significant, $X^2 (2, N = 188) = .136, p < .933$. However, significant differences are found between displaced men and women ($X^2 (2, N = 236) = 6.59, p < .369$), with almost 50% of the men being rarely lonely in contrast to only 32% of the women. Significant differences are also found between displaced and non-displaced men, $X^2 (2, N = 182) = 7.74, p < .020$. About 50% of the displacees report some degree of loneliness, in contrast to 70% of the non-displaced males.

The expectation that displacees would have significantly less assistance during emergencies is also not supported through chi square analysis. An estimated 65.1% of the displaced and 61.3% of the non-displaced respondents

report that they can not depend upon others during times of need, $X^2 (1, N = 460) = .738, p < .390$. Within both samples, non-significant differences are found between men and women. Some 33.6% of the displaced men and 36.4% of the women indicate that they can count on others for emergency support, $X^2 (1, N = 237) = .208, p < .648$. In way of comparison, 38.3% of the non-displaced males and 39.1% of the women feel this way, $X^2 (1, N = 222) = .014, p < .901$.

Feeling a part of a *samaj* has been assessed only among the Biara displacees. Over three-quarters (77.1%) of these respondents indicate that they do not feel as if they belong to a *samaj*. Gender differences (males = 70.6%; females = 83.3%) are also not significant, $X^2 (1, N = 70) = 1.61, p < .204$. In terms of displacees' relations to local towns people, over one-half (57.9%) report local towns folk to be accepting, while 21% feel they are very accepting. Some 11.6% feel the locals are not accepting and 9.4% report them to be hostile.

About 26% of displaced women and 17% of the men find the locals to be non-accepting, but this difference is not statistically significant, $X^2 (3, N = 232) = 4.76, p < .189$. However, significant differences are found between tracts, $X^2 (6, N = 233) = 49.54, p < .000$. Whereas only one of the embankment displacees and two of the Biara displacees report negative perceptions of the local town's people, 34.7% (18) of the brickyard and 44.4% (28) of the railway respondents perceive local townfolk to be not accepting or hostile. As shall be discussed in the following chapter, these negative valuations appear to increase with frequency of contact with the local population. This is consistent with previous research which has shown that displacees are generally not welcome in Serajganj and tend to be regarded as a disturbance to the 'peaceful' life of the native town's people (Haque, 1997).

It had been hypothesized that social support would be inversely related to mental health. This hypothesis is only partially supported. Among displacees, only two of the five social variables (loneliness and acceptance by locals) are positively associated with SRQ cases (Table 17). Some 60% of displacees who report frequent loneliness are identified as SRQ cases, in comparison to 35% of the displacees who rarely/sometimes feel this way, $X^2 (2, N = 235) = 8.84, p < .011$. In terms of feeling accepted by local town's people, over two-thirds of the displacees (67.3%) who do not feel accepted are identified as SRQ cases, in contrast to 29.5% of the displacees who feel accepted, $X^2 (2, N = 232) = 22.41, p < .000$.

Table 17: Distribution of SRQ Cases by Status and Social Indicator (Percentages)

Confidante	Yes	No	
Displacees	33.9%	43.3%	
Non-displacees	13.2	46.0	
Access to Help	Yes	No	
Displacees	38.6	39.6	
Non-Displacees	18.6	32.4	
Part of samaj	Yes	No	
Displacees	18.8	23.6	

Acceptance	Very Accepting	Accepting	Non-accepting
Displacees	31.9	27.1	67.3
Loneliness	Rarely	Sometimes	Many times
Displacees	34.0	35.6	60.0
Non-displacees	19.5	26.0	60.0

About 34% of the displacees who report having a confidante are identified as SRQ cases, in comparison to 43% of those who do not have one. This

difference is not significant, $X^2(1, N = 236) = 2.16, p < .141$. Access to emergency help during times of need is likewise not significant: about 39% of both the displacees with and without access are identified as SRQ cases, $X^2(1, N = 237) = .025, p < .873$. Similarly, feeling a part of a *samaj* does not have a significant impact on mental health. Some 18.3% of the displacees belonging to a *samaj* are identified as SRQ cases, in comparison to 23.6% of those who did not belong to such a social entity, $X^2(1, N = 71) = .169, p < .680$.

All three applicable social variables assessed among non-displacees are found to be significant. Some 46.6% of the non-displacees who do not have a confidante are identified as SRQ cases, in contrast to only 13.2% of their cohorts who do have confidantes, $X^2(1, N = 134) = 18.35, p < .000$. Similarly, only 18.6% of the non-displacees who have access to help in times of need are SRQ cases, in contrast to 32.4% of the non-displacees who lack this help, $X^2(1, N = 222) = 5.04, p < .024$. Finally, whereas only 19.5% of the non-displacees who are rarely lonely are found to SRQ cases, this figure rises to 60.0% among those who are frequently lonely, $X^2(2, N = 134) = 11.42, p < .003$.

Although it is difficult to discern a consistent relationship between social support and mental health, it seems clear that displacement has not resulted in a significantly high degree of social disruption. Although this is partly because the sampled communities' had migrated en-masse, it is also important to acknowledge that kinship ties and obligations are an important facet of life in rural Bangladesh, and have been found to help maintain former social functions throughout the migration process (Hossain, 1989; Novak, 1994).

Personal Control

Conventional research generally associates economic deprivation with low personal control and maladaptive passivity and dependency (Chambers, 1983; Ingham, 1993; Taylor, 1988). It had therefore been hypothesized that the involuntary losses and changes associated with displacement and impoverishment would result in lower levels of perceived personal control among displaced respondents. This hypothesis is tested by degree of perceived control over daily life, feeling capable of making decisions, and perceived ability and inability to solve daily problems.

As shown in Table 18, the vast majority of both displaced (97.9%) and non-displaced respondents (96.8%) believe their futures depend mainly on Allah, rather than mainly on themselves, $X^2(1, N = 459) = .512, p < .474$. However, more displacees than non-displacees report feeling they lack control over their lives (displacees = 67.2%; non-displacees = 54.8%), $X^2(2, N = 459) = 8.04, p < .017$. Among displacees, only 9.2% of the men and 11% of the women feel they have some control over their lives, $X^2(2, N = 237) = .393, p < .821$; among non-displacees the respective figures are 18.7% and 14.0%, $X^2(2, N = 221) = 1.68, p < .430$. The differences in both cases are not significant.

Statistically, no significant differences are found between displacees and non-displacees in relation to problem-solving. About as many displacees and non-displacees (displacees = 73.9%; non-displacees = 75.6%) feel capable of solving at least some of their daily difficulties problems, $X^2(2, N = 448) = 1.24, p < .536$. Similarly, differences are non-significant in terms of feeling incapable, $X^2(2, N = 447) = .493, p < .781$. About 66% of the displacees and 68% of the non-displacees feel they are at least sometimes incapable of solving of their daily

problems. Only in decision-making are differences significant, with more displacees reporting they are consistently able to make decision (displacees = 30.6%; non-displacees = 23.9%), $X^2(2, N = 445) = 6.15, p < .046$.

Table 18: Distribution of Personal Control by Status and Gender (Percentages)

	Displacees			Non-displacees		
	Male	Female	Mean	Male	Female	Mean
Future depends on Allah	96.6%	99.2%	97.9%	94.3%	99.1%	96.8%
Personal Control						
No control	68.9	65.3	67.2	50.5	58.8	54.8
Little control	21.8	23.7	22.7	30.8	27.2	29.0
Some/much Control	9.2	11.0	10.1	18.7	14.0	16.3
Decision-making						
Never/rarely	14.8	29.3	22.0	16.3	18.3	17.4
Sometimes	45.2	49.1	47.4	56.7	61.5	59.2
Many times	40.0	21.6	30.6	26.9	20.2	23.9
Can solve problems						
Never/rarely	21.4	30.2	26.1	19.4	29.1	24.4
Sometimes	57.3	48.3	52.6	59.2	52.7	55.9
Almost always	21.3	21.5	21.3	21.4	18.2	19.7
Can not solve problems						
Never/rarely	23.7	17.2	20.9	17.3	19.3	18.3
Sometimes	49.2	43.1	46.0	53.8	48.6	51.2
Almost always	27.1	39.7	33.1	28.9	32.1	30.5

Significant differences are also not found between self-efficacy and SRQ cases. As Table 19 shows, about 40% of the displacees who lack control in their lives have been identified as SRQ cases, in comparison to about 30% of those

who are very much in control of their lives, $X^2 (2, N = 237) = 1.14, p < .565$. Similar findings are shown in regards to decision-making, $X^2 (2, N = 231) = .725, p < .695$, as well as in feeling able to solve daily problems, $X^2 (2 N = 233) = .109, p < .946$. Although differences are significant in regards to feeling incapable of problem-solving ($X^2 (2 N = 234) = 8.34, p < .015$), this is due to the markedly low proportion of SRQ cases among displacees who sometimes feel incapable (29.0% in comparison to 44.9 and 48.7%).

Table 19: Distribution of SRQ Cases by Perception of Personal Control (Percentages)

	SRQ Cases		
Control	No control	Some control	Much Control
Displacees	40.3%	40.7%	29.2%
Non-displacees	29.8	21.9	25.0
Decision-making	Never/rarely	Sometimes	Many times
Displacees	36.0	41.8	36.6
Non-displacees	40.5	23.0	20.0
Can solve problems	Never/rarely	Sometimes	Many times
Displacees	41.0	38.5	40.0
Non-displacees	30.8	26.1	19.0
Can not solve problems	Never/rarely	Sometimes	Many times
Displacees	44.9	29.0	48.7
Non-displacees	33.3	22.0	27.7

Among non-displacees, 25.0% of the respondents who feel in control of their lives have been identified as SRQ cases, in comparison to 29.8% of those who do not. The difference is not statistically significant, $X^2 (2, N = 221) = 1.39, p < .498$. Similarly, while SRQ cases differ in terms of feeling capable of making

decisions (range = 20.% to 40.5%), the difference is not significant ($X^2 (2, N = 213) = 5.63, p < .059$). No significant difference has been found in relation to feeling either capable ($X^2 (2, N = 213) = 1.67, p < .433$) or incapable of solving daily problems ($X^2 (2, N = 213) = 2.09, p < .351$).

The results do not support the hypothesis that displacees would exhibit a more passive coping pattern. In interpreting this finding, it is important to examine coping in the context of Bangladesh. Both the prevalence of low self-efficacy and its lack of consistent association with SRQ cases suggests that it is reflective of the relative powerlessness of the poor in general in Bangladesh. The poor in fact have extremely limited choices in coping with their impoverishment, and thus their low level of self-efficacy may reflect a realistic perception of their marginalization. Similarly, the tendency to see Allah as the principal determinant of the future (rather than the future being a function of one's own abilities and efforts) may not so much reflect a sense of fatalism and powerlessness as it does the importance of cultural beliefs in determining how people perceive and interpret the world around them. This is more fully discussed in the following chapter.

Psychological Coping and Adjustment Processes

Three aspects of psychological coping are examined in this section: coping as measured by the coping checklist (Stone & Neale, 1994), the self-report coping responses, and the significance of SRQ scores in relation to psychological coping as measured by the coping checklist only. To enhance clarity, these measures are presented by sub-section.

Coping Checklist

Table 20 presents a comparison of coping responses between displaced and non-displaced males and females as measured by the Stone and Neale (1984) coping checklist. The response categories of 'many times' and 'all the time' have been merged to form more manageable units of analysis. These units represent dispositional coping, or trait-like coping responses which a person habitually engages when confronted by stressors.

It had been hypothesized that displacees would exhibit more passive coping than non-displacees. This has not been found. Chi square analyses reveals a consistent pattern of coping without significant variability among both the displaced and non-displaced respondents across eight of the ten coping dimensions. The most common coping response frequently or habitually used across both samples is religious beliefs. This is reported by 96.2% of the displacees and 93.7% of non-displacees, $X^2(1, N = 459) = .512, p < .474$. Among displacees, scores of seven of the nine coping items range from 27.4% (problem-solving) to 35.1% (planning). The two exceptions are fatalism (20.5%) and focusing on emotions (19.2%).

Only avoidance (behavioral and social), planning, and problem-solving are found to be significantly different between the displaced and non-displaced samples. About 31% of the displacees try to forget about their problems by busying themselves, in comparison to 23% of the non-displacees, $X^2(1, N = 456) = 4.52, p < .033$. Similarly, 32% of the displacees try to forget about their problems by talking to other people, whereas only about 24% of the non-displacees regularly use this strategy, $X^2(1, N = 457) = 4.03, p < .044$.

Table 20: Distribution of Dispositional Coping by Status and Gender (Percentages)

	Displacees			Non-displacees		
	Male	Female	Mean	Male	Female	Mean
Avoidance	28.0%	34.5%	31.1%	22.6%	22.4%	22.5%
Reappraisal	29.7	27.4	28.4	26.0	21.3	23.6
Religion	96.6	95.8	96.2	93.9	93.6	93.7
Planning	37.9	32.7	35.2	23.2	26.6	25.0
Problem-solving	30.4	24.6	27.4	22.0	16.3	19.1
Instrumental support	27.7	31.9	29.7	24.7	30.8	27.8
Emotional support	25.0	34.5	29.7	22.8	24.7	23.8
Social avoidance	30.5	33.1	32.1	20.8	26.9	23.9
Focus on emotions	17.6	21.1	19.2	27.7	31.9	29.9
Fatalism	20.6	21.1	20.5	23.1	30.4	26.9

More interesting, however, is the finding that displacees do not show more passive coping than non-displacees. For example, no significant difference is found in relation to either fatalism ($X^2(1, N = 207) = .717, p < .369$) or focusing on negative emotions ($X^2(1, N = 207) = 2.27, p < .131$). In fact, about 27% of the displacees frequently engage in problem-solving activities when confronted by problems, whereas only 19% of the non-displacees cope this way. Chi square test results exhibit this difference to be significant, $X^2(1, N = 454) = 4.32, p < .037$. Similarly, about 35% of displacees habitually plan when confronted by problems, in contrast to 25% of non-displacees, $X^2(1, N = 418) = 5.20, p < .022$.

In relation to social support, about 30% and 24% of displaced and non-displaced respondents habitually rely on others for emotional support, $X^2(1, N = 453) = 1.90, p < .167$. This comparative difference is not statistically significant.

Similarly, no significant difference is found between respondents who seek out others for instrumental or material assistance (displacees = 29.7%; non-displacees = 27.8%), $X^2(1, N = 459) = 1.87, p < .171$.

Self-Reported Coping Responses

The respondents self-reported ways of coping are presented in Table 21 and 22. The hypothesis that passive and avoidant coping would be more common among displacees is again not supported. In fact, use of avoidant or distracting activities to cope with problems or hardship constituted about 53% of the non-displacee responses, but only 45% of the displacee responses (see Table 21). Some 57.1% and 49.1% of the non-displaced men and women respectively report using this strategy, in comparison to about 45% of the displaced males and females.

Table 21: Distribution of Self-Report Coping Responses by Status and Gender (Percentages)

	Displacees			Non-displacees		
	Male	Female	Mean	Male	Female	Mean
Avoidance	43.9%	45.7%	45.0%	57.1%	49.1%	53.0%
Seeks support	29.8	31.0	30.3	21.0	21.4	21.2
Turns to religion	12.3	12.9	12.6	16.2	14.3	15.2
Thinks/plans	14.0	7.8	10.9	4.8	8.0	6.5
Vents emotions	0	2.6	1.3	1.0	7.1	4.1

A breakdown of the respondents' self-reported coping behaviours is presented in Table 22. The most common avoidant behavior across the two sample is sleeping or resting (22.6%). Also classified as avoidant activities are

walking (7.8%), working in or outside the home (7.4%), and such activities as going to the cinema, listening to music, and singing (5.1%). Smoking is exclusive to males (13), while only females report crying (10) and sewing or *khata* (7). *Khata* is a traditional form of embroidered, quilted patchwork which holds an important part in village life and typically depicts local history and myth.

Table 22: Distribution of Coping Behaviors by Status and Gender (Percentages)

	Displacees			Non-displacees		
	Male	Female	Mean	Male	Female	Mean
Sleep/rest	14.9%	29.6%	22.2%	18.1%	27.7%	23.0%
Gossip	29.8	31.3	30.4	21.9	21.4	21.7
Pray to Allah	12.3	13.0	12.6	16.2	14.3	15.2
Think	14.0	7.8	10.9	4.8	7.1	6.0
Work	7.0	6.1	6.5	5.7	10.7	8.3
Walk	6.1	4.3	5.7	17.1	3.6	10.1
Smoke	7.0	0	3.5	4.7	0	2.3
Cry	0	2.6	1.3	0	6.3	3.2
Other	8.9	5.3	6.9	21.2	12.8	13.8

Psychological Coping and SRQ Scores

SRQ measures are examined only in relation to the Stone and Neale (1984) coping measure. Table 23 shows that only of two the eight applicable ten coping strategies - both avoidant in nature - are significant across both samples. Within the displaced sample, about 55% of the displacees who frequently or habitually avoid their problems through diversionary activities have been identified as SRQ

Table 23: Patterns in SRQ Cases by Coping Frequency (Percentages)

	SRQ Cases by Coping Frequency		
Avoidance	Occasional	Frequent	Significance
Displacees	31.3%	55.4%	11.98, $p < .000$
Non-displacees	21.5	46.0	11.77, $p < .000$
Reappraisal	Occasional	Frequent	Significance
Displacees	34.5	47.8	.3.31, $p < .068$
Non-displacees	20.7	48.1	15.05, $p < .000$
Religion	Occasional	Frequent	Significance
Displacees	33.3	39.4	.132, $p < .715$
Non-displacees	8.8	28.5	2.31, $p < .127$
Planning	Occasional	Frequent	Significance
Displacees	37.2	40.5	.186, $p < .665$
Non-displacees	27.7	23.3	.031, $p < .858$
Problem-solving	Occasional	Frequent	Significance
Displacees	39.4	38.1	.016, $p < .897$
Non-displacees	24.6	32.8	.062, $p < .802$
Instrumental Support	Occasional	Frequent	Significance
Displacees	35.3	47.9	3.50, $p < .061$
Non-displacees	25.0	28.2	.899, $p < .342$
Emotional Support	Occasional	Frequent	Significance
Displacees	35.8	47.1	2.85, $p < .091$
Non-displacees	25.7	27.8	.389, $p < .532$
Social Avoidance	Occasional	Frequent	Significance
Displacees	33.8	50.0	5.58, $p < .020$
Non-displacees	23.7	37.7	4.04, $p < .044$
Focus on Emotions	Occasional	Frequent	Significance
Non-displacees	13.2	52.5	15.72, $p < .000$
Fatalism	Occasional	Frequent	Significance
Non-displacees	31.6	22.2	.997, $p < .317$

cases, in comparison to 31% of the displacees who cope this way only occasionally, $X^2 (1, N = 235) = 11.98, p < .000$.

A significant relationship is also observed in relation to frequent social avoidance, $X^2 (1, N = 234) = 5.38, p < .020$. One-half (50.0%) of displacees who habitually try to forget their hardships by spending time with others are SRQ cases, in contrast to 33.8% of the displacees who cope this way occasionally. Among non-displacees, significant SRQ differences are found in relation to behavioural avoidance, social avoidance, reappraisal, and focusing on emotions. As within the displaced sample, SRQ cases are higher among respondents who frequently avoid problems through diversionary activities (46.0% in contrast to 21.5%), $X^2 (1, N = 222) = 11.77, p < .000$. Similarly, non-displacees who typically cope by seeking out others to avoid/forget are more often than occasional copers to be identified as SRQ cases (23.7% in comparison to 37.7%), $X^2 (1, N = 222) = 4.04, p < .044$. Additionally, non-displacees who habitually use reappraisal to cope are more often identified as SRQ case, $X^2 (1, N = 221) = 15.05, p < .000$, as are non-displacees who focus on their emotions during times of hardship, $X^2 (1, N = 136) = 15.72, p < .000$.

The results do not support the hypothesis that displacees would demonstrate more passive and maladaptive patterns in coping. In part, this may reflect the fact that the both displaced and non-displaced respondents originate from impoverished rural communities, and therefore are likely to share similar ways of viewing and coping with problems and difficulties. This finding that displacees do not show more fatalism and passive coping tendencies – and in fact demonstrate greater planning and problem-solving efforts - suggests that

low aspirations and self-efficacy do not necessarily diminish determination and perseverance, a common assumption of Western psychology.

Summary

In summing up, it seems clear that peoples' coping and adjustment mechanisms to riverine and other natural hazards must be viewed within a socio-structural context, rather than from a conventional psychological perspective. As shall be elaborated in the following chapter, the findings of this study indicate that the constant threat of riverbank erosion in Bangladesh has contributed to distinct disaster characteristics among inhabitants of riverine zones.

This research hypothesized that displacees would exhibit higher rates of psychological distress than non-displacees. This has been validated. Some 39% of the displacees are identified as SRQ cases, in comparison to 27% of the non-displacees.

It was hypothesized that heightened distress among displacees would be related to identifiable displacement stressors such as loss of land. This has not been demonstrated. The higher levels of distress among displacees have been found to be a function of impoverishment, rather than displacement per se. Statistically, only one of the four displacement variables (hopefulness for regaining land) is significantly related to mental health. The commonly hypothesized factors of loss of land, and frequency and duration of displacement do not have a statistically significant association with mental health.

It was hypothesized that distress among displacees would be associated with identifiable resettlement stressors, including economic and social

marginalization. This has been validated only in respect to economic privation. Displacees not only report lower daily incomes and fewer living amenities than non-displacees, but are significantly less likely to be satisfied with their lives, have more survival concerns, and endure greater hunger. Socioeconomic impoverishment is also found to have significant bearing on mental health. Among displacees, three of the five economic variables are significantly related to psychological distress, namely satisfaction with living conditions, household survival concerns, and hunger. Findings are not significant in relation to income and living amenities. Among non-displacees, all five economic variables are significantly associated with distress levels.

The hypothesis that involuntary migration would result in marked social dislocation has been only partially validated. Indeed, displacees are as likely as non-displacees to have a confidante and access to help in times of extreme need. In terms of social support and mental health, only two of the five social variables (loneliness and acceptance by locals) are positively associated with SRQ cases among the displacees. The findings suggest that ability to maintain important social supports throughout displacement serves as an important adaptive mechanism, which limits the emotional impact of involuntary migration.

Finally, it had been hypothesized that displacees would demonstrate more passive, reparative coping patterns than non-displacees. This also has not been validated. Displacees do not demonstrate lower levels of planning and problem solving than non-displacees. Respondents across both samples exhibit a pattern of low self-efficacy, with less than one-quarter of all respondents reporting strong beliefs of personal control. The vast proportion of displacees and non-displacees cope with their problems and difficulties through religious beliefs,

which is an intricate part of rural life in Bangladesh. These findings support the assertion that natural hazards are best examined within a broad socio-structural perspective which views human coping and adjustment to extreme events as being embedded in a context of daily life and livelihood.

Chapter VIII

Factors Affecting Displacement and Resettlement Adaptation Processes

This chapter examines factors affecting the displacement and resettlement adaptation process. It discusses salient predictors of psychological coping and adaptation, and delineates those factors of social and economic vulnerability which impact the capacity of poor to cope and adapt to displacement, both in terms of securing a livelihood, but also in relation to coping with daily problems and stressors.

Psychologically, riverbank erosion can be viewed as a significant negative life event causing major physical, economic and social changes which tax normal coping responses. Displacees are not only forced to seek shelter in urban centers which bear little semblance to their rural village, but find themselves living in impoverished squatter settlements with little opportunity of escape. This not only causes emotional upheaval and distress, but can contribute to more serious forms of psychological morbidity which are resistant to everyday coping responses.

In this study, considerably more displacees than non-displacees have been identified as SRQ cases (displacees = 39.2%; non-displacees = 26.9%). It is important to acknowledge, however, that the higher distress rate among displacees is largely reflective of the disproportionately high number of SRQ cases among women, of which 46.6% are identified as SRQ cases as compared to 32.8% of the male displacees. Moreover, psychological distress is rooted

primarily in socioeconomic deprivation, rather than in displacement per se. Chronic survival concerns, daily hunger, and marginal living conditions are significant predictive factors of distress across both samples.

Of the four displacement variables examined in this study, only hopefulness for regaining land is positively associated with SRQ measures. Contrary to the assumptions of the conventional behavioral-ecological approach to disasters (Bolin, 1989; Thoits, 1983), the commonly hypothesized factors such as loss of land and frequency and duration of displacement are not found to have significant association with distress levels. About 45% of the displacees who have moved involuntarily 5 to 10 times are identified as SRQ cases, in comparison to 43% of those displaced only 1 to 2 times. Similarly, while differences are found between prior land ownership and SRQ measures, these are not significant. Probable cases range from 28.1% and 36.0% among landless and homestead owners to 39.2% among owners of 0.01 to 2.50 acres and 48.2% among owners of 2.50 plus acres.

The lack of association between riverbank erosion and subsequent displacement supports the work of Blaikie et al. (1994) and Hewitt (1983). That is, responses to natural hazards are often less associated with the geophysical conditions than with prevailing economic and social relations of daily life. Findings in this study suggest that the constant threat of riverbank erosion has contributed to substantial characteristics relating to disasters in the riverine zones of Bangladesh, an assumption consistent to the socio-structural perspective put forth by Blaikie et al. (1994). Despite multiple displacement, only 16.9% of the displacees had perceived riverbank erosion to be a problem while 89.8% did not expect to be eventually displaced. In contrast, 96.3% of the non-displacees are

found to view erosion to be a serious problem and 80.9% have chronic worries about it. Just over one-half (53.4%) believe they will eventually become destitute because of riverbank erosion, while the remaining 46.6% perceive this to be a possibility.

These findings suggest that the majority of displacees have become adjusted and adapted to the hazard of riverbank erosion. Even in normal years, one-tenth of the total land surface in Bangladesh is severely flooded and about 2,400 square kilometers subject to major erosion (Islam & Islam, 1985; Zaman, 1988). Large land owners are generally able to recover from annual erosion losses because of their greater assets and access to emerging accreditation land. In contrast, the coping strategies of the poor and landless are often limited to relocating to more stable ground where they survive by exchanging cheap and bonded labour for free-use right of land or share cropping privileges (Baqee, 1998). Riverbank erosion often becomes a perceived threat only when people are forced to relocate to areas which do not permit the re-establishment of their livelihoods and life styles.

Normally, adjustment to riverbank erosion among the rural poor means a recovery of subsistence living patterns. Riverbank erosion does not usually pose an immediate threat for the poor and landless because they are able to rely on existing tenancy structures to resettle and resume their livelihoods when displaced. One may further reason that the passive responses exhibited by the poor in face of a clear disaster threat may reflect the destitution of their normal daily life. Maskrey (1994) has observed that the poorer people become, the more they are forced to balance extremely limited resources against constant threats of homelessness, unemployment, illness and hunger. Faced with these chronic

needs, people give less priority to natural hazards and are unwilling to change or adapt their living patterns if it increases their vulnerability to daily strains.

The above discussion is not to infer that loss of land is not psychologically distressing. The loss of land in Bangladesh among the poor almost always means destitution, and should be seen as a significant negative life event in this regard. The findings in fact show that displacees who had owned land prior to their displacement are more likely than their landless cohorts to be identified as SRQ cases. Almost one-half (48.2%) of the owners of 2.50 acres are identified as SRQ cases, in comparison to 39.2% of owners of 0.01-2.50 acres, 36.0% of homestead only owners, and 28.1% of the landless.

In terms of emotional reactions, it is clear that loss of land has a profound impact upon the displacees. As observed by Haque (1997), displacees in Bangladesh often "grieve for their lost homes", a process of mourning for the loss of emotional and social supports that are inherent in the fabric of most neighbourhoods and communities (Fried, 1968). In the present study, almost three-quarters (70.2%) of the displacees report that they have had frequent thoughts of their lost land in the past seven days, while one-half (50%) have had untended, intrusive thoughts. Some 69.7% have frequent strong feelings about their lost land. One-half (42.4%) report having frequent sleep difficulties in the past week because they have thinking about their land, and 75% avoid talking about their land because it easily upsets them.

The impact of displacement is also made apparent through informal interviews. During these conversations, displacees have indicated that displacement has precipitated a pattern of grieving marked by pronounced sorrow, anger, and denial. One group of displacees recounted villagers crying as

they watched their lands being eroded. Other displacees have stated that they look out onto the river daily in hopes of eventually seeing the emergence of their eroded lands. It is perhaps telling that hopefulness of regaining land is the single significant predictor of distress. Almost one-half (46.9%) of the displacees who have given up all hope are identified as probable SRQ cases, in comparison to only a quarter (27.7%) of those who remain hopeful.

The cumulative findings nevertheless suggest that it is not displacement itself which is most distressing, but rather the subsequent changes and disruptions caused by involuntary migration. Displacement is in fact a recurring feature of *char* lands, particularly among the poor who live on erosion-prone riverbanks. However, displacement becomes problematic only when displacees are forced to relocate to areas which prevent the re-establishment of their rural livelihoods. In such cases, displacees must endure not only the loss of livelihood, but of their traditional village structures and life style. Economically, displacees are largely confined to impoverished squatter settlements, forming distinct and separate communities which are vastly different from their rural origins. These two principal consequences of displacement, socio-cultural and economic, are discussed in detail below.

Socio-cultural Consequences of Resettlement

The socio-cultural consequences of displacement are multi-dimensional. The loss of land not only means a loss of socioeconomic power and status, but an uprooting from riparian life. This has particular significance to traditional rural villagers who have strong ties to land. The substance of *desh* - soil, water, and agricultural produce - is commonly seen as having an auspicious quality which

becomes a part of a villager's identity when consumed (Daniel, 1974). Tuan (1974) has observed that villagers commonly have strong feelings of allegiance or attachment to the land, which are closely tied to villagers' sense of belonging and identity. The loss of land therefore has marked socio-cultural implications, and is likely to be associated with strong feelings of estrangement and alienation.

Displacement also means a disruption of riparian village structures which promote and maintain traditional life styles. Islam (1998) has observed that the shape and lay out of villages and other human settlements tend to be as much influenced by culture and societal factors as they are by environmental and physical considerations. In Bangladesh, villages are generally either compact and nucleated (clustered or agglomerated), or dispersed with small, scattered clusters of households. A typical homestead structure called *Choushala Griha* consists of three or four units built around a central rectangular courtyard. The courtyard forms an integral part of the rural homestead and is used for several functions including outdoor living or sitting space, play space for children, space for drying field crops, and a shared cooking area.

Although traditional *Choushala* housing is evident among displacees, more common are small, unattached *juggis* or huts. These single room households, which typically accommodate five or six people, are 8 by 18 feet in size and constructed of bamboo and straw with mud floors. Cooking, eating, and sleeping are all done within the same living area. Furniture is almost always limited to a simple bed (*choki*) and table (*macha*) for the storage of pots, jugs, and foodstuffs. With the exception of the brickyard tract in which displaced households are concentrated in a compact and nucleated fashion, the sampled communities

along both the railway line and on the flood protection embankments have grown in a linear manner.

The brickyard and railway tracts in particular bear little semblance to rural village life, which in part might explain the differences in SRQ scores between the displacee tracts. About one-half of the brickyard (45.3%) and railway (54.4%) samples are identified as SRQ cases, in comparison to 35.6% of the embankment and 22.2% of the Biara respondents. In the case of the brickyard sample, displacees are congested into a densely populated settlement which affords minimal privacy and living space. In the railway tract, displacees live only yards from an active railway line in the center of urban Serajganj. Displacees in both these tracts have been forced to sell off their cows and goats because of inadequate space for feeding and shelter. In contrast, the flood protection embankment lies outside of Serajganj proper. This has allowed both the embankment and Biara displacees to not only resettle along the Jamuna River in a more of a rural social setting, but to resume such traditional activities such as the raising of livestock and poultry, gardening, and fishing.

From a sociological perspective, it is relevant to observe that displacees have been largely segregated from the local town's people. This is apparent not only in the formation of the displacees' distinct and separate settlements, but in the displacees' perceived negative valuations of the local townsfolk. Among the brickyard and railway displacees, who have the greatest contact with the local populace because of the central locations of their settlements, this is particularly pronounced. Whereas only one of the embankment and two of the Biara displacees feel they are not accepted by the local town's people, 34.7% (18) of the brickyard and 44.4% (28) of the railway displacees feel this way.

Previous research has shown a similar pattern of negative evaluations towards displacees in Serajganj (Haque, 1997; Hossain & Rooparain, 1992; Rogge & Elahi, 1989). Displaced squatters have been historically regarded by townsfolk and administrators alike as the *nade-bhanger lok* (people of the broken riverbank), and treated as a subordinate and distinct group with low status. As well, it became clear during this study that many municipal officials lack sympathy for the plight of the displacees. Because the displacees originate from districts outside of Serajganj, they are seen as being outside the responsibility of the municipality and therefore excluded from relief or rehabilitation plans. Although resettled on government land, living conditions of the displacees remain extremely poor and many of the inhabitants have constant worries of being evicted.

Despite the disruptions and hardships associated with their migration, the displacees have by and large maintained their former village and kinship networks. These provide important physical and social support. Although 77.1% of the sampled displacees (N = 70) do not feel a part of a *samaj*, only 27.1% have resettled apart from members of their union of origin. Only in the case of the embankment sample is there a substantial number of displacees (64.4%) living apart from other villagers displaced from their union of origin. In the case of the railway, brickyard and Biara tracts, between 80% and 84.5% of the respondents are living among displacees who migrated from either the same village or same district.

There is little evidence to suggest that displacement has resulted in widespread social fragmentation at the household level. Only six of the 212 married displacees report being separated from their spouse, and not necessarily

because of displacement. A comparison of mean household size of displaced and non-displaced respondents shows non-significant differences (displacees = 5.76, $SD = 2.4$; non-displacees = 5.46, $SD = 2.6$; $t = 1.09$, $p < .275$). This provides little cause to assume that displacement had precipitated a breakdown of the household unit.

The maintenance of community networks might be attributed to two factors. Firstly, because of the magnitude of erosion, entire villages are often lost. It is therefore common for displacees to migrate and resettle in-mass, allowing them to maintain some form of mutual physical and socio-emotional support. Secondly, it is important to observe that 'clannishness' is an essential feature of rural life in Bangladesh, with interdependent kinship and neighbourhood networks promoting survival through the obligatory exchange of physical, financial, and material supports during times of need (Novak, 1993; Zaman, 1994).

It is pertinent to note as well that previous research has shown that hazard-prone inhabitants, including displacees in Bangladesh, often maintain larger, extended households in order to reduce vulnerability. In the event of a crisis, this strategy permits both a sharing of losses as well as greater manpower to generate income (Haque, 1988; Kates et al., 1973). One study in Bangladesh found that only 1.8% of poor rural households and 3.4% of well-off households had become fragmented because of a crisis caused by property loss, crop failure or river erosion (Bangladesh Bureau of Statistics, 1997).

In terms of their relations among themselves, it is clear that most displacees have either maintained or re-established interdependent support networks. Displacees do not experience greater loneliness than non-displacees

(displacees = 59.8%; non-displacees = 69.4%), while about the same proportion have reported that they can count on others during times of need (displacees = 24.9%; non-displacees = 38.7%). About 46% of the displacees and 57% of the non-displacees report having a confidante with whom they can share their worries and concerns, but the difference is not statistically significant.

As well, non-significant differences are found between displacees who have migrated en-masse and those who have become detached from members of their former villages. Almost the same proportion of isolated (46.7%) as non-isolated displacees (48.7%) report having a confidante ($X^2(1, N = 221) = .055, p < .813$), while minimal difference is found in regard to having access to emergency assistance (31.7% and 36.6% respectively, $X^2(1, N = 221) = .474, p < .490$). In terms of loneliness, isolated displacees are no more likely than their cohorts to experience loneliness on either an occasional (40.7% in comparison to 43.1%) or frequent basis (13.6% in comparison to 17.5%), $X^2(2, N = 219) = .895, p < .638$.

Taken together, the findings suggest that while displacement results in a loss of rural life style, it does not necessarily imply a loss of important social supports. In this case, the majority of displacees have either resettled en-masse, or when isolated, have been integrated into existing communities. It can be argued that this maintenance of traditional neighbourhood structures plays an important role in mitigating the psychological affects of displacement.

Accordingly, an inverse relationship is also found between social support and poor mental health. Among displacees, this is most evident in relation to degree of loneliness and feeling accepted by local town. Displacees who are frequently lonely are about twice as likely to be identified as experiencing poor mental health (SRQ cases) as displacees who are rarely or sometimes lonely

(60.0% in contrast to 34.8%). Some 63.3% of the displacees who feel alienated from the local towns people are also identified as SRQ cases, in contrast to 29.5% of displacees who feel accepted.

These findings are consistent with general research which has shown that social support is instrumental in buffering or protecting individuals from the potentially pathogenic impact of stressful events (Cohen & Wills, 1985; Kaniasty et al., 1990). In the case of Bangladesh, it can be asserted that the high degree of social support which is maintained throughout the displacement is essential in limiting the psychosocial consequences of involuntary displacement. The functional and interdependent relationships which displaced communities offer not only enhances day to day survival through the exchange of assistance and support, but offers involuntary rural migrants a sense of emotional security and belongingness in the urban context. These social functions not only reduce the level of distress associated with poverty itself through the provision of instrumental support, but may well limit the degree of acculturative stress experienced by allowing for a sense of socio-cultural continuity and commonality.

Socioeconomic Adjustment and Marginalization

One of the main goals of this study is to examine the psychological impact of displacement vis-à-vis the more enduring influence of poverty and marginalization. According to contemporary psychological literature on natural hazards, it would be assumed that riverine hazards, as discrete and abnormal events, should have a significant impact on psychological functioning. This hypothesis is not confirmed by the findings of the present research.

As explained earlier, only one displacement variable (hopefulness for regaining land) is significantly related to psychological distress. In contrast, three of the five economic variables among the displacees are significantly related to distress, while all five are significant among the non-displacees. Within the displaced sample, probable SRQ cases increase significantly from 24.6% among squatters satisfied with their living conditions to 62.8% among very dissatisfied displacees. Similarly, only 20% of the displacees who have monthly survival worries are identified as SRQ cases, in comparison to 44% of those with weekly or daily concerns. In terms of hunger, only 23.5% of displacees who rarely go hungry are identified as SRQ cases, in contrast to 36.8% and 63.6% among those who endure hunger on a weekly and daily basis.

Among non-displacees, each of the hardship variables is significantly associated with SRQ cases. Probable cases increase from 20% among satisfied non-displacees to 57.1% among the very dissatisfied, and from 8.5% among respondents who rarely worry about their survival to 37.1% among those who worry daily. Only 14.4% of the non-displacees who rarely go hungry are identified as SRQ cases, in comparison to a 50% case rate among those hungry on a daily basis.

In relation to daily income, 54.9% of non-displacee earners of 30 TK or less are identified as probable SRQ cases, in comparison to 22.4% of the moderate (30-60 TK) income earners and only 13% of the highest income earners (60 TK plus). In terms of living amenities, non-displacees who have both fresh water and sanitation are significantly less likely to be SRQ cases than respondents who have only one of these amenities (17.0% in contrast to 36.1%).

These findings clearly indicate that impoverishment serves as significant predictor of psychological distress. As shown in other studies, the chronic and repetitive strains associated with impoverishment are linked to elevated levels of psychological distress, and can have as much or greater impact upon mental health as more acute stressors such as natural hazards. Holahan et al. (1984) have in fact reported that chronic daily stresses may account for almost 19% of variance observed in current well-being, whereas life events account for only about 5% of variance in well-being.

There is little question that displacement intensifies the degree of deprivation and hardship endured by the poor. As shown in previous studies in Bangladesh, displacees are almost always confined to informal, labour activities which are physically arduous and low paying (Greenberg, 1986, Haque, 1997; Hossain, 1989; Islam, 1995). In this study, about one-quarter (26%) of the men are working as manual labourers and nearly as many (24%) as rickshaw pullers. About 12% have found jobs as boatmen. In contrast, only about 22% of the non-displacees are engaged in non-agricultural labour, while about 15% are working in semi-skilled or white collar jobs.

By income, the majority of displacees (62%) are earning between 30 to 60 TK daily; about 13% earn less than 30 TK, while 24% have daily earnings of plus 60TK. In comparison, about 23% of the non-displacees earn less than 30 TK, 49% between 30 to 60 TK, and 28% 60 plus TK. Additionally, one should be mindful that wage comparisons often reflect important rural/urban differences in costs of living. According to Poverty Monitoring Studies in Bangladesh (Bangladesh Bureau of Statistics, 1997), the average monthly earnings in 1995 for urban households was about 6,507 TK, in comparison to 3,328 TK among rural

households. Monthly expenditures for urban and rural households were 5,601 TK and 2,819 TK respectively.

The findings point to a pattern of increasing impoverishment and marginalization among displacees. In fact, a lower proportion of displacees have access to tube-wells (displacees = 45.8%; non-displacees = 66.5%), latrines (displacees = 28.6%; non-displacees = 50.9%), and corrugated tin roofing (displacees = 65.5%; non-displacees = 90.5%). Some 57.6% of the displacees live in single room dwellings, relative to 48.6% of the non-displacees. Only 29.4% of the displacees in comparison to 44.8% of the non-displacees are satisfied with their living conditions, while a greater proportion have daily worries about how their household will survive (displacees = 57.2%; non-displacees = 43.5%).

An examination of economic adjustment patterns across length of residence further indicates that the long-term prospects of most displacees remain poor. Table 24 shows that displacees who have lived in Serajganj for three or more years are no more likely to be earning 60 plus Taka a day than displacees who have been in the city for two or less years (23.2% and 23.5%), $X^2(4, N = 232) = 2.38, p < .665$. As well, no significant differences are found in relation to hunger, $X^2(4, N = 237) = 7.47, p < .112$, survival worries $X^2(4, N = 235) = .771, p < .942$, or satisfaction with living conditions ($X^2(4, N = 237) = 2.84, p < .583$).

This is consistent with Greenberg's (1986) research which showed that the majority displacees in Serajganj remain entrapped in poverty. Greenberg's study showed that 71% of 207 sampled households endured a decline in income while 55% reported a deterioration of employment opportunities. Even after fifteen years of residence, almost as many displacees remained in informal wage labour as those with five or less years of residence (65.9% and 74.2% respectively).

Table 24: Distribution of Economic Adjustment by Length of Residence
(Percentages)

Daily Income	Less 30 Taka	30-60 Taka	60 plus Taka
Less 2 years	20.6% (7)*	55.9% (19)	23.5% (8)
2-3 years	10.9 (14)	63.6 (82)	25.6 (33)
3 plus years	14.5 (10)	62.3 (43)	23.2 (16)
Survival Concerns	Occasionally	Almost always	Always
Less 2 years	15.2 (7)	52.2 (24)	32.6 (15)
2-3 years	12.7 (7)	60 (33)	27.3 (15)
3 plus years	15.7 (21)	55.2 (74)	29.1 (39)
Hunger	Never	Occasionally	Always
Less 2 years	25.7 (9)	65.7 (23)	8.6 (3)
2-3 years	30.5 (40)	46.6 (70)	22.9 (30)
3 plus years	26.8 (19)	43.7 (31)	29.6 (21)
Living Conditions	Satisfied	Dissatisfied	Very Dissatisfied
Less 2 years	25.7 (9)	62.9 (22)	11.4 (4)
2-3 years	29 (38)	53.4 (70)	17.6 (23)
3 plus years	32.4 (23)	46.5 (33)	21.1 (15)

* Frequencies are shown in parentheses.

In examining the findings, it is important to recognize that displacees are involuntary migrants, compelled to relocate for reasons other than economic gain. As discussed earlier, displacee-squatters in Serajgang are largely illiterate and possess very limited job skills. This tends to be in contrast to voluntary migrants to cities, who are universally above national levels in education, skills, and acquaintance with urban ways (Perlman, 1976; Preston, 1987). This has significant impact upon occupational and socioeconomic mobility, in large because education is a key to enter the formal sector where both wage and non-

wage benefit is higher than that of the informal sector (Paul-Majumder et al., 1996). Hence, while length of residence generally has positive effects on economic adjustment among voluntary migrants (Oberai & Singh, 1984; Paul-Majumder et al., 1996), this assertion can not be applied to displacee-squatters.

Taken together, it can be argued that the economic disadvantages and deprivations experienced by displacees constitute as much a threat to their well-being as the pre-disposing natural hazard. Although disaster events may be acutely distressing, it is everyday conditions such as hunger, poor housing, and crowding which often have greater bearing on physical and emotional health. Moreover, in the case of riverbank erosion in Bangladesh, displacement forces the poor into urban centers where, lacking education and skills, they are forced to live in urban squatter settlements as destitutes.

In this study, riverbank erosion and displacement may best be viewed not as discrete geophysical events which supercede daily needs, but as products of a nature-society interface which intensify daily economic and social living problems. This means also that the psychological impact of riverbank erosion is very much a socially-determined process, reflecting both unequal access to opportunities and unequal exposure to risk, and influenced by a number of identifiable socio-demographic variables (including gender, education and age) which make some sectors of society more vulnerable than others.

Gender

Women are generally recognized as being among the most vulnerable persons to the impacts of natural disasters. Women worldwide are more likely than men to be poor, own less than men, work longer hours, and earn less

income (Ahojja-Patel, 1992). As a result, according to Jacobson (1993), "poverty among females is more intractable than among males, and their health even more vulnerable to adverse changes in social and environmental conditions" (p. 4).

In Bangladesh, where society is highly patriarchal, a girl from birth onward is generally regarded as less valuable than a boy, and as an adult is marginalized in both decision-making power and control over resources (Weist et al., 1992). Mahmud (1992) observes that the Muslim practice of *pardah*, or the segregation and seclusion of women, relegates women to a subordinate position of homemaker and child rearer with little opportunity for either socioeconomic mobility or autonomy. This inferior position of women means that they are accorded reduced social status, attain inferior levels of education, and lack equitable access to society's productive resources.

In the event of displacement, women face a variety of social and cultural constraints which limit their capacity to adapt to the demands of migration and urban living. On one hand, the practice of *pardah* increases the likelihood of social isolation and alienation, especially when traditional extended family supports are lost through migration. This means that women are often left alone in the caring and raising of children, usually in impoverished and squalid conditions. The marginalization of families eventually forces substantial numbers of women to seek work outside of the homestead, typically in low paying, menial labour jobs such as earth-cutting and brick-breaking (Hossain, 1992; Mahmud, 1992). This not only increases the daily strain of women, who remain responsible for household chores and child care, but intensifies their sense of socio-cultural and emotional upheaval.

Both the economic and social impacts of displacement upon women have been examined in this study. Although previous research has shown that as many as 30% of displaced women are forced to sell their labour for cash or in kind (Islam, 1996), this is not found in this study. Only 15 or 12.7% of displaced women are found to be involved in non-domestic activities, of which four are working as labourers. This is comparable to the 13% rate of wage employment among non-displacee females.

Although women's involvement in homestead agriculture and other informal income-generating activities is not examined in the present research, the findings suggest that the majority of female activities have been limited to household and child rearing responsibilities. When asked of their occupation, 84% of the displaced women identified themselves as housewives. Interestingly, many of the female displacees informally interviewed complained of feelings of purposelessness and idleness resulting from the loss of such traditional rural activities as horticulture, threshing and husking, and livestock rearing.

The above observation suggests that the loss of traditional agricultural roles by displaced women is a disruptive and distressing experience. Although such activities as horticulture and livestock rearing are typically viewed by social scientists as burdensome and physically taxing to women, one must also recognize these activities constitute deep-rooted socio-economic duties and responsibilities which go towards defining the customary role and place of women in rural Bangladesh. As such, their loss may mean displaced women experience a disruption to their socio-cultural identity, and without alternative activities to fill their time, their days stretch out long and idle.

From a socio-cultural perspective, it is clear that displacement often precipitates a breakdown of the practices of *purdah*. It became apparent during the field survey that displaced women are more visible and less segregated than non-displaced women. This is in part because of the loss of traditional housing and village structures which help maintain the privacy and segregation of women. Nevertheless, almost all displaced women approached were agreeable to being interviewed, and on no occasion refused to speak informally to the investigator. It was also not uncommon for displaced women to approach the investigator themselves with requests to be interviewed, or to invite the investigator to assess their housing and living conditions. This again suggests a disruption of *purdah* practices, as well as a possible hopefulness that participation in the study might have resulted in some form of material compensation.

Despite the approachability shown by women, it may be reasonably assumed that the breakdown of traditional social and cultural aspects of *purdah* may intensify the distress experienced by displaced women. Presumably, this is felt not only in terms of the loss of traditional roles and responsibilities, but in the women's loss of privacy and modesty. Displacement not only means that women are forced to carry out their daily living activities more openly in society, but must face the associated loss of social respect and status for doing so.

Although this assumption is not directly examined in this study, it is of interest to note that a greater proportion of displaced women (25.6%) than males (16.8%) feel the local town's people to be not accepting or even hostile towards them. This is particularly high in the urban tracts where displacees have the greatest contact with locals. Whereas 42.9% the brickyard (N = 21) and 48.6% of the railway females (N = 37) feel unaccepted by the local population, only two of

the embankment and Biara women feel this way ($N = 55$). One might hypothesize that the negative evaluations reported by the urban women may reflect the high degree of social scrutiny which these displacees encounter when forced out of traditional socio-cultural roles.

Interestingly, displaced women do not report having less social support than their male cohorts. About one-third of both the displaced men (33.6%) and women (36.4%) have access to emergency support, $X^2 (1, N = 237) = .208, p < .648$, while about 43% and 50% respectively have a confidante with whom they can share personal thoughts and feelings, $X^2 (1, N = 236) = 1.08, p < .296$. About 30% of the displaced males and 17% of the females feel part of a *samaj*, but the difference is not significant, $X^2 (1, N = 70) = 1.61, p < .204$. Only in relation to loneliness, experienced by about 48% of the men but 73% of the women, is the difference significant, $X^2 (2, N = 236) = 6.59, p < .036$.

In relation to conditions of daily living, however, displaced women have been found to experience the highest level of deprivation, particularly vis-à-vis non-displaced women. As Table 25 shows, significant differences between displaced and non-displaced women are found for each of the five examined variables. Some 72.0% of displaced women are dissatisfied with their living conditions, in comparison to 56.9% of the non-displaced women, $X^2 (2, N = 234) = 8.67, p < .013$. Displaced women also have more persistent worries about the survival of their households, ($X^2 (2, N = 233) = 12.71, p < .001$), while a greater proportion experience hunger ($X^2 (2, N = 234) = 9.41, p < .009$). More displaced women also go hungry on a daily basis (displaced = 30.2%; non-displaced = 24.6%), while fewer rarely go hungry (displaced = 29.7%; non-displaced = 43.1%). These differences are also significant, $X^2 (2, N = 234) = 9.41, p < .009$.

Table 25: Significance of Perception of Hardship by Status and Gender

	Males	Females
Satisfaction	11.90, $p < .002$	8.67, $p < .013$
Survival worries	.508, $p < .775$	12.71, $p < .001$
Hunger	7.47, $p < .023$	9.41, $p < .009$
Health Problems	.704, $p < .703$	5.35, $p < .068$
Stress	1.15, $p < .560$	6.00, $p < .049$

Distribution of Perception of Hardship by Displacement and Gender
(Percentages)

	Male	Female	Male	Female	Male	Female	
Satisfaction	Satisfied		Dissatisfied		Very Dissatisfied		Significance
Displacees	31.1	28.0	51.3	54.2	17.6	17.8	.296, $p < .862$
Non-displacees	46.7	43.1	48.6	49.1	4.7	7.8	1.01, $p < .603$
Survival Worries	Never/rarely		Sometimes		Many times		Significance
Displacees	26.3	12.8	25.4	21.4	48.3	65.8	9.00, $p < .011$
Non-displacees	27.1	25.9	29.0	31.0	43.9	43.1	.119, $p < .941$
Hunger	Never/rarely		Sometimes		Many times		Significance
Displacees	27.1	29.7	50.4	45.8	21.8	24.6	.534, $p < .765$
Non-displacees	43.9	43.1	34.6	26.7	21.5	30.2	2.74, $p < .253$
Health	Never/rarely		Sometimes		Many times		Significance
Displacees	37.0	33.3	35.3	36.8	27.7	29.9	.354, $p < .837$
Non-displacees	42.5	44.8	32.1	37.1	25.5	18.1	1.86, $p < .394$
Stress	Never/rarely		Sometimes		Many times		Significance
Displacees	31.9	22.2	45.4	53.0	22.7	24.8	2.85, $p < .239$
Non-displacees	38.3	32.8	39.3	53.4	22.4	13.8	5.20, $p < .074$

Interestingly, differences between male and female displacees are significant only in relation to survival worries, $X^2(2, N = 235) = 9.00, p < .011$. Some 65.8% of the displaced women report having chronic worries, in contrast to 48.3% of their male cohorts. However, as shown in Table 25, about the same proportion of the men and women are dissatisfied with their living conditions ($X^2(2, N = 237) = .296, p < .862$), experience chronic hunger ($X^2(2, N = 237) = .534, p < .765$), and have poor health ($X^2(2, N = 236) = .354, p < .837$). About one-quarter of both sexes report experiencing chronic stress ($X^2(2, N = 236) = 2.85, p < .239$). These findings seem to suggest that the pervasiveness of poverty and hardship endured by displacees is such that gender differences are at least partially negated. This point is discussed further in the section below.

As hypothesized, displaced females are significantly more likely to be identified as SRQ probable cases than both displaced males, as well as non-displaced females. Almost one-half (46.6%) of displaced females are identified as SRQ cases in comparison to 32.2% of displaced males and 26.7% of the non-displaced females. In terms of their physical well-being, some 29.9% of the displaced but only 18.1% of the non-displaced women report chronic health problems, $X^2(2, N = 233) = 5.35, p < .068$. Significant differences are also found in relation to daily stress, $X^2(2, N = 233) = 6.00, p < .049$. About 25% of the displaced women but only 14% of the non-displaced women report experiencing stress on a persistent basis.

The combined findings indicate that displaced females, particularly in comparison to non-displaced females, endure the highest level of hardship and deprivation, and report the highest level of distress. This confirms previous research which has shown that displaced women constitute a special category of

vulnerable persons with distinct problems, in large because society relegates them to a position of inferiority and dependency (Mutatkar, 1995; Weist et al., 1992). Although minimal living differences are found in this study between the male and female displacees (with the exception of daily household survival concerns), women may be more socially alienated in the urban context. Moreover, one should keep in mind that the economic and hardship measures of this study assess household rather than individual living conditions, and may therefore not provide an entirely accurate depiction of gender differences.

An additional unexpected finding in this study deserving of comment is the lack of discernible difference in SRQ cases between non-displaced males and females. In part, one must acknowledge that this may reflect socio-cultural prohibitions which may have contributed to a reluctance among non-displaced women to disclose personal information, including feelings of distress. These prohibitions may have been less pronounced among displaced women who had experienced at least a partial breakdown of *pardah*.

In summing up, the findings clearly suggest that the economic and socio-cultural disruptions caused by displacement, as well as overall disadvantaged position of women in Bangladesh, heighten the physical and emotional distress among displaced women. Although gender differences in this study may have to some extent been negated by the focus on household rather than individual living conditions, research generally shows that women are more vulnerable than men to the effects of natural hazards and involuntary migration (Bari, 1992; Hossain, 1992; Mahmud, 1992). Among the poor in Bangladesh, manifestations of gender disparity are reflected not only in women's lack of economic and social autonomy, but in measures of health and security. Women typically work more

hours per day than men irrespective of their income class, enjoy less leisure time, and bear the burden of household maintenance and child rearing (Khuda, 1982; Zaman, 1992). Women cook meals but eat last and, in times of scarcity, are expected to sacrifice their share or part of it to the earning members of their household (Islam, 1995). Women, Mahmud (1992) observes, "have to live under a more vulnerable situation (due to natural disasters, illnesses, reproductive failures and desertions), they face a relatively greater degree of insecurity (due to violence such as assault, rape, murder and suicide) than men" (p. 220).

The economic and social segregation of women, combined with a lack of labour skills, also means that the long-term prospects of women remain limited. Educationally, only 13.6% of surveyed displaced women have primary education. In contrast, 19.3% of their male cohorts and 29.3% of non-displaced females and 38.3% of non-displaced males have primary education. As shall be discussed, education can be considered a distinguishing factor in determining socio-economic and psychological adaptation patterns. The low level of education among displacees in general, and women especially, means that their capacity to adapt to change is further hindered.

Education

Education is generally regarded as one of the more important factors in coping and adaptation, both in terms of promoting survival as well as in enhancing quality of life (D'Oyley et al., 1994). In terms of adaptation, education (including literacy) enhances a person's ability to understand and manipulate critical aspects of the modern world, receive and integrate information, and

perceive and problem-solve difficult situations (Brody, 1973; Caldwell, 1979; Schultz, 1975).

Economically, education has been found to be strongly associated with both employment and wage gain probabilities (Preston, 1987; Psacharopoulos et al., 1994). Particularly in urban labour markets, where traditional rural skills are often irrelevant to manpower demands, schooling can provide a person not only with technical/industrial knowledge, but such a basic skill as numeracy which embrace most forms of economic activity whatever the level of sophistication (Noor, 1981). Gindling and Terrel (1995) have estimated that workers with primary education are twice as likely to be minimum wage earners as workers with secondary education. Globally, years of education among low income earners (US\$610 or less) averages 6.4 years, lower middle income (to US\$2,449) 8.4 years, upper middle income (to US\$7,619) 9.9 years, and high income (US\$7,620 or more) 10.9 years (Psacharopoulos, 1994).

In this study, only 16.4% of the displacees and 33.3% non-displacees have completed primary education. Within the displaced sample, only 19.3% of the males and 13.6% of the females have primary level education. About 62% of displaced men and 81% of the women have no schooling at all (Table 26).

These figures are markedly lower than those attained in the 1995 Rural Poverty Monitoring, in which 35% of the males and 34.6% of the females were found to have completed primary education. About 43% and 53% of the respective sexes had never attended school (Bangladesh Bureau of Statistics, 1997). In comparison, 38.3% of the non-displaced males and 29.3% of the females in this study have five years of education; 54.2% and 58.6% no schooling.

Table 26: Distribution of Level of Education by Status and Gender (Percentages)

	Displacees			Non-displacees		
	Male	Female	Mean	Male	Female	Mean
No schooling	62.2%	80.5%	71.2%	54.2%	58.6%	56.5%
Less Primary	14.3	10.2	21.1	12.2	12.9	12.5
Primary	5.9	6.8	6.2	5.6	9.5	7.7
Less Secondary	13.5	2.5	8.6	21.4	15.5	18.2
Secondary	1.6	0	.8	2.8	1.7	2.2
Secondary Plus	2.5	0	1.2	3.8	1.9	2.7

The lower rate of schooling among the displacees may reflect a greater need among the poor to sacrifice their children's education in order to supplement family income through child labour. Although only eleven (14.6%) of the displaced and six (7.3%) of non-displaced households in this study acknowledge having a school age child engaged in wage labour, related research has shown this to be a common survival strategy. A study conducted by Islam (1995) found that some 85% of surveyed displaced households reported having children engaged in unpaid household activities, while almost 40% had children working in wage labour.

In terms of enhancing economic adaptation, the effects of education are most apparent among non-displacees. Whereas non-significant differences are found for four of five economic variables examined between educated and non-educated displacees, each of the five variables are significantly associated with education in the non-displacee sample (Table 27).

Table 27: Distribution of Level of Education and Economic Adaptation (Percentages)

	Educated	Not Educated	Educated	Not Educated	Educated	Not Educated	Significance
Income	Less 30 TK	30-60 TK	Plus 60 TK				
Displacees	17.1%	12.6%	51.4%	64.1%	31.4%	32.2%	2.04, p < .359
Non-displacees	8.2	30.6	41.1	52.4	50.7	17.0	31.4, p < .000
Satisfaction	Satisfied		Dissatisfied		Very Dissatisfied		Significance
Displacees	38.5	27.6	46.2	53.8	15.4	18.6	1.84, p < .397
Non-displacees	70.7	31.8	26.7	60.1	2.7	8.1	30.5, p < .000
Survival	Never/rarely	Sometimes	Sometimes		Many times		Significance
Displacees	23.1	18.8	25.6	22.8	51.3	58.4	.703, p < .703
Non-displacees	42.7	18.2	20.0	35.1	37.3	46.6	16.0, p < .000
Hunger	Never/rarely	Sometimes	Sometimes		Many times		Significance
Displacees	28.2	28.6	59.0	46.2	12.8	25.1	3.23, p < .198
Non-displacees	62.7	33.8	21.3	35.1	16.0	31.1	17.0, p < .000

The findings show that almost three-quarters (70.7%) of the educated non-displacees are satisfied with their living conditions, in comparison to only one-third (31.8%) of the non-educated respondents, $X^2 (1, N = 223) = 30.55, p < .000$. Differences are also significant in relation to survival worries ($X^2 (2, N = 223) = 16.00, p < .000$), as well as hunger ($X^2 (2, N = 223) = 17.00, p < .000$). As shown in Table 27, markedly more educated than non-educated non-displacees have no or a few survival concerns (42.7% in comparison to 18.2%), while almost twice as many rarely go hungry (62.7% in comparison to 33.8%).

In terms of income and amenities, educated non-displacees are three times more likely to report daily incomes of 60 plus TK (educated = 49.7%; not educated = 17.0%), $X^2 (1, N = 220) = 31.45, p < .000$. Similarly, while about 70% of the educated non-displacees have corrugated tin roofing, a latrine and tube-well, only 32.0% of the not educated villagers have these three amenities. Some 67% of the non-educated respondents lack access to both a latrine and tube-well, in contrast to only about 28% of their educated cohorts.

On the other hand, economic differences between educated and non-educated displacees are found to be non-significant for four of the five economic variables. Some 31.4% of the educated and 22.2% of the non-educated displacees are earning daily incomes in excess of 60 TK. Almost as many educated as non-educated respondents report daily survival concerns (51.3% and 58.7%), while the same proportion (28%) are able to meet their food needs on a daily basis, $X^2 (2, N = 238) = 3.23, p < .198$.

Significant differences are found only in relation to living amenities. In this case, 33.3% of the educated but only 15.8% of the non-educated displacees have access to both a tube-well and latrine, $X^2 (1, N = 235) = 6.55, p < .010$.

Differences are also significant in relation to multiple amenities, $X^2(3, N = 235) = 11.81, p < .008$. Educated displacees are almost three times as likely to have the three amenities of tin roofing, a tube well and latrine (educated = 30.8%; not educated = 11.25). However, as many educated as non-educated displacees have none of these amenities (17.9% and 17.3%).

Because the majority of displacees (90%) had been living in Seraganj for less than four years, it is not possible to examine the the long-term economic benefits of having an education. Only 22 displaced respondents have lived in Seraganj for more than four years. However, the lack of difference between educated and non-educated displacees suggests that many displacees have been unable to actualize the advantages of their schooling within the urban context. This in part may be a function of the educated displacees' lower levels of attained education in comparison to their urban cohorts. Of those displacees who have attended school at any level ($N = 68$), 42.6% (29) have completed less than five years. Some 22.1% (15) have completed primary schooling; 30.9% (21) have between 6 to 12 years and only three have more than secondary education. In way of contrast, the 1995 Urban Poverty Monitoring Survey showed that only 28.9% of the urban populace have less than five years. Some 20% have between 6 to 12 years and 22.6% have at least secondary schooling (Bangladesh Bureau of Statistics, 1997).

Displacees may be further disadvantaged by their lack of informal education. A study of squatters in Dhaka City (Paul-Majumder et al. 1996) showed that only 11% of the working population had acquired their skill from formal education or training. In the present study, only 13 or 5.5% of the displacees report having received any form of informal education. In

comparison, 27 or 12.1% of the non-displacees and 17.2% (15) of the municipal sample (N = 87) have received some form of non-institutional training.

The findings suggest that displacees - even when educated - have significant difficulty competing in the urban labour market. Rural Bangladesh retains a highly labour intensive economy where the great majority of the population, and especially the poor, subsist directly as result of their own or their immediate family's physical labour (Hossain et al., 1992). In the urban labour force, the rural migrants' lack of functional skills and lower levels of education means that they are forced into menial, wage labour jobs which offer little opportunity for remuneration.

This study, in addition to assessing the economic impacts of education, has also examined the influence of education on psychological functioning. Research has shown that education can not only facilitate adaptive behavioral coping, but enhances emotional and psychological well-being (Mirowsky & Ross, 1989). Education not only elevates people's ability to perceive, qualify and resolve problems, but increases their sense of personal and environmental control (Mirowsky & Ross, 1989). Persons with higher education have been found to exhibit both lower fatalism and a higher sense of mastery, even after adjusting for employment, minority status, age, marital status, and sex (Bird & Ross, 1993). High personal control, in turn, has been associated with lower levels of psychological distress as well as rates of depression (Aneshenal, 1992; Mirowsky & Ross, 1986; Pearlin et al., 1981).

The findings in fact show that educated respondents are significantly less likely than non-educated respondents to be identified as SRQ cases. Among displacees, 25.6% of the educated but 41.9% of the non-educated respondents are

SRQ cases, $X^2 (1, N = 237) = 3.62, p < .057$. Within the non-displaced sample, educated respondents are also significantly less likely than to be SRQ cases, $X^2 (1, N = 223) = 12.76, p < .000$. Just 12.0% of the educated non-displacees are identified as SRQ cases, whereas 34.5% of the non-educated respondents are identified as such.

Interestingly, education is not found to have a significant relationship with self-efficacy. The only exception is found among non-displacees in relation to problem-solving. In this case, educated respondents are significantly more likely to feel they can consistently solve their daily problems (educated = 29.6%; not educated = 15.5%), $X^2 (1, N = 222) = 3.30, p < .069$. Among displacees, however, the same proportion of non-educated respondents (21.3%) as educated respondents (21.6%) feel they can consistently solve their daily problems, $X^2 (3, N = 324) = .481, p < .785$.

Education also lacks a consistent relationship with perceived life control. About the same proportion of educated and non-educated displacees (74.4% and 65.8%) feel they lack control over their lives, $X^2 (2, N = 2.71), p < .259$. Only about 21% of both the educated and non-educated displacees feel that they are consistently able to solve their problems ($X^2 (2, N = 234) = .481, p < .785$), while one-third (31.6% and 33.5% respectively) feel they are consistently incapable of solving daily problems ($X^2 (2, N = 235) = .056, p < .972$).

A similar pattern is observed among non-displacees. Some 45.9% of the educated and 59.2% of the non-educated respondents feel they lack control over their lives, $X^2 (2, N = 221) = 3.52, p < .172$. Although more educated than non-educated non-displacees feel capable of solving their problems (84.9% in comparison to 69.45), $X^2 (2, N = 213) = 8.57, p < .013$, no significant difference is

found in relation to feeling incapable. About one-third of both the educated and non-educated respondents (33.3% and 29.1%) indicate feeling consistently unable to solve daily problems, $\chi^2(2, N = 213) = .472, p < .789$.

These results suggest that the psychological benefits usually associated with education are negated by the chronicity of the strains encountered by the poor in Bangladesh. According to popular theory, high education attainment sets into motion a self-amplifying process in which better educated persons are more likely to be employed, achieve higher levels of income, and have greater resources to cope with daily strains (Ross & Bird, 1994; Ross & Willigen, 1997). In Bangladesh, however, the poor are deeply mired in a system of economic and social inequities which effectively limits their access to resources and opportunities. Education in this context may have only marginal benefits. Although education can enhance income and living conditions, and reduce daily living strains, it remains insufficient to achieve one's ends absolutely. This means that the educated poor, although better off than the non-educated, remain incapable of escaping poverty.

Age

This study examines both the economic and social implications of aging in relation to displacement. Because of the relatively low number of displaced respondents aged 50 plus years ($N = 28$), this subgroup has been collapsed into the 40-49 age class ($N = 51$) to allow for adequate analysis ($N = 79$). This has similarly been conducted within the non-displaced sample.

In Bangladesh, particularly among the poor and landless, age is generally recognized as a significant factor of vulnerability. Because the wage economy is

labour intensive, older workers are at a distinct disadvantage because they are seen by employers as less productive and physically capable (Dasgupta, 1993). Loss of employability usually means lack of sustenance, which in turn makes the aging worker dependent on extended family and kin to survive.

In rural areas, control of land is an important mechanism in protecting against adversity in old age because it allows parents to control the labour and welfare support of their children (Chaudhury, 1982; Rahman et al., 1992). As such, landlessness has serious consequences for the aged, both because of the associated poverty but also because of the loss of old-age security. Though society expects that aged parents be fed, clothed, sheltered, and otherwise cared for by their children, the degree to which the needs of an elderly parent are met ultimately depends on their sons' economic situation. If there is no land to be divided among children, the level of care provided to aged parents is likely to be limited (Chaudhury, 1982).

This research confirms that age should be regarded as significant factor of vulnerability in relation to natural hazards and displacement, although it appears that displacees of all ages experience considerable hardship as consequence of involuntary migration. As shown in Table 28, only 21.5% of the oldest displacees are satisfied with their living conditions, in comparison to 48.4% of the older non-displacees, $X^2(2, N = 174) = 12.12, p < .002$. As well, only 27.8% of the displacees but 45.3% of the non-displacees aged 40 plus never experience hunger, $X^2(2, N = 174) = 6.64, p < .035$. In terms of basic amenities, 17.9% of the displacees have access to both a tube-well and latrine, whereas 50% of the non-displacees have access to these amenities, $X^2(1, N = 172) = 19.13, p < .000$.

Table 28: Distribution of Economic Adaptation Indicators by Age
(Percentages)

	Displacees	Non- displacees	Displacees	Displacees	Non- displacees	Displacees
Income Level	Less 30 TK		30-60 TK		Plus 60 TK	
Less 30 years	10.5%	23.8%	64.5%	42.9%	25.0%	33.3%
30-40 years	12.5	18.8	62.5	57.8	25.0	23.4
40 plus years	17.1	25.8%	60.5	46.2	22.4	28.0
Hunger	Never/rarely		Sometimes		Many times	
Less 30 years	29.5	48.4	52.6	39.1	21.3	25.0
30-40 years	28.8	35.9	50.0	26.3	30.4	28.4
40 plus years	27.8	45.3	41.8	26.3	30.4	28.4
Satisfaction	Satisfied		Dissatisfied		Very Dissatisfied	
Less 30 years	34.6	46.9	51.3	48.4	14.1	4.7
30-40 years	27.5	37.5	53.8	57.8	18.8	4.7
40 plus years	25.3	48.4	53.2	43.2	21.5	8.4
Survival worries	Never/rarely		Sometimes		Many times	
Less 30 years	24.7	34.4	18.2	25.0	57.1	40.6
30-40 years	19.0	31.3	24.1	35.9	57.0	32.8
40 plus years	13.9	17.9	27.8	29.5	58.2	52.6

Interestingly, among the displacees themselves non-significant differences are found in relation to the economic variables. Some 35% of the younger displacees are satisfied with their living condition, in comparison to 25% of the older displacees. However, this is not statistically different, $X^2(4, N = 237) = 2.53$, $p < .637$. Similarly, about the same proportion of each age group is earning 60 plus TK daily (range = 22.4% to 25.0%), $X^2(4, N = 232) = 1.54$, $p < .819$. About 60% of all displacees (regardless of age) have persistent concerns about how their households will survive from one day to the next ($X^2(4, N = 235) = 3.94$, $p < .413$),

while 21% of the youngest and 30% of the older displacee experience chronic hunger. Again, the difference is not significant $X^2(4, N = 237) = 3.89, p < .421$.

This finding of minimal economic difference between younger and older displacees, despite the latter's diminishing physical abilities, may be partially linked to the high degree of mutual support which displacees retain through their migration. As shown in Table 29, older displacees are not significantly less likely than the younger displacees to lack help during emergencies ($X^2(2, N = 237) = 2.06, p < .356$), to experience greater loneliness ($X^2(4, N = 235) = 1.23, p < .872$), or to lack a confidante ($X^2(2, N = 236) = 1.32, p < .514$). In terms of their relations to local town's people, older displacees are as likely to feel accepted (77.9%) as the youngest group (76.6%) as well as 30-40 year olds (82.1%). These differences are not statistically different, $X^2(6, N = 232) = 1.21, p < .976$.

Table 29: Distribution of Social Adaptation Indicators by Age (Percentages)

	30 or less years		30-40 years		40 plus years	
	Displacees	Non-displacees	Displacees	Non-displacees	Displacees	Non-displacees
Has Confidante	41.6%	73.7%	47.5%	58.5%	50.6%	43.6%
Can count on help	32.1	48.4	41.3	32.8	31.6	36.2
Rarely lonely	37.7	35.1	41.8	33.3	41.8	25.5
Sometimes lonely	45.5	62.2	39.2	50.0	44.3	52.7
Many times lonely	16.9	2.7	19.0	16.7	13.9	21.8
Feels very accepted	18.2	N/A	23.1	N/A	22.1	N/A
Feels accepted	58.4	N/A	59.0	N/A	55.8	N/A
Feels not accepted	13.0	N/A	10.3	N/A	11.7	N/A
Feels part of <i>samaj</i>	9.5	N/A	28.0	N/A	29.2	N/A

Despite this relative uniform pattern of adaptation, it appears that older displacees are nonetheless vulnerable to the effects of displacement. Physically speaking, older displacees (and non-displacees) report more health problems than their younger cohorts. Only 23% of the older displacees and 31.6% of their non-displaced cohorts report having good health, while 38.5% and 33.7% indicate having chronic health problems which interfere with daily activities. These differences are not significantly different, $X^2(2, N = 173) = 1.55, p < .460$. In contrast, however, 43.6% of the displacees aged 30 or less years report good health, while only 24.4% report poor health. Among non-displacees, 55.6% report good health and merely 12.7% poor health. The age-related differences are significant for both displacees ($X^2(4, N = 236) = 9.37, p < .052$) and non-displacees ($X^2(4, N = 222) = 17.28, p < .001$).

Table 30: Distribution of Health and Age (Percentages)

	No problems		Some problems		Many problems	
	Displacees	Non-displacees	Displacees	Non-displacees	Displacees	Non-displacees
Health	No problems		Some problems		Many problems	
Less 30 years	43.6%	55.6%	32.1%	31.7%	24.4%	12.7%
30-40 years	37.5	50.0	38.8	37.5	23.8	12.5
40 plus years	23.1	31.6	38.5	34.7	38.5	33.7
Stress	Never/rarely		Sometimes		Many times	
Less 30 years	24.7	45.3	54.5	45.3	20.8	9.4
30-40 years	23.8	34.4	55.0	53.1	21.3	12.5
40 plus years	31.6	29.5	39.2	43.2	29.1	27.4

Psychologically, age is also found to be a significant determinant of distress among both displaced and non-displaced respondents (Table 30). Among displacees, 57% of the oldest respondents are identified as SRQ cases, in comparison to about 30% of their younger cohorts, $X^2(2, N = 236) = 16.33, p < .000$. Among the non-displacees, 38.9% of the older respondents have been identified as probable cases, in comparison to 21.9% of the middle aged and 14.1% of the youngest displacees, $X^2(2, N = 23) = 13.19, p < .001$. In terms of daily stress, a significantly higher proportion of older non-displacees experience stress on a persistent basis, $X^2(4, N = 223) = 11.96, p < .017$. However, differences are not significantly different among the displacees, $X^2(4, N = 236) = 5.11, p < .275$.

Although a clear adjustment pattern has not been established in relation to age, particularly in terms of economic and social measures, one should not conclude that age does not exert a strong influence on coping and adaptation processes. In fact, old displacees show the highest level of distress, with over one-half (57%) being identified as SRQ cases. This is significantly higher than the proportion of older non-displacees (40%) identified as SRQ cases, $X^2(1, N = 174) = 5.61, p < .017$. In terms of explanation, one can assume that advancing age gradually erodes physical capacities of the poor, and places them at increasing disadvantage vis-à-vis younger workers, particularly in the urban labour market. Although economic necessity forces the majority of older persons in rural Bangladesh to continue working as long as they are capable, they are usually able to do this because agricultural activities can be readily adapted to their diminishing abilities (Ai Ju & Jones, 1989). This is not the case in urban markets, where division of labour puts emphasis upon the individual rather than family or community, and particular value is placed on productivity.

As well, the migration experience tends to be considerably different for the young and elderly, with older persons experiencing greater socio-cultural loss and disruption. The older migrant is not only confronted with the task of relinquishing strong emotional ties to his/her homestead and community (*samaj*), but may experience both greater interference with accustomed patterns of life and difficulty in adjusting to new roles and expectations than younger persons (David, 1969). Whereas younger migrants often see change as an opportunity to achieve a more satisfactory life, older displacees are more likely to view themselves being too old to rebuild their lives. Additionally, their diminishing physical and intellectual skills not only makes employment more difficult, but can have substantial impact upon the older person's sense of well-being, leading to a strong sense of vulnerability, marginality, demoralization and depression (Weiss, 1989).

Although the socio-cultural aspects of displacement and aging are not directly examined, it is relevant to note that older displacees are particularly effected by the loss of their land, as measured by hopefulness of eventual return, $X^2(4, N = 237) = 11.76, p < .019$. Only 32.9% of the older displacees have remained hopeful of regaining their land, in comparison to 37.5% of displacees aged 30-40 years and 48.7% of those aged 30 years and less. Over one-half (53.2%) of the older displacees have given up all hope, relative to 40% of the middle aged and 26.9% of the youngest displacees. Keeping in mind that hopefulness is a significant determinant of psychological distress, this finding suggests that the elderly may be especially affected by the psychological impact of displacement.

In summary, then, one can reasonably postulate that aging increases the strains associated with involuntary migration. Although this may to some extent be mitigated by the strong supportive network which displacees retain, the prospects of declining health and economic viability serve as significant stressors. As well, it can be expected that advancing age makes the prospect of eventually returning to one's land ever less likely, thus heightening the psychological impact of displacement and increasing older displacees' level of psychological distress.

Psychological Coping Processes

An integral part of this study is the examination of psychological coping processes among displacees. Although both acuteness and chronicity of stressors are prime determinants of psychological distress, people vary considerably in their propensities to respond adaptively to stress. Both the manner in which individuals perceive and interpret stressors, and the coping strategies which they use to relieve the associated stress, are important elements in determining psychological distress.

Because displacees are compelled to migrate by circumstances beyond their personal control, it had been expected that these respondents might demonstrate lower levels of perceived personal control. This is not found. As reported in the previous chapter, the majority of both displacees (89.9%) and non-displacees (83.8%) indicate having minimal control over their daily lives, with about 97% of all respondents believing that their futures depend mainly on Allah. In terms of solving daily problems, about the same proportion of displacees and non-displacees (52.6% and 55.9%) feel that they are only

sometimes capable of solving their problems. About one third (33.1% and 30.5% respectively) indicate that they feel consistently incapable of solving their problems.

It had also been expected that gender would have a significant interaction effect, given the marginal position of women in Bangladesh society. Although differences can be observed between men and women, they have not been found to be significant (Table 31). For example, 68.9% of displaced men and 65.3% of the women feel they do not have control over their lives, $X^2(2, N = 237) = .393$, $p < .821$. About 21% of both men and women feel consistently capable of solving their daily problems ($X^2(2, N = 233) = 2.64$, $p < .266$), while between 27% and 40% feel incapable of problem-solving. However, this difference is not significant, 68.9%, $X^2(2, N = 234) = 4.42$, $p < .109$. Only in relation to decision-making are significant differences found, $X^2(2, N = 231) = 12.10$, $p < .002$.

A similar pattern is found among non-displacees. About 50% of the men and 60% of the women report lacking control over their lives ($X^2(2, N = 221) = 1.68$, $p < .430$), while 29% and 32% are able to resolve daily problems ($X^2(2, N = 213) = .580$, $p < .747$). Non-significant differences are also found in regards to feeling incapable ($X^2(2, N = 213) = 2.71$, $p < .257$), as well as decision-making ($X^2(2, N = 213) = 1.35$, $p < .508$).

The influence of these perceptions of control have been examined in relation to psychological health. According to conventional psychological theory, self-efficacy and personal control are usually associated lower levels of distress. In this study, perception of control is not significantly associated with SRQ cases. Although SRQ cases differ between displacees who indicate that they have considerable versus minimal control over their daily lives (29% in contrast to

40%), the difference is not significant, $X^2 (2, N = 237) = 1.14, p < .565$. As well, displacees who feel they are consistently able to resolve their daily problems are as likely to be SRQ cases as displacees who rarely feel capable (40% and 41%), $X^2 (2, N = 233) = .109, p < .946$.

Table 31: Distribution of Self-Efficacy Perceptions by Gender and Age (Percentages)

	Displacees				Non-displacees			
	Male	Female	Mean	SRQ	Male	Female	Mean	SRQ
Future depends on Allah	96.6%	99.2%	97.9%	N/A	94.3%	99.1%	96.8%	N/A
Personal Control								
No control	68.9	65.3	67.2	40.3	50.5	58.8	54.8	29.8
Some control	21.8	23.7	22.7	40.7	30.8	27.2	29.0	21.9
Much Control	9.2	11.0	10.1	29.2	18.7	14.0	16.3	25.0
Decision-making								
Never/rarely	14.8	29.3	22.0	36.0	16.3	18.3	17.4	40.5
Sometimes	45.2	49.1	47.4	41.8	56.7	61.5	59.2	23.0
Many times	40.0	21.6	30.6	36.6	26.9	20.2	23.9	20.0
Can problem-solve								
Never/rarely	21.4	30.2	26.1	41.0	19.4	29.1	24.4	30.8
Sometimes	57.3	48.3	52.6	38.5	59.2	52.7	55.9	26.1
Almost always	21.3	21.5	21.3	40.0	21.4	18.2	19.7	19.0
Can not problem-solve								
Never/rarely	23.7	17.2	20.9	44.9	17.3	19.3	18.3	33.3
Sometimes	49.2	43.1	46.0	29.0	53.8	48.6	51.2	22.0
Almost always	27.1	39.7	33.1	48.7	28.9	32.1	30.5	27.7

A similar pattern is found among non-displacees. SRQ cases are comparable between respondents who indicate having no versus considerable control over their lives (29.8% and 25.0%), $X^2 (2, N = 221) = 1.39, p < .498$. Although non-displacees who feel consistently able to resolve their daily problems are less likely to be SRQ cases than those who rarely felt capable (19% in comparison to 30.8%), the difference is not significant, $X^2 (2, N = 213) = 1.67, p < .433$.

These findings suggest that the concept of personal control should be viewed within the socioeconomic and cultural context of Bangladesh, rather than from a Western perspective which tends to associate low self-efficacy with heightened distress (Folkman, 1984; Wheaton, 1980). In Bangladesh, the rural poor have minimal opportunity to improve their living circumstances. This population is not only mired in dependent socio-economic relationships which limit access to land and other resources, but lacks sufficient education and alternative occupational skills which might otherwise promote individual initiative and potential. This means the vast majority of the poor are constrained to menial, low paying employment which provides for little more than subsistence living. Within this context, the perception of powerlessness among the poor is in fact reflective of their personal and life circumstances.

This is consistent with previous findings reported by Haque (1988). In explaining the tendency among displacees to attribute riverbank erosion to the will of Allah, Haque argues that this actually reflects a belief among displacees that the domain of natural hazards is out of their hands. In semi-feudal, semi-capitalist societies like Bangladesh, in which large numbers of poor lack economic, legal and political entitlements, the majority of poor remain without

means to mitigate extreme natural events, and hence tend to favor reparative action. Under such circumstance of relative helplessness, people are likely to accept the "inevitable as inevitable", or as in the case of Bangladesh, as the "will of Allah" (Ittelson et al., 1974).

Consistent with this perception of powerlessness is the overwhelming tendency among the poor to rely on religion to cope with hardship and deprivation. In this study, the most frequently type of coping response habitually used across both samples is religion, reported by 96.2% of the displacees and 93.7% of non-displacees. In rural Bangladesh, the religious belief system (i.e., Islam) is intricately woven into daily life and provides the poor with a meaningful explanation for their poverty and marginalization. Allah is seen as life, the creator and destroyer, and Allah alone makes men rich and poor.

Religion in this context can be likened to the coping mechanism of reappraisal. Reappraisal is a cognitive process by which people reduce feelings of distress arising from a situation (usually resistant to change) by modifying their own perception of the circumstances so that the situation can be more positively interpreted (Mikulincer, 1994). This perception of life presumably allows the poor to conceive their impoverishment and deprivation in a meaningful and therefore more palatable context.

The lack of perceived life control and reliance on religion, however, does not mean that the poor in Bangladesh are mired in a culture of fatalism and helplessness. In more traditional societies, spirituality and strong religious beliefs are an important coping strategy, and enable people to survive immensely adverse circumstances (Mocellin, 1993). In the context of Bangladesh, the rural poor must exert considerable perseverance and determination simply to survive,

especially when confronted by loss of land and other natural calamities. In this study, fatalism is in fact found to be among the least utilized forms of coping, with only 23.7% of the respondents frequently using fatalism to cope. Contrary to expectations as well, displacees are not more fatalistic than non-displacees (displacees = 20.5%; non-displacee = 26.9%), $X^2(1, N = 207) = .717, p < .396$. In fact, displacees are found to be significantly more likely than non-displacees to engage in planning (displacees = 35.2%; non-displacees = 25.0%), $X^2(1, N = 418) = 5.20, p < .022$, as well as in problem-solving (displacees = 27.2%; non-displacees = 18.9%), $X^2(1, N = 454) = 4.32, p < .037$.

Overall, however, little variability is found in relation to coping strategies. Among displacees, scores of seven of the nine coping dimensions (excluding religion) range from 27.2% (problem-solving) to 35.2% (planning). The two exceptions are focusing on emotions (19.2%) and fatalism (21.1%). Among non-displacees, seven of nine coping scores range from 23.6% (reappraisal) to 27.8% (instrumental support), the exceptions being focusing on emotions (29.9%) and problem-solving (19.1%). In regards to the self-reported ways of coping, both displacees and non-displacees tend to cope most frequently through avoidant activities (45% and 53% of all responses), followed by seeking social support (30.3% and 21.2% respectively).

Again, the commonly employed coping strategies of avoidance and seeking of social support should be interpreted within the context of Bangladesh. Although avoidance is typically considered a passive, maladaptive coping response in Western psychology (Mikulincer, 1994; Smith & Strube, 1991), it can have benefits in adverse circumstances where people are relatively helpless to alter their situation. In such cases, day dreaming, sleeping, and engaging in

distracting activities can relieve feelings of distress by allowing people to escape (even temporarily) the harsh conditions which they must endure (Roth & Cohen, 1986). Similarly, seeking social support should be viewed as a natural coping response, especially in highly social societies such as rural Bangladesh where survival depends on mutual assistance and support. Apart from obvious instrumental benefits, Mocellin (1993) observes that "small talk" often serves as an important source of informal counseling and means of finding social and emotional comfort.

Findings concerning the relative effectiveness of coping strategies are not conclusive. Only avoidance is found to be consistently related to SRQ scores across both samples. This perhaps reflects both the degree of hardships encountered by these copers, as well as the fact that avoidance activities offer only temporary respite from stress, while leaving the precipitating circumstances unchanged (Mikulincer, 1994). In this study, both displacees and non-displacees who frequently avoid thinking about their problems are significantly more likely to be identified as SRQ cases (55.4% and 35.9%), relative to respondents who only occasionally avoid (displacees = 31.3%; non-displacees = 22.5%). Social avoidance is also found to have a significant impact among both displacees and non-displacees, with frequent copers (50.0% and 46.0% respectively) more likely to SRQ cases than occasional copers (33.8% and 21.5%). Among non-displacees only, SRQ cases are significantly higher among respondents who frequently engage in reappraisal (frequent = 43.1%; occasional = 20.7%), as well as those who focus on their emotions (frequent = 52.5%; occasional = 18.8%).

The varied results stemming from the two samples makes it difficult to draw firm conclusions from the data, particularly in regards to the effectiveness

of different coping strategies. In terms of overall coping habits, however, one might tentatively argue that displacees demonstrate more active coping (planning and problem-solving) because of the greater number of difficulties they face. That is, the loss of resources combined with the intensification of daily privations resulting from involuntary migration means that displacees, vis-à-vis non-displacees, are more often forced to seek out alternative strategies and solutions in order to survive.

However, the use of active coping behaviours does not necessarily mean that the associated psychological distress is reduced. As previously reported (see Table 23), SRQ cases are not lower among either the displacees or non-displacees who habitually engage in planning and problem-solving behaviours. Among the displacees, about the same proportion of SRQ cases are found among both frequent and occasional planners (40.5% and 37.2%), as well as among frequent and occasional problem-solvers (38.1% and 39.4%). Among non-displacees, about 39% of both the frequent and occasional planners are identified as SRQ cases, while 32.8% of frequent and 24.6% of the occasional problem-solvers are found to be SRQ cases. Overall, the lowest proportion of SRQ cases (22.2%) is found among non-displacees who are habitually fatalistic, that is, who just accept that they can not change their situation.

This finding suggests that focusing on non-amenable problems through problem-solving efforts may in fact be detrimental to psychological health, causing feelings of helplessness and higher levels of distress. This may also be discerned from the high number of non-displacee SRQ cases associated with the tendency to focus on feelings of distress, $X^2(1, N = 136) = 15.72, p < .000$. Over one-half of the non-displacees (52.5%) who frequently focus on their feelings

when faced with problems are identified as SRQ cases, in contrast 18.8% of the non-displacees who cope this way occasionally. This tends to be consistent with research which has shown that rumination generally heightens both emotional distress and the need for emotional management. This in turn is linked to more negative and depressed mood (Hanson et al., 1992; Nolan-Hoeksema & Morrow, 1991).

Considering the findings, it is important to view coping mechanisms and the related factors contextually. Here, it is in the context of Bangladesh, rather than from a Western psychological perspective. This is particularly significant in interpreting the high incidence of powerlessness and tendency to respond to problems through avoidance. Although the vast majority of poor may believe that they lack control over their lives, this reflects both religious beliefs (i.e., deference to Allah) as well the fact they are mired in poverty with little opportunity to improve their circumstances. The poor in Bangladesh are in actuality relatively powerless to resolve many of their daily problems given the prevailing economic and social realities.

However, this does not mean the poor are unmotivated or dependent. The poor work extremely hard as labourers and rickshaw pullers to eke out a marginalized level of life. Faced with continuous hardship, survival requires immense determination and continuous perseverance. At the same time, however, the poor must find ways of coping which allow them to escape or at least mitigate the chronic strains and worries associated with poverty. When confronted by problems which are not amenable to change, diversionary activities such as sleeping, talking to others, or engaging in traditional handicrafts, can be adaptive responses. Although these activities may not

diminish the actual stressor, they allow people to divert their attention to less harsh aspects of life. This manner of coping, rather than stymieing initiative and motivation, should be seen as one of few ways with which the poor can cope with the daily grind of impoverishment and marginalization.

Summary

In summing up, it seems clear that human responses to natural hazards, both in Bangladesh and elsewhere, can not be understood solely within a ecological-behavioural perspective (which views extreme geophysical events as *a priori* phenomenon for analysis). In this study, it has been shown that erosion-induced displacement is a consequence of an interface between physical events on one hand (flooding and riverbank erosion), and conditions of human vulnerability on the other (impoverishment and marginalization). Moreover, human responses to natural hazards are very much determined by prevailing economic and social conditions, which both determine response opportunities and constraints while giving form to everyday life.

In Bangladesh, where riverine hazards are endemic and recurring, it seems evident that a substantial disaster subculture has emerged which determines both physical and psychological responses to the flooding and erosion. The present research clearly reveals that displacees do not perceive erosion as an extraordinary threat to their existence, but rather as a recurring natural phenomena which is responded to through well-established coping practices, (for example, dismantling of housing and moving to safer ground). Riverbank erosion becomes a threat only when the poor are forced into urban areas where they are unable to re-establish their former livelihoods.

Moreover, riverbank erosion is often perceived to be less of a threat to the displacees' existence than the continual and more immediate stresses of simply surviving, particularly among the poor and landless. In this study, the commonly hypothesized factors such as loss of land and frequency and duration of displacement are not significantly associated with distress levels. However, among both displacees and non-displacees, chronic survival concerns, daily hunger, and marginal living conditions are found to be predictive factors of psychological distress. These findings suggest that the enduring living needs associated with poverty place greater physical and psychological strain upon the poor than less the pervasive but more acute impacts related to riverine hazards.

Finally, the way in which people respond to both natural hazards and daily problems is very much a function of indigenous social, economic and cultural conditions. In societies such as Bangladesh, where the marginalized and poor lack control over basic economic and political mechanisms, psychological assumptions based on Western points of view of personal control and mastery may often be socially and culturally irrelevant. Indeed, the poor often have little choice but to respond to natural hazards (and daily demands) in a reparative manner and, lacking access to opportunities to effect change, accept their relative powerlessness as an abiding feature of life. Contextually, then, human perception, coping and adaptation is best understood when related to societal structures which determine patterns of everyday life and existence. Moreover, it is peoples' relations within these structures which not only determines their level of vulnerability, of what they can and can not do in response to natural hazards, but shapes the manner in which they view and interpret changes in their environment.

Chapter IX

Conclusions and Implications

The purpose of this study is to examine the psychological implications of riverbank erosion-induced displacement of people in Bangladesh. It has attempted to not only assess the impact of riverine hazards and displacement upon mental health, but also to integrate into a socio-structural framework the process by which people cope and adjust to adversities of involuntary migration.

In Bangladesh, riverbank erosion is among the most devastating of natural hazards. Each year riverbank-induced erosion removes hundreds of kilometers of riverbank and affects over a million persons (Rogge & Elahi, 1988). The impact of erosion is particularly acute in densely populated rural areas where land is the essential resource for securing employment and income. Today, about two-thirds of Bangladesh's population derives its livelihood from agricultural activities (Bangladesh Bureau of Statistics, 1998). For the poor, whose land holdings average less than one acre (i.e., 0.8 acres), even the loss of a small segment of land can generate disastrous impacts.

This chapter discusses the need for undertaking a socio-structural perspective in disaster management approaches. Riverine hazards in Bangladesh have been addressed primarily through engineering-structural measures, with little consideration of the underlying causes of human vulnerability. Although these measures are clearly essential in mitigating the impacts of riverine hazards, it is also important to remain mindful that the manner in which people respond to natural hazards is very much determined by prevailing socioeconomic

resource relationships, as well as micro-level characteristics as age and gender. In addition, human perception and behavior is substantially influenced by socio-cultural and psychological processes, which serve to provide people with meaning and strength during times of adversity. As such, it is important that disaster management as well as academic research be integrated into a holistic perspective, which takes into account the varied phenomena which interact to determine human responses to natural calamities.

For purpose of clarity, the chapter has been divided into four sections: Implications to Understanding Psychological Impacts and Coping Strategies; Policy and Disaster Management Decision-Making Implications: An Interdisciplinary Perspective; Poverty and Marginalization: Integrating Human Development into Disaster Management Policy; and Conceptual and Research Implications.

Implications to Understanding Psychological Impacts and Coping Strategies

The findings of this study clearly show that displacement has a profound human impact. Almost 40 percent of the displacees have been identified as experiencing poor mental health, in comparison to about 27 percent of the non-displacees. It is important to observe, however, that it is the impact of increasing impoverishment, rather than the loss of land and displacement per se, which is most predictive of psychological distress.

Conventional psychology typically views natural hazards and disasters as extraneous, discrete events which overwhelm normal coping mechanisms, and lead to acute stress disorders such as the posttraumatic stress disorder (Gleser et., 1981; Lima, 1986). Although research has demonstrated that rates of PTSD

increase with the magnitude and severity of events (Staab et al, 1999), caution should be taken in assuming that disasters are universally traumatic. In cases where hazards are endemic and recurring, and particularly when onset is gradual and without immediate threat to life, hazards may become integrated components in the coping mechanisms and adjustment processes of communal life (Alexander, 1993).

In this research, only one of four displacement variables (hope of regaining land) is significantly related to SRQ scores among the displacees. In contrast, three of the five economic variables are positively associated with SRQ cases (living satisfaction, survival concerns, and hunger). The hypothesized factors of land loss and duration and frequency of displacement are not found have a significant association with SRQ cases. Among the non-displacees, each of the economic variables are significantly related to SRQ cases, in addition to the factors of income and living amenities

These findings suggest that populations living in erosion prone areas become adjusted to riverine hazards, both physically and psychologically. In this study, almost 40 percent of the displacees have been displaced 3 to 4 times, while one-third have been displaced 5 to 10 times. Nevertheless, only about ten percent of the displacees had expected their most recent displacement and just 17 percent had viewed riverbank erosion as a serious problem. This is in marked contrast to the non-displacees who had not been fully exposed to the experience of erosion and consequent displacement. Some 95 percent of these respondents view riverbank as serious problem while 80 percent have persistent worries about it.

As explained earlier, the rural poor under normal circumstances cope with erosion by relocating to safer ground where they survive by exchanging cheap

and bonded labour for free-use right of land or share cropping privileges (Baqee, 1998). Riverbank erosion appears to become a perceived threat, and particularly distressing, primarily when people are forced to relocate to urban areas which may not permit the re-establishment of their livelihoods and life styles. This does not imply that the daily stressors of rural impoverishment do not have a profound impact upon psychological well-being: almost one-third of the rural non-displacees were in fact identified as SRQ cases. However, displacement both intensifies impoverishment and contributes to considerable socio-cultural disruption. As shown in the present study, psychological distress is in fact highest in communities which bear the least semblance to traditional village structures and life style, namely the brickyard and railway tracts. Around one-half of these displacees are identified as SRQ cases, or in probable need of mental health assistance. In comparison, only one-third of the embankment displacees and 20 percent of the Biara respondents, both living in a more rural landscape along the Jamuna River, are found to be SRQ cases.

In addition to determining patterns and predictors of psychological distress among displacees, this research has attempted to identify ways by which displacees cope with daily demands of living. Conventional Western thought tends to associate poverty and marginalization with fatalism and resignation (Baqee, 1988; Mirowsky & Ross, 1989; Somjee, 1991). It was therefore hypothesized that displacees would demonstrate more passive ways of coping than non-displacees. This has not been found. Displacees in fact engage in planning and problem-solving efforts more often than non-displacees, most likely because of the heightened difficulties they face.

These findings suggest that Western conceptualizations of coping and adjustment, as well as poverty and marginalization, can not be uniformly imposed on divergent cultures and societies. Rather, these processes must be considered within the economic, social and cultural milieu in which they occur. In the case of Bangladesh, the relative powerlessness of the marginalized poor reflects deeply entrenched socioeconomic inequities which severely limit self-determination. Similarly, the perceived powerlessness among the poor reflects not resignation and passivity, but a realistic perception of their position vis-à-vis dominant resource relationships. In this context, their reliance on religion to cope provides a interpretation to their impoverishment and sufferings (as the "will of Allah"), and should be considered as a culturally and psychologically adaptive way of reducing levels of distress (Rogler & Cortes, 1993).

In terms of disaster management policy, it is important to recognize that the ways people respond to their environments and adjust to adversity is in great part a function of the way they view themselves vis-à-vis these physical forces. Fabrega Jr. (1983) has observed that however productive the Western scientific perspective may be in generating knowledge and technological solutions, it remains only one of many cultural perspectives and is vastly different from those held by non-western societies. Each culture has its own indigenous psychology and particular 'world perspective' through which its people perceive and react to events around them (Kleinman, 1987; Shweder, 1985). This perspective transcends single, specific issues and generally includes its own reserves of knowledge, patterns of behavior, and styles of adaptation and change which shape the manner in which people organize reality, create new social

arrangements, and resolve difficulties and problems (Guiness, 1992; Kleinman et al., 1978).

To affect change, then, it is important that disaster managers and planners identify not only physical and economic vulnerabilities, but also the unrecognized resilience retained by peoples affected by natural calamities and impoverishment. In many non-western societies, these capacities may sometimes be in marked contrast to Western approaches to development, which typically prize individualism, self-reliance, and self-initiated actions as avenues for solving problems and attaining a more productive level of functioning (Fabrega Jr., 1983). More typical patterns of adaptation in Southern societies, and as shown in this study, are 'socio-centric' processes based on collective needs and collective self-definitions (Triandis, 1996). Difficulties in this context are conceived and mediated by what takes place between a person and his/her family and community, and shaped by a whole set of socio-cultural attributions (supernatural, religious and spiritual) that give people collective ways of adjusting to life experiences (Summerfield, 1996).

These findings emphasize the need to integrate into disaster management a strong socio-structural component. Although poverty in Bangladesh is not a direct product of natural hazards, it is a determining element of vulnerability and has substantial impact upon the capacity of people to recover from catastrophic events (Haque, 1997). Furthermore, poverty and its associated resource relations are critical in determining what people can and can not do in response to both natural hazards, as well as in relation to the daily living issues which underlie vulnerability. In addition, the strains associated with poverty can have a direct bearing on a person's capacity to interact with disaster

management initiatives, particularly when distress is manifested in demoralization, loss of motivation, and physical and emotional health problems. To this end, it is critical that disaster management planning takes into account not only the economic and social relations which make people vulnerable, but also the processes by which people perceive, cope and adjust to adversity.

Policy and Disaster Management and Decision-Making Implications: An Interdisciplinary Perspective

This research has shown that natural hazards and disaster management planning can not be viewed simply in terms of extreme geophysical processes. Rather, natural hazards should be seen as a complex interface between natural and social affairs in which "activities of daily life comprise a set a points in space and time where physical hazards, social relations, and individual choice converge" (Blaikie et al., 1994, p. 13). This approach, Blaikie et al. advance, "puts the main emphasis [of natural hazards] on the various ways in which social systems operate to generate disasters by making people vulnerable" (p. 11).

Although research has shown that flood plain inhabitants in Bangladesh have adopted mechanisms to cope and adjust to the impacts of riverine hazards (Haque, 1997; Rogge & Elahi, 1989; Zaman, 1988), this does not suggest that people do not pay a high cost due to disasters. Specific policies and programs should be formulated and implemented to address these aspects. In Bangladesh, the poor are vulnerable both in their lack of preparedness (level of protection) as well as in their marginal livelihoods and resilience. In this study, one-third of the displacees had lacked farming land altogether, while 40 percent had held less than 0.01 to 2.50 hectares. This is consistent with previous research which has

shown that upwards of 40 percent of displacees are functionally landless, while an additional 35 percent own or work only an acre of cultivable land (Rogge & Elahi, 1989).

The effects of landlessness and poverty, additionally, are self-amplifying in nature. Relative to rural displacees who regain access to land, displacees who subsist as squatters have higher rates of illiteracy and unemployment, are more dependent upon casual day-labour employment, and have more marginal incomes and an almost total absence of assets (Rogge & Elahi, 1989). In the present study, for example, over 90 percent of the working male displacees are involved in physical labour activities, significantly exceeding the average rural and urban rates of approximately 75 percent and 40 percent respectively (Bangladesh Bureau of Statistics, 1998).

Despite the economic and social costs of riverbank erosion-induced displacement in Bangladesh, a comprehensive public policy on riverbank erosion management, prevention and mitigation issues has yet to be developed (Chowdhury, 2000; Haque & Zaman, 1994). At present, the Water Development Board administers the planning and management of riverine hazards in Bangladesh, and is inclined towards engineering-structural responses. Moreover, while the Disaster Management Bureau was initiated in 1993 to administer emergency and post-disaster assistance, its activities are largely confined to cyclones and tidal surges (Haque, 1997).

As research clearly shows, there is little question that much can be done to improve the plight of displacees – from education in loss reduction measures to timely assistance to promote recovery when displaced. Rogge and Elahi (1989) found that only two percent of almost 2,000 displacees had received advice from

any level of government on precautionary or loss-reduction measures. Although this is not directly assessed in this study, the need to develop riverine hazards education in Bangladesh is clear. Prior to their displacement, only about 17 percent of the displacees had believed riverbank erosion to be a serious problem and just one in ten thought they would eventually be displaced. Less than seven percent reported receiving any form of official assistance following their displacement.

A critical component to this process is the sensitizing of government and local administrators to the needs and issues of displacees. Politically, the poor remain marginalized, both because of their poverty but also because their level of education and illiteracy limits their ability to mobilize existing legislative and institutional machinery (Elahi & Rogge, 1990). Government bureaucracy and channels of communication are often poorly understood and difficult to mobilize, with the result that the needs of the poor are largely muted. Additionally, local administrators often view the poor and displacees especially as backward and unmotivated, fostering an adversarial relationship which isolates and further marginalizes urban squatter communities. Indeed, the plight of displacees is often perceived to be somehow self-induced, and that less complacent, more motivated and educated persons would have overcome such circumstances.

To this end, disaster management and planning can be substantially enhanced by integrating a strong socio-structural perspective which recognizes human vulnerability as a principal factor in the mitigation of natural hazards. In rural Bangladesh, for example, it is estimated that medium and large landowners - which comprise only seven percent of the households - retain almost 70 percent

of the land (Bangladesh Bureau of Statistics, 1997). This means that vast numbers of rural poor are forced onto unsafe lands which are prone to heavy flooding and riverbank erosion. To be effective, then, disaster management planning must not only focus on technological and structural measures which enhance flood forecasting, preparedness and recovery, but address associated socioeconomic and political relationships which make people vulnerable to natural hazards. In this regard, Haque (1997) has written:

“The introduction of disaster mitigation policies must take into account the sociopolitical structures that are in place; there exists a small, elite section that controls large tracts of land and holds the less fortunate and newly dispossessed in bondage. The relatively skewed distribution of land, along with the manipulation of land ownership during erosion and reemergence, underscores the call for formulating serious land reform policies. The confinement of such land reform policy to the legal sphere alone would immensely jeopardize its effectiveness. Participation of the rural disadvantaged social sections in decision-making and administering the execution of policy is necessary” (p. 315).

In this context, disaster management becomes an inclusive and democratic process, as much oriented to human development as it is to natural hazards prevention and mitigation. This can be likened to the Nature and People Process (NAPP) framework proposed by Haque (1997) which “advocates a balanced treatment of people’s construction of society and the influence of social structures upon them, a balance which questions the established view of outright dualism between nature and man” (p. 20). In the case of disaster management in Bangladesh, this means that technological projects must be balanced with

efforts to remediate the prevailing economic, social and political inequities, which underlie the vulnerability of the rural poor.

Disaster management in this context takes on a human developmental perspective, one in which the majority rather than the minority of persons enhance their capacities to withstand the impacts of riverine hazards. As such, both rural poor and displacees must be recognized as an increasingly permanent feature of the urban landscape, with citizen rights and obligations to participate in the political, economic and social activities of society. For this to occur, policy and decision-making mechanisms must become less susceptible to being vehicles of local authorities and elites, and more responsive in promoting constituency building and lobbying among the poorest and most vulnerable. At the same time, disadvantaged segments of society should be actively mobilized as collective interests groups which can effectively participate in and demand accountability of public practices.

The ultimate goal of development in this context may be seen as putting "people back at centre-stage", allowing marginalized communities to participate in the political, economic and social life of the community in accordance to their own needs and interests (Streeton, 1994). To this end, it is important to recognize the poor and displacees not as mere objects of reform, but as active participants in their own development. Although impoverishment and marginalization is detrimental to human development, one of the the more relevant lessons this study has revealed is the fact that people living in poverty are seldom idle or passive. The vast majority of poor in developing countries are forced to eke out subsistence existence not because they lack motivation to change, but because they are without opportunity and resources to invest in their futures. Moreover,

while people caught in poverty may be powerless to effect change independently, they retain important social, organizational, and psychological capacities which comprise the basis for breaking this cycle (Anderson, 1993).

In the case of Bangladesh, displacees have survived in the absence of institutional assistance by maintaining traditional rural reciprocity networks which provide for at least a minimum level of economic benefit and social cohesion. These structures, which are important sources of local knowledge and social organization, should be seen as institutions of community management capable of organizing and managing change (Bell & Franceys, 1995). As such, it is important that planners identify not only the physical and economic vulnerabilities associated with natural hazards, but also the unrecognized resilience retained by peoples impacted by natural calamities and impoverishment. Academic institutions and non-government organizations can play a critical role in this regard; both in sensitizing government administrators to the needs of displacees, as well as in promoting local-level organizations which can then articulate their concerns and needs to macro-level structures (Haque, 1997). This can not only ensure the active participation of local social and organizational institutions through mutual negotiation and decision-making processes, but can legitimize the disaster management process through a meaningful participation of beneficiaries.

Poverty and Marginalization: Integrating Human Development into Disaster Management Policy

As discussed throughout this research, human vulnerability must be seen a fundamental factor in natural disasters. The vast majority of the rural poor in

Bangladesh are compelled to eke out subsistence livelihoods as agricultural laborers, with little opportunity to acquire savings or assets which might protect them against natural calamities. When disasters do strike, the poor survive by selling off land, livestock, housing materials, and personal belongings – often leading to indebtedness and further impoverishment (Islam, 1995).

Disaster preparedness and mitigation is a function of the capacities of people to achieve sustainable livelihoods, and thus prevailing socioeconomic resource relations. These human systems not only determine what people can and not achieve, but also influence how people view their capacities to cope with hazards. Persons with access to resources and savings usually have some degree of flexibility and choice in responding to natural hazards, whereas the disadvantaged are forced to adopt more reparative, passive coping strategies. In this study, for example, one-half (53 percent) of the displacees stated they had migrated to Serajganj because they had no other choice. Another 16 percent simply followed family or neighbours, and ten percent came to Serajganj because of the presence of a relative. Only eleven came because of work opportunities, and 39 (17 percent) because of the possibility of accessing *khas* land (unused government-owned land).

The vast majority of these displacees clearly lack the skills and education to compete within the urban labour force. Of the 238 displacees surveyed in this study, all but six percent have been confined to physical labour activities, and only about one-quarter are earning more than 60 Taka a day. Educationally, only about 16 percent of the displacees have completed primary schooling, compared with 33 percent of their non-displaced cohorts. This rate of education falls substantially below the national primary rates for both urban (59.7%) and rural

(34.3%) populations (Bangladesh Bureau of Statistics, 1997). Only thirteen of the displacees have received any type of informal education, and just twelve have found semi-skilled or white collar employment.

Although adjustment to natural hazards - and in this case displacement as well - is fundamentally influenced by socioeconomic capability, it is important not to lose sight of related sociodemographic factors. In the present research, for example, women and the elderly have been found to be particularly vulnerable to displacement. In Bangladesh, extreme physical and social controls are exercised over women's autonomy in the form of *pardah*, arranged marriages, and discrimination in access to education, employment and other opportunities for economic betterment. This bias against women and strong male preference makes women worse off in almost every measure of deprivation including illness, hunger and illiteracy (Bari, 1992). In the event of natural calamities, this can have a profound impact on their coping capacities. In the present study, almost one-half of the displaced women are identified as probable SRQ cases, in contrast to about one-third of both the displaced males and both sexes of the non-displacees. Only about 30 percent of these women have sufficient food to escape hunger, and fully 70 percent have chronic survival concerns.

In the case of the elderly, rural to urban migration often means increasing pauperization as diminishing physical skills makes both viable employment and daily living more difficult. In this study, over one-half of the displacees aged 40 plus years and 40 percent of the non-displacees are identified as SRQ cases, in contrast to 30 percent and 18 percent of their respective younger cohorts. Although income levels between age categories are comparable, older respondents in both samples are more often dissatisfied with their living

conditions and experience greater hunger. Older respondents also report significantly more health problems, which affects their ability to carry out daily living activities such as work.

These findings underscore the need to enhance the productive capacities of all displacees, both to prevent further degeneration of their livelihoods and to improve their options for self-reliance. Faced with pauperization and immediate survival issues, the emphasis of intervention seems logically placed on acquisition of practical skills which allow for relatively immediate and tangible improvements to standards of living. This seems particularly relevant given both the scarcity of land in Bangladesh and the limited capacity of the rural job market to absorb agricultural workers. A recent study by the World Bank and the Bangladesh Centre for Advanced Studies (1998) indicated that agriculture in Bangladesh is expected to employ less than 50 percent of the national labour force by the year 2010, down from about 64 percent in the early 1990s. In the next 25 years, the total rural labour force will rise to 60 million persons, but only 40 million will find employment as farm workers. Some 20 million will have to find employment in rural non-farm activities.

Investment and entrepreneurial initiatives within the informal employment sector is one strategy which has been identified as a viable alternative to agricultural labour activities (Rogge & Elahi, 1989). Potential sources of informal employment include traditional activities such as handloom weaving as well as simple manufacturing industries and assembly industries including ceramics, furniture, household goods, clothing and electronic goods (World Bank & Bangladesh Centre for Advance Studies, 1998). In this regard, non-government organizations (NGOs) can play an important role in advocating

for the extension of credit and small enterprises to displaced communities. Both the Bangladesh Rural Advancement Committee (BRAC) and the Grameen Bank have made valuable contributions in this regard

Although widely known for its achievements in education, BRAC has gradually evolved into a multifaceted development organization aimed at people living below the poverty line (BRAC, 1999). Its Rural Development Programme (RDP), which includes both credit and social mobilization schemes, was initiated in 1974 to provide landless with training, credit, and self-employment opportunities. In 1999, RDP had established over 89,000 village branches and had a membership of about 3.5 million, of which all but three percent were women. Major sectors for employment and income generation have included poultry and livestock rearing, vegetable cultivation, fish culture, small trade, and sericulture and silk production and marketing. As well, RDP has incorporated a social development component which aims to foster sustainable development through institution and awareness building at the village level. Facets of this program include village meetings (*Gram Shobha*) which address legal, social and economic issues, training and education in human and legal rights, and the formation of Ward Federations to safeguard social and legal rights.

The Grameen Bank was formed in 1983 to provide credit to the rural poor, who were otherwise excluded from the formal credit system because of lack of collateral. This handicap was overcome by creating a banking system based on mutual trust and accountability, using the voluntary formation of small groups of about people to provide mutual group guarantees in lieu of collateral. Since its inception, the bank has given out over 16 million loans, which average about US \$100, and achieved a repayment rate of over 90 percent. In 1998, the bank

provided services to almost 39,000 villages, covering more than half of the total villages in Bangladesh, and had a membership of over 2.3 million members. (Grameen Bank, 1998).

In addition to enhancing the socioeconomic capacities of displacees, there is also a need to extend innovative remedial education to displaced communities in order to provide younger generations especially vocational opportunities. Although only about 15 percent of all school-age children in this study have been identified as not attending school, research on Bangladesh has shown that between 40 to 50 percent of children in Bangladesh do not complete primary school and only about five percent complete secondary schooling (Bangladesh Bureau of Statistics, 1997). Among the Bangladeshi poor, children by the age of six or seven years are commonly seen as independent and expected to carry out domestic chores such as water and firewood collection, tending of livestock, and caring for younger siblings (Dasgupta, 1994). By the age of ten years, children often assume work as labourers, and by twelve years may put in as many hours as adults (Cain, 1977).

Life opportunities among children and youth might be best promoted through functional education. The academic components of this form of education (literacy and arithmetic) are used as a foundation for more specific vocational and skills training, rather than academic achievement per se (Graham-Brown, 1991; Lubosi et al., 1989). One example of this education format is the Non-Formal Primary Education Programme (NFPE), initiated by BRAC in 1985. NFPE was specifically developed to meet the needs of the *unreachable* children in rural Bangladesh, using low cost, non-formal (non-government) schools which base curriculum and the school calendar around the rhythms and demands of

village life (Graham-Brown, 1991). In 1999, BRAC was operating over 34,000 schools in Bangladesh, which catered to some 1.1 million children. With a dropout rate of only eight percent, the NFPE Programme has earned an international reputation, and has been replicated in the Middle East, Asia, and Eastern and Southern Africa (BRAC, 1999).

There seems to be little question that the prospects of displacees in Bangladesh can be substantially enhanced, provided planners and policy-makers recognize that disaster prevention and mitigation is as much rooted in human vulnerability as it is in geophysical processes. Moreover, it is critical to recognize that natural hazards do not impact equally across societies. Indeed, human coping in response to disasters is very much determined by micro-level characteristics such as age, gender, and education, not to mention socio-cultural beliefs and practices.

From a disaster management perspective, attention must be taken to ensure that vulnerable populations such as women and the elderly, as well as children and youth, are not excluded from planning and decision-making considerations. Research has shown that even when programming is implemented at the community level, the very poor are often allocated proportionately fewer resources because they are unable to effectively articulate their needs and interests vis-à-vis more influential community groups (Gow & Morss, 1988). This means that the most vulnerable segments of society must be integrated into the disaster management process, not only in terms of resource allocation, but also in planning and decision-making processes. As such, disaster management must be an inclusive and democratic process, as much oriented to human development as it is to natural hazards prevention and mitigation.

Conceptual and Research Implications

The findings of this study are the result of a first attempt to examine psychological coping and adaptation patterns among riverbank erosion-induced displacees in Bangladesh. The results clearly suggest that disaster related behavior, including threat perception and psychological coping, is substantially influenced by both socio-economic and cultural attributes. That is, the manner in which people see themselves and adapt to their physical environment is not only a function of the physical forces which effect them, but also of prevailing socio-economic relations which determine what people can and can not do. Moreover, this process is clearly influenced by cultural values, customs, and relationships which give people a meaningful perception of the world, as well as helping them to organize reality and resolve daily problems.

This study also affirms the need to integrate and accommodate the varied academic approaches to disaster research. It is clear that disasters can not be viewed merely in terms of abnormal geophysical events, however extreme their physical impact may be on human systems. Rather, natural hazards and disasters are more effectively conceived as being products of an interface between the physical environment and people's economic, social, and political vulnerabilities and capacities.

Although this social-structural approach towards disaster studies has in recent years come to the forefront of disaster research, there has been limited investigation of underlying psychological attributes influence the process. In this respect, it is important to acknowledge that people are active rather than passive agents to their environment, and attempt to resolve their problems and

difficulties in ways which allow them to regain and retain some measure of physical and emotional health. While this coping process is to some extent determined by what people can and can not do to mitigate natural hazards, it is also a function of cultural and spiritual values and customs which give people a meaningful way of viewing, interpreting and responding to both daily affairs and extreme adversity. In this sense, disaster behavior can not be understood merely in terms of resource relations. It requires a more holistic perspective which takes into account cultural, spiritual, and socio-psychological dimensions of human perception and behavior.

For this to be successfully achieved, considerable research efforts should be made to examine individual motivations and coping tendencies among impoverished and marginalized communities. This applies especially to predominantly socio-centric agrarian societies which challenge the egocentric emphasis of contemporary Western psychological literature (Brody, 1970; Kleinman, 1987; Summerfield, 1996). Although the present study has contributed to a greater understanding of the pauperization processes in Bangladesh, one of its main constraints is the lack of a more concise and reliable measure of both perceptions of self-efficacy and the variety of coping behaviors used by the poor. This is a consequence of not only the need to limit the length of the survey questionnaire, but of a lack of culturally sensitive and conceptually meaningful measures of psychological coping and well-being. As discussed in the Methodology Chapter, both the Personal Mastery Scale (Pearlin & Schooler, 1978) as well as the more widely used Ways of Coping Questionnaire (Folkman & Lazarus, 1988) were deleted for this reason. Although these psychological

attributes were examined through alternative measures, the full scope and variety of individual coping repertoires could not be determined.

Future research should also take into account the distinct problems faced by the poor in developing countries. In contrast to Western psychology in which self-control and mastery are typically treated as personality traits, these attributes among the poor in countries like Bangladesh more often reflect the social and economic inequities which underlie their marginalization. The poor in countries like Bangladesh often lack the means and power to improve their circumstances. Coping studies should therefore not only identify what people do when faced with problems, but take into account how larger societal and resources relations determine the relative efficaciousness of coping responses across social stratas and circumstances. As shown in this study, low aspirations and self-efficacy may often be psychologically adaptive among the poor, reducing levels of frustration and distress, but not determination and perseverance.

From the conceptual considerations, then, there is a clear need to develop more psychometrically sound and culturally sensitive assessment methods. This is particularly the case in regard to illiterate populations (Reese & Joseph, 1995). Although numerous Western psychological instruments have been used in divergent cultures, these have typically been validated among middle class, educated populations which have been exposed to Western conceptualizations of mental health. Language and cultural nuances, religious and cultural identity, as well as cultural explanations of the illness and idioms of distress differ significantly between both countries and social strata (Mezzich et al., 1999). As well, impoverished and marginalized persons have vastly different needs and

resources than well-to-do persons, and therefore are likely to have different priorities and views of both the world and of their capacities to achieve success within it (Kinzie & Manson, 1985). There is a need to incorporate local and indigenous definitions and interpretations of physical, emotional, and spiritual wellness and health in order to gain a broader and more accurate understanding of how people perceive and cope with adversity (Kleinman et al., 1978).

At the same time, it must be acknowledged that invaluable information can be derived from field observations and informal interviews. As found in the present research, qualitative data can be particularly helpful when examining populations of diverse backgrounds which do not readily fit into Western conceptual frameworks for analyzing human behavior. In such cases, qualitative data can both increase understanding of findings and explain context (Merriam, 1988). This may be further enhanced when studies are undertaken with the collaboration of local academic institutions. This approach can not only provide researchers with important insights into local conditions, language and cultural nuances, but facilitates the exchange of cross-cultural expertise. This takes on particular value in the development of new perceptual and behavioral assessment instruments.

There is a need for assessing more fully the relative impact of such factors as gender, age and education. As an exploratory study, this research attempted to identify patterns and predictors of coping and adjustment, but has not examined in-depth the interaction effects between demographic variables. In patriarchal societies such as Bangladesh, particularly in rural areas, one might expect inter-dependence between factors such as education and gender. For example, while females have had increasing access to education in the past

twenty years in Bangladesh, their ability to utilize their schooling may well be hindered by their inferior and subordinate position in society. This in turn may reduce the adaptive functions which higher education generally brings.

A second consideration which should be acknowledged is that the majority of displacees in this study had migrated en-masse, and all within five years of the study. Only 27 percent of the respondents had resettled apart from villagers originating from their own village or union. Two aspects deserve attention here. Firstly, it may be assumed that the displacement and resettlement of entire villagers contributed to maintenance of the displacees' social supports and assistance networks, which in turn have a positive influence on coping and adjustment. Consequently, one must acknowledge that the findings of this study may be difficult to generalize to settlements which are comprised of displacees who do not originate from a common area, and thus may not have the same degree of social cohesion and reciprocity.

The second aspect which needs to be acknowledged is that this study did not examine the long-term impacts of displacement, nor was a non-displaced urban control group included in order to assess potential differences between displaced and non-displaced poor in an urban context. Previous research has shown a pattern of continuing impoverishment and marginalization among displacee-squatters (Greenberg, 1986; Haque, 1988), which in turn might be expected to lead to increasing demoralization and frustration. Such may not only be expressed in increasing apathy and fatalism, but also in heightened social problems. These might be manifested in both diminishing community cohesion as well as in domestic breakdown and violence. To what degree this occurs over

time, and whether it differs from the experience of non-displaced poor, should be explored through further research.

A further consideration which should be observed is that the non-displacee sample has been drawn from Shariakandi, rather than Serajganj itself. Although Shariakhandi is also highly prone to erosion, there may exist subtle differences in land ownership, kinship systems and social structures which may have influenced the non-displacees' responses in ways not easily discernable. As well, at the time of the field research, protective embankments were being constructed in the more erosion prone areas of Shariakandi, and this may have affected the respondents' perception of erosion as a threat to their livelihoods. The non-displacees' level of hazard perception may also have been heightened as the research was conducted during a catastrophic flood in Bangladesh, at which time the majority of erosion occurs.

Finally, it is important to note that this study did not examine the impacts of differing types of erosion. Riverbank erosion in Bangladesh may involve a gradual migration of a major flow channel, or take the form of a rapid shifting bank-line when the main channel switches from one side of an island or bar to the other (Bristow, 1987; Galay, 1989). New channels outside of the main flow channel may also be suddenly created, eroding entire villages which may have previously escaped erosion. In such cases, erosion tends to be unpredictable, leaving villagers unprepared and without opportunity to save housing materials and other assets (Haque, 1997). Although findings in the present research suggest that erosion tends not to be a traumatic experience, more acute stress reactions may occur in instances where erosion is sudden, unpredictable, and life threatening.

In summing up, it is clear that much may yet be accomplished in remediating emerging issues relevant to both disaster research as well as the needs of impacted communities. In the case of riverbank erosion effects in Bangladesh, displacees remain among the poorest of the poor, surviving in large part through mutual networks of support and assistance. Faced with immediate survival issues which all but negate opportunities for the attainment of formal education, the emphasis of intervention is logically placed on acquisition of practical skills which may allow for relatively immediate and tangible improvements to standards of living. At the same time, however, it is important that underlying psychosocial processes that determine how individuals perceive, cope, and adjust to adversity are understood and integrated into the development process. People are most likely to respond to and participate in programs that are consistent with their own values and priorities (Rogge, 1992). In turn, meaningful participation of persons in programming not only enhances the relevancy of assistance delivered, but provides the disadvantaged the opportunity to become advocates of their own development.

This is particularly relevant in Bangladesh where urban squatter settlements have become a prominent feature of urban landscape. As population pressure and land scarcity become more acute, increasing numbers of displacees will be confined to barely habitable conditions without access to sanitation, fresh water, and adequate housing. Such marginalized communities are typically handicapped by an array of situational constraints which prevent opportunities for economic and social mobility. In the case of displacees, they not only lack access to basic education and employment opportunities, but remain politically marginalized with limited access to all levels of government.

To effectively overcome these difficulties, it is important to recognize that societies in the developing world are heterogeneous, marked by disparate socio-economic sectors with diverse needs and aspirations, with unequal capacities to benefit from development and assistance. Additionally, it must be recognized that development is influenced by community and individual capacities to cope and adjust to the strains associated with poverty. These have direct bearing on physical and emotional health, which in turn affects the ability of people to participate in development initiatives.

In this context, development and disaster management policy can be most effective when it is combined with a clear understanding of how receiving communities perceive and respond to change (adverse and opportunistic). This demands an interdisciplinary perspective which recognizes that societies and cultures contain systems of meaning and behavior which have significant influence on human coping and adaptation. When integrated into program planning, this approach not only helps ensure the relevancy of provided assistance, but can strengthen indigenous capacities in a manner which may assist the poor in breaking the downward spiral of impoverishment and marginalization.

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Appendix A
Displacee Questionnaire

Displacee Introductory Statement

At the start of every interview, the following statement must be read to the respondent.

Your household has been selected to participate in a research study being conducted by a Doctorate student (David Hutton) at the University of Manitoba, Canada. The purpose of this research is to collect information about how riverbank erosion and displacement affects people and how people cope with the problems and difficulties caused by displacement.

Before I go further, I would like to ask you if your household has been displaced by riverbank erosion within the past five years.

If respondent was displaced within the past five years, circle YES and continue with the introductory statement and interview.

If respondent has never been displaced or was displaced more than five years ago, circle NO and discontinue introductory statement and interview. Read the following statement:

The questions of the study are specifically designed for more recent displacees and I have been instructed only to interview people who have been displaced in the past five years. I would nevertheless like to thank you for your cooperation and the time you have just spent with me.

Although this study focuses on the household unit, we need to get information from both men and women. At this household, I have been instructed to interview: (the male head of household) (the wife of the head of household). Because it is important that the person selected for this study answers all the questions, we request that the other people who are living here do not participate in the interview.

The interview will take about one hour, although it may take longer for some people. Your participation in this study is voluntary, that is, you do not have to complete the interview if you do not want to. You do not have to give your name, and the information which you give will be confidential and anonymous. If for any reason you feel uncomfortable in answering a question, you do not have to answer it. If for any reason you feel that you can not complete interview once it has begun, you do not have to.

We can not promise that this research will have any direct impact upon improving your living conditions. However, because this research has never been done before, it is very important that you try to answer each question carefully and honestly. We hope that the overall findings of the study will help various government and relief organizations provide more effective assistance to persons affected by flooding and riverbank erosion. These findings will be available in about one year and can be sent to you if you would like a summary of the study.

This study has been approved by the Faculty of Arts Ethics Review Committee at the University of Manitoba in Canada. However, if you have any problems or concerns about either the study or the interview, you can contact _____ (contact person) at _____ (location).

Before we start the interview, I would like to make certain that you understand the purpose of the study and are agreeable to being a participant. Please tell me if you agree with the following statement?

You have been informed that the purpose of this interview is to collect information about how people cope with the problems and difficulties caused by riverbank erosion and displacement. You understand that the interview is voluntary and any information which you give is confidential. You are agreeable to participating in this interview and understand that you may stop the interview at any time and for any reason.

Date of Interview: _____ Interviewer Signature: _____

Displacement and Adjustment Questionnaire

Serajganj Displaced Persons Version

1. Thana or sampling tract: _____

2. Household Name: _____

3. Respondent's Gender

Male 1
Female 2
NR 99

INTERVIEW BEGINS HERE

I would first like you to tell me some things about your life and living conditions here.

4. Please tell me, with a yes or no answer, if your household has access to the following:

	YES	NO	NR
House with pucca or corrugated iron roof	1	2	99
House with cement floor	1	2	99
More than one room	1	2	99
More than two rooms	1	2	99
Tube-well	1	2	99
Clean water for drinking	1	2	99
Latrine	1	2	99
Radio	1	2	99
Electricity	1	2	99

5. On average, about how much is the *daily* income of this household? Please consider all sources of income.

Average daily income: _____ TK
NA 77
NR 99

6. Do you ever worry about how you and your family will survive, that is, meet its daily needs, because you just do not have enough money to get by? Would you say ... (READ)

Never or rarely (a few times a year) 1
Sometimes (a few times a month) 2
Almost always (every week) 3
Always (almost every day) 4
NR 99

7. Does your household ever go hungry because you just do not have enough money to buy food? Would you say ... (READ)

Never or rarely (a few times a year) 1
Sometimes (a few times a month) 2
Almost always (every week) 3
Always (almost every day) 4
NR 99

8. If you, or a member of your family were to become ill, would your household have enough money buy medicine?

Yes 1
No 2
NA 77
NR 99

9. Thinking about your daily life here, that is your living conditions, way of life, and so forth, how satisfied are you with your life here? Would you say

Very satisfied	1
Satisfied	2
Dissatisfied	3
Very dissatisfied	4
NR	99

10. Do you think you have control over the things that happen in your daily life here? Would you say

Not at all	1
Very little	2
Somewhat	3
A lot	4
NR	99

11. Would you say what happens to you in the future depends mainly on you, or mainly on Allah?

Mostly on you	1
Mostly on Allah	2
NR	99

12. Compared to your life today, do you think your living conditions will be better, worse, or about the same in one or two years from now?

Yes	1
No	2
Not sure	3
NR	99

I would next like to ask you some questions about about your health, and how you may have been feeling lately.

13. Do you have difficulty working or carrying out daily activities lately because of illness or poor health? Would you say ...

- No difficulty..... 1
- A little difficulty 2
- Some difficulty 3
- Alot of difficulty 4
- NR 99

14. When you are faced with many problems, do you ever find it difficult to handle these? That is, when you are unable to sleep, worry a great deal, or feel sad or nervous? Would you say that you feel this way...

- Rarely 1
- Some times 2
- Many times 3
- Almost all the time 4
- NR 99

Self-Reporting Questionnaire

15. I would now like to read you a list of questions about how you may have been feeling recently, over the past few weeks. It is important that you try to answer all the questions. For each question, I would like you to tell me whether you feel this way rarely (1), some times (2), many times (3), or almost all the time (4).

Starting with the first question ...

- 1. Do you often have headaches? _____
- 2. Is your appetite poor? _____
- 3. Do you sleep badly? _____
- 4. Are you easily frightened? _____
- 5. Do your hands shake? _____
- 6. Do you feel nervous, tense or worried? _____
- 7. Is your digestion poor? _____
- 8. Do you have trouble thinking clearly? _____
- 9. Do you feel unhappy? _____
- 10. Do you cry more than usual? _____
- 11. Do you find it difficult to enjoy your
daily activities? _____
- 12. Do you find it difficult to make
decisions? _____
- 13. Is your daily work suffering? _____
- 14. Are you unable to play a useful part
in life? _____
- 15. Have you lost interest in things? _____
- 16. Do you feel that you are a worthless
person? _____
- 17. Has the thought of ending your life
been in your mind? _____
- 18. Do you feel tired all the time? _____
- 19. Do you have uncomfortable feelings in
your stomach? _____
- 20. Are you easily tired? _____

- a. Average Numerical Score _____
- b. Number of Daily Reports _____

Coping Measure

16. I would now like you to tell me a little about how you deal with the problems and difficulties which you face in your life. Obviously, different problems bring about different responses. I would like to know what you usually do to deal with your problems and difficulties.

For each statement I read, please tell me if you rarely do this (1), sometimes do this (2), do this many times (3), or do this almost all the time (4) when faced with a difficult problem or situation.

When you are faced with difficulties or problems ...

1. How much do you do things to take you mind off your problems or difficulties, that is, you do something so that you will not think about your problems and difficulties? _____
2. How much do you try to think about your problems and difficulties in a different way so that they will not upset you so much? _____
3. How much do you rely on Allah to help you through your problems or difficulties? _____
4. How much do you try to think of different ways which will solve or lessen your problems and difficulties? _____
5. How much do you try to do concrete things which will lessen or solve your problems or difficulties? _____
6. How much do you talk to other people about your problems and difficulties so that you can get help or advice?..... _____
7. How much do you talk to other people about your feelings about your problems and difficulties? _____
8. How much do you talk to other people so that you can forget about your problems and difficulties? _____

9. How much do you let your feelings out? For example,
you cry or get angry _____

10. How much do you just accept that you can not
change the situation _____

17. What would you say you do most to help you through your
problems and difficulties?

I would now like to know something about when you were
displaced.

18. Including the last time you were displaced, how many times
in total have you personally been displaced because of river-
bank erosion. *This does not include temporary moves during
flood times.*

Number of times displaced: _____

NR 99

19. When did this household last become displaced?

Length of displacement: _____ years or _____ months

NR 99

CODER TO COMPLETE

- Less than 1 year 1
- 1 year but less than 2 years 2
- 2 years but less than 3 years 3
- 3 years but less than 4 years 4
- 4 to 5 years 5

20. Where were you living the last time you were last displaced?

Mouza: _____

Union: _____

NR 99

21. At the time you were last displaced, did your household own any land? This includes land used for crops as well as homestead land.

Did not own land 1

Owned homestead land only 2

0.01 to 2.50 acres (including homestead land) . 3

2.51 to 7.50 acres (including homestead land) . 4

7.51 to more acres (including homestead land) . 5

DK 88

NR 99

22. When you this household was last displaced, were you able to bring any materials or money which helped you to resettle here?

Yes 1 [Go to 23]

No 2 [Go to 24]

NR 99

23. What were you able to save?

24. After you lost your land, did your household receive any form of assistance or compensation from the Jammuna Multi-Purpose Bridge Authority, the government, local authorities or non-government organisations?

Yes 1 [Go to 25]

No 2 [Go to 26]

NR 99

25. What was this assistance and who provided it?

NA 77

26. What do you consider the main cause of the riverbank erosion to your land? **RESPONDENT TO VOLUNTEER ANSWER**

A product of nature 1
The will or punishment of Allah 2
Inadequate infrastructural protection
(e.g., dikes) 3
Construction of Jammuna Bridge 4
Something else: _____ (SPECIFY).. 66
NR 99

27. Before you were displaced, did you know riverbank erosion was a serious problem in your union?

Yes 1
No 2
Not sure 3
NR 99

28. Before you were displaced, did you anticipate that you would one day lose your home because of riverbank erosion?

Yes 1
No 2
Not sure 3
NR 99

29. Before you arrived here, did you know what to expect about the living conditions here, including opportunities for work?

Yes	1
No	2
NR	99

30. What was the main reason your household moved to this area?

Indicate all answers which apply to respondent but do not prompt.

Presence of relatives	1
Work opportunities	2
Existence of <i>Khas</i> land	3
Followed family or neighbours	4
Availability of food rations	5
No other option	6
Other: _____	66
NR	99

31. Do you feel that people who have lived here their entire lives are accepting of you? Would you say ...

Very accepting	1
Accepting	2
Not accepting	3
Hostile	4
NR	99

32. Do you ever become lonely here? Would you say

Rarely 1
Sometimes 2
Many times 3
NR 99

33. Do you have someone you can tell your innermost thoughts, feelings and worries?

Yes 1
No 2
NR 99

34. We all need to rely on our relatives and samaj some time for support and assistance. Sometimes we need food or money, other times information and advice, or emotional support. In times of need, do you have people you can always count on to help you out?

Yes 1
No 2
NR 99

35. Do feel that you are part of a samaj?

Yes 1
No 2
NR 99

36. Are you hopeful that you will one day return to your land?
Would you say ...

Very hopeful 1
Hopeful 2
Not hopeful 3
You have given up all hope 4
NR 99

37. How often do you think about the land or homestead you lost because of riverbank erosion? In the past seven days, have you thought of your lost land and homestead (READ)

Rarely	1
Sometimes	2
Many times	3
NR	99

38. In the seven days, how often have you felt strong feelings about your this land or homestead?

Rarely	1
Sometimes	2
Many times	3
NR	99

39. In the past seven days, how often have you had difficulty sleeping because you are thinking about your land or homestead?

Rarely	1
Sometimes	2
Many times	3
NR	99

40. In the past seven days, how often have you thought about your land or homestead when you did not mean to?

Rarely	1
Sometimes	2
Many times	3
NR	99

41. Do you find that you try not to think or talk about your lost land or homestead because you become easily upset? Would you say ...

Yes, you try not to think or talk about you land or homestead because it upsets you 1

No, you find that it is not too difficult to think or talk about your land or homestead 2

NR 99

I would lastly like to get some information about yourself and your household?

42. What type of work did you do before you were displaced?

Occupation: _____ (Specify)

CODER TO COMPLETE

Landholder, farmer 1
Other primary-production 2
Self-employed, non-agricultural 3
Day wage labour 4
Long-term wage labour 5
Housewife 6
Student 7
Unemployed (not working but wanting work) 8
Other: _____ 66
NR 99

43. What type of work are you doing now? _____

Occupation: _____ (Specify)

CODER TO COMPLETE

Landholder, farmer	1
Other primary-production	2
Self-employed, non-agricultural	3
Day wage labour	4
Long-term wage labour	5
Housewife	6
Student	7
Unemployed (not working but wanting work)	8
Other: _____	66
NR	99

44. How would you describe your marital status? That is, are you ... (READ)

Single (never married)	1
Married and living with spouse	2
Married but living apart from spouse	3
Divorced	4
Widowed	5
NR	99

45. How old are you?

Specify in years: ____ ____

CODER TO COMPLETE

Less than 30 years old 1	40 to 49 years old 3
31 to 39 years old 2	More than 50 years old .. 4

46. How many years of schooling have you completed?

Specify in years: ____

CODER TO COMPLETE

Did not complete primary school (< 5 years) ... 1
Completed primary school (> 5 years) 2
NR 99

47. Have you taken any other training, other than formal schooling?

Yes 1 [Go to 48]
No 2 [Go to 49]
NR 99

48. What was this training? _____ (Specify)

49. Are you able to read and write?

Yes 1
No 2
NR 99

50. Including yourself, how many persons (adult and children) live in this household? _____

51. How many members contribute to your household income? ... _____

52. Do you have any school-age children?
(children <12 years old)? YES NO NA

If NO, go to Item 54

53. Do any of your school-age children attend school? YES NO NA

54. Do any of your school-age children (<12 years old) contribute to your household income? YES NO NA

We have now completed the questionnaire. Thank you the time and effort you have spent to make this study possible. It is very much appreciated. If we need to talk to you again with some follow-up questions, may we again contact you?

- Yes 1
- No 2

If you would like to know about the findings of this study, a summary of this study will be given to your Ward Representative. It will be available in about one year. Again, thank you for your time and honesty.

Appendix B

Non-Displacee Questionnaire

Non-Displacee Introductory Statement

At the start of every interview, the following statement must be read to the respondent.

Your household has been selected to participate in a research study being conducted by a Doctorate student (David Hutton) at the University of Manitoba, Canada. The purpose of this research is to collect information about both people displaced by riverbank erosion as well as how people living in areas affected by flooding and riverbank erosion, but who have never been displaced, cope with daily problems and difficulties.

Before I go further, I would like to make certain that your household has never been displaced because of riverbank erosion. This does not include temporary moves during flood times.

If respondent has never been displaced, circle NO and continue with the *introductory statement* and *interview*.

If respondent has displaced, circle YES and discontinue *introductory statement* and *interview*. Read the following statement:

The questions of this study have been specifically designed for people who have never been displaced by riverbank erosion. I would nevertheless like to thank you for your cooperation and the time you have just spent with me.

Although this study focuses on the household unit, we need to get information from both men and women. At this household, I have been instructed to interview: (the male head of household) (the wife of the head of household). Because it is important that the person selected for this study answers all the questions, we request that the other people who are living here do not participate in the interview.

The interview will take about thirty minutes, although it may take longer for some people. Your participation in this study is voluntary, that is, you do not have to complete the interview if you do not want to. You do not have to give your name, and the information which you give will be confidential and anonymous. If for any reason you feel uncomfortable in answering a question, you do not have to answer it. If for any reason you feel that you can not complete interview once it has begun, you do not have to.

We can not promise that this research will have any direct impact upon improving your living conditions. However, because this research has not been done before, it is very important that you try to answer each question carefully and honestly. We hope that the overall findings of this study can help various government and relief organizations provide more effective assistance to persons affected by flooding and riverbank erosion. These findings will be available in about one year and can be sent to you.

This study has been approved by the Faculty of Arts Ethics Review Committee at the University of Manitoba in Canada. However, if you have any problems or concerns about either the study or the interview, you can contact _____ (contact person) at _____ (location).

Before we start the interview, I would like to make certain that you understand the purpose of the study and are agreeable to being a participant. Please tell me if you agree with the following statement?

You have been informed that the purpose of this interview is to collect information about how people living in areas affected by flooding and riverbank erosion cope with daily problems and difficulties. You understand that the interview is voluntary and any information which you give is confidential. You are agreeable to participating in this interview and understand that you may stop the interview at any time and for any reason.

Date of Interview: _____ Interviewer Signature: _____

Appendix B
Non-Displacee Questionnaire

Displacement and Adjustment Questionnaire

Control Group: Non-Displaced Persons Version

1. Thana or sampling tract: _____

2. Household Name: _____

3. Respondent's Gender

Male 1
Female 2
NR 99

INTERVIEW BEGINS HERE

I would first like you to tell me some things about your life and living conditions here.

4. Please tell me, with a yes or no answer, if your household has access to the following:

	YES	NO	NR
House with pucca or corrugated iron roof	1	2	99
House with cement floor	1	2	99
More than one room	1	2	99
More than two rooms	1	2	99
Tube-well	1	2	99
Clean water for drinking	1	2	99
Latrine	1	2	99
Radio	1	2	99
Electricity	1	2	99

5. On average, about how much is the *daily* income of this household? Please consider all sources of income.

Average daily income: _____ TK

- NA 77
- NR 99

6. Do you ever worry about how you and your family will *survive, that is, meet its daily needs*, because you just do not have enough money to get by? Would you say ... (READ)

- Never or rarely (a few times a year) 1
- Sometimes (a few times a month) 2
- Almost always (every week) 3
- Always (almost every day) 4
- NR 99

7. Does your household ever go hungry because you just do not have enough money to buy food? Would you say ... (READ)

- Never or rarely (a few times a year) 1
- Sometimes (a few times a month) 2
- Almost always (every week) 3
- Always (almost every day) 4
- NR 99

8. If you, or a member of your family were to become ill, would your household have enough money buy medicine?

- Yes 1
- No 2
- NA 77
- NR 99

9. Thinking about your daily life here, that is your living conditions, way of life, and so forth, how satisfied are you with your life here? Would you say

Very satisfied	1
Satisfied	2
Dissatisfied	3
Very dissatisfied	4
NR	99

10. Do you think you have control over the things that happen in your daily life here? Would you say

Not at all	1
Very little	2
Somewhat	3
A lot	4
NR	99

11. Would you say what happens to you in the future depends mainly on you, or mainly on Allah?

Mostly on respondent	1
Mostly on Allah	2
NR	99

12. Compared to your life today, do you think your living conditions will be *better, worse, or about the same* in one or two years from now?

Yes	1
No	2
Not sure	3
NR	99

I would next like to ask you some questions about about your health, and how you may have been feeling lately.

13. Would you say that you have had difficulty working or carrying out daily activities lately because of illness or poor health?

Yes 1
No 2
NA 77
NR 99

14. When you are faced with many problems, do you ever find it difficult to handle these? That is, when you are unable to sleep, worry a great deal, or feel sad or nervous? Would you say that you feel this way *rarely (1), once in a while (2), some times (3), or many times (4)*?

Rarely 1
Once in a while 2
Some times 3
Many times 4
NR 99

Self-Reporting Questionnaire

15. I would now like to read you a list of questions about how you may have been feeling recently, over the past few weeks. It is important that you try to answer all the questions. For each question, I would like you to tell me whether you feel this way rarely (1), some times (2), many times (3), or almost all the time (4).

Starting with the first question ...

- 1. Do you often have headaches? _____
- 2. Is your appetite poor? _____
- 3. Do you sleep badly? _____
- 4. Are you easily frightened? _____
- 5. Do your hands shake? _____
- 6. Do you feel nervous, tense or worried? _____
- 7. Is your digestion poor? _____
- 8. Do you have trouble thinking clearly? _____
- 9. Do you feel unhappy? _____
- 10. Do you cry more than usual? _____
- 11. Do you find it difficult to enjoy your
daily activities? _____
- 12. Do you find it difficult to make
decisions? _____
- 13. Is your daily work suffering? _____
- 14. Are you unable to play a useful part
in life? _____
- 15. Have you lost interest in things? _____
- 16. Do you feel that you are a worthless
person? _____
- 17. Has the thought of ending your life
been in your mind? _____
- 18. Do you feel tired all the time? _____
- 19. Do you have uncomfortable feelings in
your stomach? _____
- 20. Are you easily tired? _____

- a. Average Numerical Score _____
- b. Number of Daily Reports _____

Coping Measure

16. I would now like you to tell me a little about how you deal with the problems and difficulties which you face in your life. Obviously, different problems bring about different responses. I would like to know what you *usually* do, that is, how you *usually* deal with your problems and difficulties.

For each statement I read, please tell me if you **never do this (0), do this a little (1), some times do this (2), or do this many times (3)** when faced with a difficult problem or situation.

When you are faced with difficulties or problems ...

1. How much do you do things to take you mind off your problems or difficulties, that is, you do something so that you will not think about your problems and difficulties? _____
2. How much do you try to think about your problems and difficulties in a different way so that they will not upset you so much? _____
3. How much do you rely on Allah to help you through your problems or difficulties? _____
4. How much do you try to *think* of different ways which will solve or lessen your problems and difficulties? _____
5. How much do you try to do concrete things which will lessen or solve your problems or difficulties? _____
6. How much do you talk to other people about your problems and difficulties so that you can get help or advice?..... _____
7. How much do you talk to other people about your feelings about your problems and difficulties? _____
8. How much do you talk to other people so that you can forget about your problems and difficulties? _____

7. How much do you let yourv feelings out? For example,
you cry or get angry _____

8. How much do you just accept that you can not chnage
the situation? _____

17. What would you say you do most to help you through your
problems and difficulties?

ATTENTION TO CODER

ITEMS 18 TO 41 (EXCLUDING 21 and 34) TO BE CODED AS NA.

*I would now like to get some information about yourself
and your household?*

21. Does your household own any land? This includes land used
for crops as well as homestead land.

- Did not own land 1
- Owned homestead land only 2
- 0.01 to 2.50 acres (including homestead land) . 3
- 2.51 to 7.50 acres (including homestead land) . 4
- 7.51 to more acres (including homestead land) . 5
- DK 88
- NR 99

34. How would you describe your support here. For example, we all need to rely on our relatives and samaj some time for support and assistance. Sometimes we need food or money, other times information and advice, or emotional support. In times of need, do you have people you can always count on to help you out?

Yes 1
No 2
NR 99

42. What type of work are you doing now? _____

Occupation: _____ (Specify)

CODER TO COMPLETE

Landholder, farmer 1
Other primary-production 2
Self-employed, non-agricultural 3
Day wage labour 4
Long-term wage labour 5
Housewife 6
Student 7
Unemployed (not working but wanting work) 8
Other: _____ 66
NR 99

43. How would you describe your marital status? That is, are you ... (READ)

Single (never married) 1
Married and living with spouse 2
Married but living apart from spouse 3
Divorced 4
Widowed 5
NR 99

44. How old are you?
Specify in years: ____ ____

CODER TO COMPLETE

Less than 30 years old 1 40 to 49 years old 3
31 to 39 years old 2 More than 50 years old .. 4

45. How many years of schooling have you completed?
Specify in years: ____ ____

CODER TO COMPLETE

Did not complete primary school (< 5 years) ... 1
Completed primary school (> 5 years) 2
NR 99

46. Have you taken any other training, other than formal schooling?

Yes 1 [Go to 47]
No 2 [Go to 48]
NR 99

47. What was this training? _____ (Specify)

48. Are you able to read and write?

Yes 1
No 2
NR 99

49. Including yourself, how many persons (adult and children) live in this household? _____

50. How many members contribute to your household income? ... _____

51. Do you have any school-age children?
(children <12 years old)? YES NO NA

If NO, go to Item 54

52. Do any of your school-age children attend school? YES NO NA

53. Do any of your school-age children (<12 years old)
contribute to your household income? YES NO NA

General Health questionnaire

54. Before we end this interview, I would like to ask you another twelve questions about how you you have been feeling lately. For each question, please tell me tell me whether you feel this way rarely (1), some times (2), many times (3), or almost all the time (4). I would also like to know if you have felt this way today.

Starting with the first question ...

- 1. You can concentrate on your daily life activities _____ *
- 2. You lose much sleep over worry _____
- 3. You feel that you are playing a useful part in things . _____ *
- 4. You feel capable of making decisions about things _____ *
- 5. You feel under constraint strain _____
- 6. You feel incapable of solving difficulties _____
- 7. You are capable of enjoying common daily activities ... _____ *
- 8. You are able to solve your own problems _____ *
- 9. You feel unhappy and depressed _____
- 10. You are loosing self-confidence _____
- 11. You feel that you are a worthless person _____
- 12. Considering everything, you feel happy _____ *

Reverse scoring on items 1, 3, 4, 7, 8 & 12.

General Health Scoring

Average numerical score _____
Average score divided by 12 _____
Score of positive items (1,3-4,7-8, 12) _____
Score of negative items (2,5-6,9-11) _____

We have now completed the questionnaire. Thank you the time and effort you have spent to make this study possible. It is very much appreciated. If we need to talk to you again with some follow-up questions, may we again contact you?

Yes 1
No 2

If you would like to know about the findings of this study, a summary of this study will be given to your Ward Representative. It will be available in about one year. Again, thank you for your time and honesty.

INTERVIEWER TO COMPLETE
FOLLOWING INTERVIEW

A. How would you rate the respondent's cooperation?

- Cooperative 1
- Indifferent 2
- Uncooperative 3

B. Please rate the quality of the interview.

- High quality 1 [Go to D]
- Adequate 2 [Go to D]
- Questionable 3

C. Please note possible sources of interference.

Answer all categories as either YES or NO.

	YES	NO
Language	1	2
Age	1	2
Illness	1	2
Noise	1	2
Presence of others	1	2
Other (Specify) _____	1	2

D. Please note anything that might seem important or different to you about this interview.

Interviewers Signature: _____

Appendix C

Bengali Displacee Questionnaire

স্থানচ্যুতি ও সমন্বয় সংক্রান্ত প্রশ্নমালা
স্থানচ্যুত খানা-প্রধানের প্রতি

১. থানা অথবা নমুনা অঞ্চল.....

২. খানার (বাড়ীর) নং.....

৩. উত্তরদাতার লিঙ্গ

পুরুষ..... ১

মহিলা..... ২

উত্তর নাই..... ৯৯

আপনাদের জীবনযাত্রা সম্পর্কে আমি কিছু প্রশ্ন করতে চাই

৪. আপনার খানায় কি নীচের জিনিসগুলি আছে? হ্যাঁ অথবা না উত্তর দিন। (Q. 4. if your household has access to the following)

	হ্যাঁ	না	উত্তর নাই
পাকা ঘর বা করোগেট টিনের চাল	১	২	৯৯
সিমেন্ট এর মেঝে সহ ঘর	১	২	৯৯
একটার বেশী কক্ষ	১	২	৯৯
দুইটার বেশী কক্ষ	১	২	৯৯
নলকূপ	১	২	৯৯
পরিস্কার খাবার পানি	১	২	৯৯
পায়খানা	১	২	৯৯
রেডিও	১	২	৯৯
বিদ্যুত	১	২	৯৯

৫. গড়ে আপনার পরিবারের দৈনিক রোজগার কত? (Q. 5. how much your household earns daily)

দৈনিক গড় রোজগার :

ট

প্রযোজ্য নয়

৭৭

উত্তর নাই

৯৯

৬. যথেষ্ট পয়সা নাই বলে কিভাবে আপনার ও আপনার পরিবারের দিন চলবে, কিভাবে দৈনন্দিন চাহিদা মিটাবেন এইসব নিয়ে কি আপনি কখনো চিন্তা করেন ? (Q. 6. worry about how you and your family will survive)

কখনও না, অথবা খুবই কম (বছরে কয়েকবার)	১
মাঝে-মাঝে	২
প্রায় সবসময় (প্রতিসপ্তাহে)	৩
সবসময় (প্রতিদিন)	৪
উত্তর নাই	৯৯

৭. খাবার কেনার যথেষ্ট পয়সা না থাকার কারণে আপনার পরিবারকে কি কখনও না খেয়ে থাকতে হয়? (Q 7 : household ever go hungry)

কখনও না, অথবা খুবই কম (বছরে কয়েকবার)	১
মাঝে-মাঝে	২
প্রায় সবসময় (প্রতিসপ্তাহে)	৩
সবসময় (প্রতিদিন)	৪
উত্তর নাই	৯৯

৮. আপনি অথবা আপনার পরিবারের কেহ অসুস্থ হয়ে পড়লে আপনাদের বাড়ীতে ঔষধ কেনার যথেষ্ট পয়সা থাকে? (Q 8: enough money to buy medicine)

হ্যাঁ	১
না	২
প্রযোজ্য নয়	৩
উত্তর নাই	৯৯

৯. আপনি কি মনে করেন যে সবকিছু মিলিয়ে আপনার জীবন যাত্রাতে আপনি সন্তুষ্ট? (Q 9 : are you satisfied with your life these days)

খুবই সন্তুষ্ট	১
সন্তুষ্ট	২
অ-সন্তুষ্ট	৩
খুবই অসন্তুষ্ট	৪
উত্তর নাই	৯৯

১০। আপনি কি মনে করেন যে আপনার দৈনন্দিন জীবনে যা ঘটেছে তার উপর আপনার কি হাত আছে? আপনি কি বলবেন - (Q. 10. do you think you have control over what is happening here)

মোটাই না	.....	১
খুবই অল্প	.....	২
মোটামুটি	.....	৩
অনেক	.....	৪
উত্তর নাই	.....	৯৯

১১। আপন কি মনে করেন আপনার ভবিষ্যৎ আপনার উপর বা আল্লাহর উপর নির্ভর করে? (Q. 11. your future does depend on you or Allah)

নিজের উপর	.....	১
অনেকাংশে আল্লাহর উপর	.....	২
উত্তর নাই	.....	৯৯

১২। আপনি কি মনে করেন আপনার জীবনযাত্রা ভবিষ্যতে দু'একবছর পর বর্তমানের চেয়ে- (Q. 12. future would better than now)

ভাল হবে	.....	১
খারাপ হবে	.....	২
এরকমই থাকবে	.....	৩
কিছুই জানিনা	.....	৪
উত্তর নাই	.....	৯৯

১৩. আপনি কি মনে করেন যে, শারীরিক অসুস্থতা বা অক্ষমতার কারণে দৈনন্দিন কাজকর্ম করতে সাম্প্রতিক কালে আপনার অসুবিধা হয়? (Q 13: ill health or anxiety hampers daily life)

অসুবিধা হয় না	.....	১
একটু অসুবিধা হয়	.....	২
কিছু অসুবিধা হয়	.....	৩
অনেক অসুবিধা হয়	.....	৪
উত্তর নাই	.....	৯৯

১৪. অনেক সমস্যার সম্মুখীন হলে আপনি কি কখনও সেগুলো সামলানো কষ্টকর মনে করেন? অর্থাৎ, আপনি ঘুমাতে অক্ষম হন, অনেক চিন্তা করেন কিংবা নিজেকে মানসিকভাবে দুর্বল মনে হয়। আপনি কি মনে করেন যে আপনার এরকমের অনুভূতি হয়? (Q 14: do you ever find it difficult to handle these)

কদাচিৎ (খুব একটা না)	১
কখনও কখনও	২
মঝে মঝেই	৩
অনেক বার	৪
উত্তর নাই	৯৯

আত্ম-বিবরণী মূলক প্রশ্নমালা

১৫. আমি এখন আপনার গত কয়েক সপ্তাহের অনুভূতি সম্পর্কে আপনাকে কিছু প্রশ্ন করব। দয়া করে আপনি সবগুলো প্রশ্নের উত্তর দিতে চেষ্টা করুন। প্রত্যেকটি প্রশ্নের জন্য আপনি আপনার উত্তরে বলবেন খুবই কম সময় (১) কখনো কখনো (২) অনেক বার (৩) বা প্রায় সব সময়ই (৪) আপনার আক্ত কেমন লাগছে? (Q. 15)

Lately Today

- | | | |
|---|-------|----|
| ১. আপনার কি প্রায়ই মাথা ধরে? | হ্যাঁ | না |
| ২. আপনার কি ক্ষুধা কমে গেছে? | হ্যাঁ | না |
| ৩. আপনার কি ঘুম কম হয়? | হ্যাঁ | না |
| ৪. আপনি সহজে ভয় পেয়ে যান? | হ্যাঁ | না |
| ৫. আপনার কি হাত কাঁপে? | হ্যাঁ | না |
| ৬. আপনি কি নার্ভাস, মানসিক চাপ বা চিন্তিত বোধ করেন? | হ্যাঁ | না |
| ৭. আপনার কি হজম শক্তি কমে গেছে? | হ্যাঁ | না |
| ৮. আপনার কি পরিস্কারভাবে চিন্তা করতে কষ্ট হয়? | হ্যাঁ | না |
| ৯. আপনার কি নিজেকে অসুখী মনে হয়? | হ্যাঁ | না |
| ১০. আপনি কি সাধারণের তুলনায় বেশী কাঁদেন? | হ্যাঁ | না |
| ১১. আপনি কি প্রতিদিনের কাজকর্ম উপভোগ করতে কষ্ট হয়? | হ্যাঁ | না |
| ১২. আপনার কি সিদ্ধান্ত নিতে কষ্ট হয়? | হ্যাঁ | না |
| ১৩. আপনার কি প্রাত্যহিক কাজকর্মের ব্যাঘাত ঘটেছে? | হ্যাঁ | না |
| ১৪. আপনি কি জীবনের দরকারী অংশ হিসাবে যোগদান করতে অপারগ? | হ্যাঁ | না |
| ১৫. আপনার কি সবকিছুতে উৎসাহ কমে হেছে? | হ্যাঁ | না |
| ১৬. আপনার কি মনে হয় যে আপনি একজন মূল্যহীন ব্যক্তি? | হ্যাঁ | না |
| ১৭. আপনার কি কখনও জীবন শেষ করে দেবার চিন্তা মনে এসেছে? | হ্যাঁ | না |
| ১৮. আপনার কি সবসময় নিজেকে ক্লান্ত মনে হয়? | হ্যাঁ | না |
| ১৯. আপনি কি পেটে অস্বস্তিকর অনুভূতি বোধ করেন? | হ্যাঁ | না |
| ২০. আপনি কি সহজেই ক্লান্ত হয়ে পড়েন? | হ্যাঁ | না |

১৭. আপনার সমস্যার জন্য মানসিক চাপ কমাতে আপনি নিজেকে কোন কাজ করে সাহায্য করার চেষ্টা করেন ? (Q. 17. how much you try to solve your problems yourself)

১৮. সাম্প্রতিক স্থানচ্যুতিসহ সর্বমোট কতবার আপনি নিজে নদী ভাঙ্গনের কারণে স্থানচ্যুত হয়েছেন? বন্যার কারণে সাময়িকভাবে বাড়ী ছাড়ার ঘটনাকে অন্তর্ভুক্ত করবেন না। (Q 18 : how many times in total have you personally been displaced)

স্থানচ্যুত হবার সংখ্যা

উত্তর নাই ৯৯

১৯. কখন আপনার পরিবার শেষবার স্থানচ্যুত হয়েছিল? (Q 19:Household last displaced)

স্থানচ্যুত সময়ের পরিমাণ : বৎসর অথবা ---- মাস

উত্তর নাই.....৯৯

কোডার পূরণ করুন

- ১ বৎসরের কম ১
১ বৎসরের বেশী কিন্তু ২ বৎসরের কম ২
২ বৎসর বা তার বেশী কিন্তু ৩ বৎসরের কম ৩
৩ বৎসর বা তার বেশী কিন্তু ৪ বৎসরের কম..... ৪
৪ থেকে ৫ বৎসর ৫

২০. শেষবার স্থানচ্যুত হবার সময়ে আপনি কোথায় বাস করতেন? (Q 20: Where were you living the last time you personally been displaced)

মৌজাঃ

ইউনিয়নঃ

উত্তর নাই ৯৯

২১. শেষবার স্থানচ্যুত হবার সময়ে আপনার কি কোন জমি ছিল? বাস্তুভিটা এবং ফসলের জন্য ব্যবহৃত সকল জমি অন্তর্ভুক্ত করুন। (Q 21: Did you own any land before your household was displaced)

কোন জমি ছিল না	১
শুধুমাত্র বাস্তুভিটা ছিল	২
০.০১ থেকে ২.৫০ একর জমি ছিল (বাস্তুভিটা সহ)	৩
২.৫১ থেকে ৭.৫০ একর জমি ছিল (বাস্তুভিটা সহ)	৪
৭.৫১ একরের বেশী জমি ছিল (বাস্তুভিটা সহ)	৫
উত্তর দিতে আপত্তি	৮৮
উত্তর নাই	৯৯

২২. আপনি যখন শেষবার এখানে আসেন তখন কি আপনি আপনার সাথে কোন জিনিস বা টাকা পয়সা আনতে পেরেছিলেন যা আপনাকে এখানে বাস করতে সাহায্য করেছে? (Q. 22. when you last displaced could you save anything)

হ্যাঁ	১ (২৩ নং প্রশ্ন দেখ)
না	২ (২৪ নং প্রশ্ন দেখ)
উত্তর নাই	৯৯

২৩. আপনি কি কি আনতে পেরেছিলেন যা আপনার প্রয়োজনে এসেছে? (Q. 23. what you could save)

.....
.....

২৪. আপনি যখন শেষবার আপনার জমি হারান তখন যমুনা সেতু কর্তৃপক্ষ বা বাংলাদেশ সরকারের কাছ থেকে বা স্থানীয় কারো কাছ থেকে বা কোন বেসরকারী সংস্থা থেকে কোন সাহায্য পেয়েছিলেন কি? (Q. 24. when you last lost your land did you get any help)

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

২৫. আপনি কি কি সাহায্য পেয়েছিলেন এবং কে দিয়েছিল? (Q. 25. what help you got)

.....
.....

২৬. আপনার মতে নদী ভাঙ্গনের প্রধান কারণ কি? আপনি কি মনে করেন নদী ভাঙ্গন হল.....(পড়ে শোনান) (Q 26: principal cause of riverbank erosion)

প্রকৃতির খেয়াল	১
আল্লাহর ইচ্ছা অথবা আল্লাহর দেয়া শাস্তি	২
অপর্যাণ্ড নিবারণ ব্যবস্থা (যেমন-আড়বাঁধ)	৩
যমুনা সেতু	৪
অন্যকিছু (উল্লেখ করুন)	৬৬
উত্তর নাই	৯৯

২৭. আপনি স্তানান্তর হওয়ার আগে কি জানতেন যে আপনার ইউনিয়নে নদীর ভাঙ্গন একটা বিরাট সমস্যা? (Q. 27. problem of river bank erosion in your union)

হ্যাঁ	১
না	২
জানিনা	৩
উত্তর নাই	৯৯

২৮. স্থানচ্যুত হবার পূর্বে আপনি কি কখনও ভেবেছিলেন যে একদিন আপনি নদী ভাঙ্গনের কারণে বাস্তুহারা হবেন? (Q 28: did you anticipate that you would one lose day your home)

হ্যাঁ	১
না	২
জানা নাই/ মনে নাই	৩
উত্তর নাই	৯৯

২৯. আসার আগে আপনি এখানের অবস্থা, কাজ পাওয়ার সুযোগ ইত্যাদি সম্বন্ধে কিছু জানতেন? (Q 29: did you know what to expect about the living conditions here)

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

৩০. এই এলাকায় চলে আসার প্রধান কারণ কি? (Q 30: main reason your household moved to this area)

আত্মীয়-স্বজন আছে	১
কাজের সুযোগ	২
খাস জমির বিদ্যমানতা	৩
পরিবার অথবা প্রতিবেশীদের অনুসরণ করেছেন	৪
খাবারের রেশন পাওয়া যেত	৫
অন্য কোথাও যাবার সুযোগ ছিল না	৬
অন্য কারণঃ	৬৬
উত্তর নাই	৯৯

৩১. যারা এখানে তাদের সমস্ত জীবন বসবাস করেছে তারা আপনাকে গ্রহণ করছে বলে কি আপনার মনে হয়? (Q. 31. do the people living here accept you)

বেশ গ্রহণ করছে	১
গ্রহণ করছে	২
গ্রহণ করছেননা	৩
বিরোধিতা করছে	৪
উত্তর নাই	৯৯

৩২. আপনার কি এখানে কখনো একা মনে হয়েছে? আপনি কি বলবেন - (Q. 32. do you feel lonely)

খুব কম সময়	১
কখনো কখনো	২
অনেক বার	৩
উত্তর নাই	৯৯

৩৩. আপনার একান্ত নিজের চিন্তা, অনুভূতি বা দঃচিন্তা কাউকে বলার মত আছে কি? (Q. 33. do you have anyone to tell about your worries.....)

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

৩৪. আমাদের সবাইকে মাঝে-মাঝে সাহায্য ও সহযোগিতার জন্য আত্মীয় এবং সমাজের উপর নির্ভর করতে হয়। কোন সময় আমাদের খাবার বা অর্থের প্রয়োজন পড়ে, কখনও বা প্রয়োজন পড়ে তথ্য ও

উপদেশের কিংবা মানসিক অবলম্বনের। আপনার এমন কোন লোক আছে যার উপরে আপনি প্রয়োজনের মূহুর্তে নির্ভর করতে পারেন? (Q 34: do you have people you can always count on to help you out)

হ্যাঁ ১
না ২
উত্তর নাই ৯৯

৩৫. আপনি কি আশা করেন যে আপনি কখনো আপনার পুরানো জায়গায় ফিরতে পারবেন? (Q. 35. you hopeful you could ever return)

খুব আশাবাদি ১
আশাবাদি ২
আশা করিনা ৩
সমস্ত আশা চেড়ে দিয়েছি ৪
উত্তর নাই ৯৯

৩৬. আপনি কি আপনার নদী ভাঙ্গনে হারিয়ে যাওয়া জমি বা বাড়ীর কথা প্রায়ই মনে করেন? গত এক সপ্তাহে আপনি আপনার হারিয়ে যাওয়া জমি বা বাড়ীর কথা মনে করেছেন? (Q. 36. how often you think about the land or homestead you lost)

খুব কম ১
কখনো কখনো ২
অনেক বার ৩
উত্তর নাই ৯৯

৩৭. গত সাত দিনে আপনি আপনার জমি বা বাড়ীর কথা কতটুকু গভীর ভাবে মনে করেছেন - (Q. 37. in last seven days how often)

খুব কম ১
কখনো কখনো ২
অনেক বার ৩
উত্তর নাই ৯৯

৩৮. গত সাত দিনে আপনার হারিয়ে যাওয়া জমি বা বাড়ীর চিন্তায় আপনি ঘুমাতে পারেননি? (Q. 38)

খুব কম সময়	১
কখনো কখনো	২
অনেক বার	৩
উত্তর নাই	৯৯

৩৯. আপনি কি গত সাত দিনে আপনার ইচ্ছার বিরুদ্ধেও হারিয়ে যাওয়া জমি বা বাড়ীর কথা চিন্তা করেছেন? (Q. 39)

খুব কম সময়	১
কখনো কখনো	২
অনেক বার	৩
উত্তর নাই	৯৯

৪০. আপনি মনে করেন যে আপনার হারিয়ে যাওয়া জমি বা বাড়ীর কথা মনে হলে আপনি খুব চিন্তিত হয়ে পড়েন? (Q. 40)

হ্যাঁ আমি চেষ্টা করি চিন্তা না করার	১
না আমি মনে করি তা আমাকে ব্যথা দেয়	২
উত্তর নাই	৯৯

৪১. এখানে আসার পূর্বে আপনি কি কাজ করেছেন? (Q. 41. profession before displacement)
পেশা ----- (উল্লেখ করুন)

জমির মালিক, কৃষক	১
অন্যান্য প্রাথমিক উৎপাদন	২
স্বনিযুক্ত, অ-কৃষিকাজ	৩
দৈনিক, সাময়িক মজুর	৪
দীর্ঘ-সময়ের মজুর	৫
মজুরী ছাড়াই বাড়ীতে কাজ করেন	৬
ছাত্র	৭
বেকার	৮
অন্যান্য	৬৬
উত্তর নাই	৯৯

৪২. আপনি এখন কি ধরনের কাজ করেন (Q 42 : Type of work now)-----
পেশা ----- (উল্লেখ করুন)

জমির মালিক, কৃষক	১
অন্যান্য প্রাথমিক উৎপাদন	২
স্বনির্যুক্ত, অ-কৃষিকাজ	৩
দৈনিক, সাময়িক মজুর	৪
দীর্ঘ-সময়ের মজুর	৫
মজুরী ছাড়াই বাড়ীতে কাজ করেন	৬
ছাত্র	৭
বেকার	৮
অন্যান্য -----	৬৬
উত্তর নাই	৯৯

৪৩. আপনার বৈবাহিক অবস্থা কি? (পড়ে শোনান) (Q 43 : Marital status)

অবিবাহিত.....	১
বিবাহিত এবং স্ত্রী/স্বামীর সাথে একত্রে থাকেন	২
বিবাহিত কিন্তু স্ত্রী/স্বামী থেকে আলাদা থাকেন	৩
তালাক প্রাপ্ত/প্রাপ্তা	৪
বিপত্নীক/ বিধবা	৫
উত্তর নাই	৯৯

৪৪. আপনার বয়স কত? (Q 44 : How old are you?)

বৎসর উল্লেখ করুনঃ -----

কোডার পুরন করুন

৩০ বৎসরের কম	১
৩০ থেকে ৩৯ বৎসরের মধ্যে	২
৪০ থেকে ৪৯ বৎসরের মধ্যে	৩
৫০ বৎসরের উর্ধে	৪

৪৫. আপনি কত বৎসর স্কুলে লেখাপড়া করেছেন? (Q 45: Years of schooling)

বৎসর উল্লেখ করুনঃ-----

কোডার পুরন করুন

৪৬. স্কুলের লেখাপড়া ছাড়া অন্য কোন প্রশিক্ষণ গ্রহণ করেছেন কি? (Q 46 : Other training)

হ্যাঁ ১
না ২
উত্তর নাই ৯৯

৪৭. কোন প্রশিক্ষণ গ্রহণ করেছেন?..... (উল্লেখ করুন)
(Q. 47. which training you received)

৪৮. আপনি কি পড়তে এবং লিখতে পারেন যেমন একটি খবরের কাগজ কিংবা চিঠি ? (Q 48: able to read write for example a newspaper or letter)

হ্যাঁ..... ১
না ২
উত্তর নাই..... ৯৯

৪৯. আপনি সহ এই খানার কতজন বাস করেন (প্রাপ্তবয়স্ক ও নাবালক সহ)?.....
(Q 49 : how many persons)

৫০. এই খানার কয় জন সদস্য পরিবারের জন্য উপার্জন করেন?.....
(Q50 : members contribute to your household income)

৫১. আপনার স্কুল বয়সের কোন সন্তান আছে কি? (Q. 51. do you have any school-age children)

হ্যাঁ/ না/ প্রযোজ্য নয় [উত্তর 'না' হলে ৫৪ নং প্রশ্ন দেখ]

৫২. আপনার কোন সন্তান কি স্কুলে যায়? (Q. 52. do any of your school-age children go to school)

হ্যাঁ/ না/ প্রযোজ্য নয়

৫৩. আপনার কোন স্কুল বয়সের সন্তান কি আপনার পরিবারের জন্য রোজগার করে? (Q. 53. do any of your school-age children contribute to earnings)

হ্যাঁ/ না/ প্রযোজ্য নয়

৫৪. আমাদের প্রশ্ন শেষ। আমাদের এ কাজে সহয়তা করার জন্য আপনাকে ধন্যবাদ। আমাদের যদি আবারও আপনাকে প্রয়োজন হয় তবে আমরা কি আপনার কাছে আসতে পারি?

হ্যা ১
না ২

৫৫. আমাদের এ পরীক্ষণের ফলাফল সম্পর্কে যদি আপনি জানতে আগ্রহী হোন তবে আমরা আপনার ওয়ার্ডের ইউ. পি. সদস্যের কাছে তা পৌছে দেব। এক বৎকস খনৈব সময়ের মধ্যে তা পাওয়া যাবে বলে আমরা আশা করছি। আপনাকে আবারও ধন্যবাদ।

সাধারণ স্বাস্থ্য সংক্রান্ত মানক

শেষ করার আগে আমি আপনার অনুভূতি সম্পর্কে ১২টি প্রশ্ন করতে চাই। প্রত্যেকটা প্রশ্নের জন্য আপনি দয়া করে আমাকে বলুন আপনার অনুভূতিগুলি আপনি অনুভব করেন- কখনোই না (১), কখনো কখনো (২), অনেক সময় (৩), অথবা, প্রায় সবসময় (৪)।

১. আপনি যে সব কাজকর্ম করছেন তাতে মনযোগ দিতে পারছেন কি?
২. দুর্ঘটনার দরুন আপনার ঘুমের ব্যাঘাত ঘটছে কি?
৩. কোন কাজে গুরুত্বপূর্ণ ভূমিকা পালন করছেন বলে মনে হয় কি?
৪. নিজেকে কোন বিষয় সম্বন্ধে সিন্ধান্ত দেওয়ার যোগ্য মনে হয়েছে কি?
৫. আপনি ক্রমাগত ভাবে মানসিক চাপের মধ্যে আছেন কি?
৬. আপনি অসুবিধাগুলি কাটিয়ে উঠতে পারবেন না বলে মনে হয়েছে কি?
৭. আপনার দৈনন্দিন সাধারণ কাজগুলি উপভোগ করতে পেরেছেন কি?
৮. আপনি আপনার সমস্যাগুলির মোকাবেলা করতে পেরেছেন কি?
৯. আপনার নিজেকে অসুখী ও বিষন্ন মনে হয়েছে কি?
১০. আপনি নিজের উপর আস্থা হারিয়ে ফেলেছেন কি?
১১. নিজেকে একজন অপদার্থ ব্যক্তি বলে মনে করেছেন কি?
১২. সব কিছু বিবেচনা করে নিজেকে সুখী মনে করছেন কি?

FLOOD ADDENDUM

এবারের বৃষ্টি ও বন্যা আপনার পরিবারকে কিভাবে ক্ষতিগ্রস্ত করেছে সে সম্পর্কে এখন আমি আপনাকে কিছু প্রশ্ন করব।

*) এবারের বৃষ্টি ও বন্যা আপনাকে কতটুকু বিব্রত বা চিন্তিত করেছে? আপনি কি বলবেন ...

মোটের বিব্রত বা চিন্তিত নয়	১
কিছুটা বিব্রত বা চিন্তিত	২
বেশ বিব্রত বা চিন্তিত	৩
ভীষন বিব্রত বা চিন্তিত	৪
উত্তর নাই	৯৯

*) এবারের বৃষ্টি ও বন্যা আপনার পরিবার (বাসস্থান) কি ক্ষতিগ্রস্ত হয়েছে কি?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

*) এবারের পানি ও বন্যার কারণে আপনার পরিবার (বাসস্থান) স্থানান্তর করতে বাধ্য হয়েছেন কি?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

*) বন্যার আগের তুলনায় এখন আপনার জীবন -

আগের মতোই	১
একটু খারাপ	২
বেশ খারাপ	৩
খুবই খারাপ	৪
উত্তর নাই	৯৯

*) বন্যার কারণে কি আপনার বিশুদ্ধ খাবার পানি পেতে কষ্ট হয়?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

*) এবারের পানি ও বন্যার কারণে আপনার সম্পদের ও টাকা পয়সার যে ক্ষতি হয়েছে তাতে কি আপনার খাদ্য ও অন্যান্য প্রয়োজনীয়তা মেটাতে কষ্ট হয় ?

কষ্ট হয় না	১
একটু কষ্ট হয়	২
মোটামুটি কষ্ট হয়	৩
বেশ কষ্ট হয়	৪
উত্তর নাই	৯৯

*) এবারের পানি ও বন্যার কারণে আপনার পরিবারের স্বাস্থ্যসমস্যা কি আগের চেয়ে বেশী ?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

Coping Questions

৯. আপনি আপনার সমস্যা বা অসুবিধা সম্পর্কে কতটুকু প্রকাশ করেন? (যেমন আপনি কতটুকু কান্নাকাটি করেন বা রাগান্বিত হন?)

১০. আপনি আপনার সমস্যা কতটুকু গ্রহণ করেন, কারন আপনি তা সমাধান করতে পারেন না।

Supplimentary Questions :

**) আগামী এক মাস এবং এক বছরে কি ঘটবে এটা নিয়ে কি আপনি বেশীর ভাগ সময়ই চিন্তা করেন?

হ্যাঁ..... ১

না ২

**) আপনার প্রতিদিন কেমন চলবে এনিয়ে কি আপনি অধিকাংশ সময় চিন্তা করেন?

হ্যাঁ..... ১

না ২

**) আপনি কি এখানে স্থায়ীভাবে বসবাস করতে চাচ্ছেন ?

হ্যাঁ..... ১

না ২

**) আপনি কি নিজেকে আপনার সমাজ থেকে আলাদা মনে করেন?

হ্যাঁ..... ১

না

Appendix D

Bengali Non-Displacee Questionnaire

স্থায়ীদের ভূমিকা পত্র

প্রত্যেক সাক্ষাৎকারের শুরুতে নিম্নোক্ত ভূমিকা উত্তরদাতাকে পড়ে শোনাতে হবে।

কানাডার ম্যানিটোবা বিশ্ববিদ্যালয়ের একজন ডক্টরেট ছাত্রের (ডেভিড হাটন) গবেষণায় অংশ গ্রহণের জন্য আপনার খানা (পরিবার) কে নির্বাচন করা হয়েছে। এই গবেষণার উদ্দেশ্য হল নদী ভাঙ্গন ও স্থানচ্যুতি এবং নদী ভাঙ্গনে ক্ষতিগ্রস্ত কিন্তু স্থানচ্যুত নয় এই দুই শ্রেণীর মানুষের উপর এসকল সমস্যা কিভাবে প্রভাব ফেলে এবং মানুষ কিভাবে এসবের ফলে সৃষ্ট সমস্যা সমূহ মোকাবেলা করে তা নিরূপন করা।

আমি নিশ্চিত হয়েছি যে, গত পাঁচ বছরের ভিতরে আপনার পরিবার নদী ভাঙ্গনের ফলে স্থানচ্যুত হয়নি। এর মধ্যে বন্যার ফলে সাময়িক স্থানচ্যুতি অন্তর্ভুক্ত নয়।

যদি উত্তরদাতা কখনোই স্থানচ্যুত নাহয়ে থাকে তবে না-তে দাগ দিন এবং ভূমিকা পাঠ ও সাক্ষাৎকার গ্রহণ অব্যাহত রাখুন।

যদি উত্তরদাতা স্থানচ্যুত হয়ে থাকে তবে হ্যাঁ-তে দাগ দিন এবং ভূমিকা পাঠ ও সাক্ষাৎকার গ্রহণ বন্ধ করুন এবং নিম্নোক্ত অংশ টুকু সাক্ষাৎকার প্রদানকারীকে পাঠ করে শুনান।

এই প্রশ্নগুলি যারা কখনোই স্থানচ্যুত হয়নি এমন ব্যক্তিদের জন্য তৈরী। তবুও আমি আপনাকে আমাদের সহায়তা করার জন্য এবং আপনার মূল্যবান সময় দেওয়ার জন্য আন্তরিক ধন্যবাদ জানাব।

যদিও এই গবেষণার লক্ষ্যবস্তু পরিবার একক তবুও আমাদের পুরুষ এবং মহিলা উভয়ের সম্পর্কেই তথ্য প্রয়োজন। আমাকে এই পরিবারের পুরুষ প্রধান ও মহিলা প্রধান উভয়েরই সাক্ষাৎকার গ্রহণ করতে নির্দেশ দেওয়া হয়েছে। কারণ আমাদের আশা এই গবেষণায় সাক্ষাৎকার প্রদানকারী প্রত্যেকেই সকল প্রশ্নের উত্তর দিবেন। অন্যদের আমরা এই সাক্ষাৎকারে অংশগ্রহণ থেকে বিরত থাকতে অনুরোধ করব।

এই সাক্ষাৎকার ৩০ মিনিট স্থায়ী হবে, যদিও কারোজন্য আরও বেশী সময় প্রয়োজন হতে পারে। এই কাজে অংশগ্রহণ আপনার একান্তই স্বেচ্ছামূলক। অর্থাৎ আপনি ইচ্ছা করলে এ সাক্ষাৎকার প্রদান যে কোন সময় বন্ধ করতে পারেন। আপনি ইচ্ছা করলে আপনার নাম গোপন রাখতে পারেন এবং আপনি কোন প্রশ্নের উত্তর দিতে বিব্রত বোধ করলে আপনি উত্তর দান থেকে বিরত থাকতে পারেন।

এই গবেষণার ফলাফল আপনার জীবন যাত্রায় প্রভাব ফেলবে বলে আমরা কোন নিশ্চয়তা দিতে পারি না। কিন্তু যেহেতু এ ধরনের কাজ আগে হয়নি সুতরাং আমি আপনাকে অনুরোধ করব আপনি আন্তরিকতার সাথে প্রত্যেক প্রশ্নের উত্তর দিবেন। আমরা আশা করি এ গবেষণার ফলাফল বিভিন্ন সরকারী ও বেসরকারী সাহায্য সংস্থাকে বন্যা ও নদী ভাঙ্গনে ক্ষতিগ্রস্ত ব্যক্তিদের সাহায্য প্রদানের কর্মসূচী গ্রহণ করতে সহায়তা করবে। এ

গবেষণার ফলাফল আগামী এক বছরের মধ্যে পাওয়া যাবে এবং তা আপনাকে পাঠানো যেতে পারে।

এ গবেষণা কার্যক্রম কানাডার ম্যানিটোবা বিশ্ববিদ্যালয়ের কলা অনুষদের এথিক রিভিউ কমিটি কর্তৃক অনুমোদিত। আপনি এ সম্পর্কে যদি কোন সমস্যা বোধ করেন বা আশ্রয় প্রকাশ করেন তবে -----
----- সাথে ----- স্থানে যোগাযোগ করতে পারেন।

সাক্ষাৎকার শুরু করার পূর্বে আমি জানতে চাই আপনি আমাদের গবেষণার উদ্দেশ্য সম্পর্কে বুঝতে পেরেছেন কি না এবং সাক্ষাৎকার প্রদানে সম্মত কি না। নিম্নোক্ত বক্তব্যের সাথে আপনি একমত কি না?

আমি আপনাকে হয়ত বুঝতে পেরেছি যে, আমাদের গবেষণার উদ্দেশ্য- বন্যা ও নদী ভাঙ্গনের ক্ষতিগ্রস্থদের দৈনন্দিন সমস্যার ও মানুষ কিভাবে এসবের ফলে সৃষ্ট সমস্যা সমূহ মোকাবেলা করে তা সম্পর্কে ধারণা লাভ করা। আপনি এতক্ষণে নিশ্চয়ই বুঝতে পেরেছেন যে, আমাদের সাক্ষাৎকারে অংশ গ্রহণ সম্পূর্ণ স্বেচ্ছা মূলক এবং আপনার প্রতিটি উত্তর গোপন রাখা হবে। এ সাক্ষাৎকারে আপনার সম্মতি আছে এবং আপনি যেকোন সময় সাক্ষাৎকার প্রদান থেকে বিরত থাকতে পারেন।

সাক্ষাৎকারের তারিখ----- সাক্ষাৎকার গ্রহণকারীর স্বাক্ষর -----

স্থানচ্যুতি ও সমন্বয় সংক্রান্ত প্রশ্নমালা
স্থায়ী ভাবে বসবাসকারী খানা-প্রধানের প্রতি

১. থানা অথবা নমুনা অঞ্চল.....

২. খানার (বাড়ীর) নং.....

৩. উত্তরদাতার লিঙ্গ

পুরুষ..... ১
মহিলা..... ২
উত্তর নাই..... ৯৯

আপনাদের জীবনযাত্রা সম্পর্কে আমি কিছু প্রশ্ন করতে চাই

৪. আপনার খানায় কি নীচের জিনিসগুলি আছে? হ্যাঁ অথবা না উত্তর দিন। (Q. 4. if your household has access to the following)

	হ্যাঁ	না	উত্তর নাই
পাকা ঘর বা করোগেট টিনের চাল	১	২	৯৯
সিমেন্ট এর মেঝে সহ ঘর	১	২	৯৯
একটার বেশী কক্ষ	১	২	৯৯
দুইটার বেশী কক্ষ	১	২	৯৯
নলকূপ	১	২	৯৯
পরিস্কার খাবার পানি	১	২	৯৯
পায়খানা	১	২	৯৯
রেডিও	১	২	৯৯
বিদ্যুত	১	২	৯৯

৫. গড়ে আপনার পরিবারের দৈনিক রোজগার কত? (Q. 5. how much your household earns daily)

দৈনিক গড় রোজগার : ট
প্রযোজ্য নয় ৭৭
উত্তর নাই ৯৯

৬. যথেষ্ট পয়সা নাই বলে কিভাবে আপনার ও আপনার পরিবারের দিন চলবে, কিভাবে দৈনন্দিন চাহিদা মিটাবেন এইসব নিয়ে কি আপনি কখনো চিন্তা করেন ? (Q. 6. worry about how you and your family will survive)

কখনও না, অথবা খুবই কম (বছরে কয়েকবার)	১
মাঝে-মাঝে	২
প্রায় সবসময় (প্রতিসপ্তাহে)	৩
সবসময় (প্রতিদিন)	৪
উত্তর নাই	৯৯

৭. খাবার কেনার যথেষ্ট পয়সা না থাকার কারণে আপনার পরিবারকে কি কখনও না খেয়ে থাকতে হয়? (Q 7 : household ever go hungry)

কখনও না, অথবা খুবই কম (বছরে কয়েকবার)	১
মাঝে-মাঝে	২
প্রায় সবসময় (প্রতিসপ্তাহে)	৩
সবসময় (প্রতিদিন)	৪
উত্তর নাই	৯৯

৮. আপনি অথবা আপনার পরিবারের কেহ অসুস্থ হয়ে পড়লে আপনাদের বাড়ীতে ঔষধ কেনার যথেষ্ট পয়সা থাকে? (Q 8: enough money to buy medicine)

হ্যাঁ	১
না	২
প্রযোজ্য নয়	৩
উত্তর নাই	৯৯

৯. আপনি কি মনে করেন যে সবকিছু মিলিয়ে আপনার জীবন যাত্রাতে আপনি সন্তুষ্ট? (Q 9 : are you satisfied with your life these days)

খুবই সন্তুষ্ট	১
সন্তুষ্ট	২
অ-সন্তুষ্ট	৩
খুবই অসন্তুষ্ট	৪
উত্তর নাই	৯৯

১০. আপনি কি মনে করেন যে আপনার দৈনন্দিন জীবনে যা ঘটেছে তার উপর আপনার কি হাত আছে? আপনি কি বলবেন - (Q. 10. do you think you have control over what is hapenning here)

মোটাই না	.....	১
খুবই অল্প	.....	২
মোটামুটি	.....	৩
অনেক	.....	৪
উত্তর নাই	.....	৯৯

১১. আপন কি মনে করেন আপনার ভবিষ্যৎ আপনার উপর বা আল্লাহর উপর নির্ভর করে? (Q. 11. yuor future does depend on you or Allah)

নিজের উপর	.....	১
অনেকাংশে আল্লাহর উপর	.....	২
উত্তর নাই	.....	৯৯

১২. আপনি কি মনে করেন আপনার জীবনযাত্রা ভবিষ্যতে দুএকবছর পর বর্তমানের চেয়ে- (Q. 12. future would better than now)

ভাল হবে	.....	১
খারাপ হবে	.....	২
এরকমই থাকবে	.....	৩
কিছুই জানিনা	.....	৪
উত্তর নাই	.....	৯৯

১৩. আপনি কি মনে করেন যে, শারীরিক অসুস্থতা বা অক্ষমতার কারণে দৈনন্দিন কাজকর্ম করতে সাম্প্রতিক কালে আপনার অসুবিধা হয়? (Q 13: ill health or anxiety hampers daily life)

অসুবিধা হয় না	.....	১
একটু অসুবিধা হয়.....	.....	২
কিছু অসুবিধা হয়.....	.....	৩
অনেক অসুবিধা হয়.....	.....	৪
উত্তর নাই	.....	৯৯

১৪. অনেক সময়স্যার সম্মুখীন হলে আপনি কি কখনও সেগুলো সামলানো কষ্টকর মনে করেন? অর্থাৎ, আপনি ঘুমাতে অক্ষম হন, অনেক চিন্তা করেন কিংবা নিজেকে মানসিকভাবে দুর্বল মনে হয়। আপনি কি মনে করেন যে আপনার এরকমের অনুভূতি হয়? (Q 14: do you ever find it difficult to handle these)

কদাচিৎ (খুব একটা না)	১
কখনও কখনও	২
মাঝে মাঝেই	৩
অনেক বার	৪
উত্তর নাই	৯৯

আত্ম-বিবরণী মূলক প্রশ্নমালা

১৫. আমি এখন আপনার গত কয়েক সপ্তাহের অনুভূতি সম্পর্কে আপনাকে কিছু প্রশ্ন করব। দয়া করে আপনি সবগুলো প্রশ্নের উত্তর দিতে চেষ্টা করুন। প্রত্যেকটি প্রশ্নের জন্য আপনি আপনার উত্তরে বলবেন খুবই কম সময় (১) কখনো কখনো (২) অনেক বার (৩) বা প্রায় সব সময়ই (৪) আপনার আঙু কেমন লাগছে? (Q. 15)

Lately Today

- | | | |
|---|-------|----|
| ১. আপনার কি প্রায়ই মাথা ধরে? | হ্যাঁ | না |
| ২. আপনার কি ক্ষুধা কমে গেছে? | হ্যাঁ | না |
| ৩. আপনার কি ঘুম কম হয়? | হ্যাঁ | না |
| ৪. আপনি সহজে ভয় পেয়ে যান? | হ্যাঁ | না |
| ৫. আপনার কি হাত কাঁপে? | হ্যাঁ | না |
| ৬. আপনি কি নার্ভাস, মানসিক চাপ বা চিন্তিত বোধ করেন? | হ্যাঁ | না |
| ৭. আপনার কি হজম শক্তি কমে গেছে? | হ্যাঁ | না |
| ৮. আপনার কি পরিস্কারভাবে চিন্তা করতে কষ্ট হয়? | হ্যাঁ | না |
| ৯. আপনার কি নিজেকে অসুখী মনে হয়? | হ্যাঁ | না |
| ১০. আপনি কি সাধারণের তুলনায় বেশী কাঁদেন? | হ্যাঁ | না |
| ১১. আপনি কি প্রতিদিনের কাজকর্ম উপভোগ করতে কষ্ট হয়? | হ্যাঁ | না |
| ১২. আপনার কি সিদ্ধান্ত নিতে কষ্ট হয়? | হ্যাঁ | না |
| ১৩. আপনার কি প্রাত্যহিক কাজকর্মের ব্যাঘাত ঘটেছে? | হ্যাঁ | না |
| ১৪. আপনি কি জীবনের দরকারী অংশ হিসাবে যোগদান করতে অপারগ? | হ্যাঁ | না |
| ১৫. আপনার কি সবকিছুতে উৎসাহ কমে গেছে? | হ্যাঁ | না |
| ১৬. আপনার কি মনে হয় যে আপনি একজন মূল্যহীন ব্যক্তি? | হ্যাঁ | না |
| ১৭. আপনার কি কখনও জীবন শেষ করে দেবার চিন্তা মনে এসেছে? | হ্যাঁ | না |
| ১৮. আপনার কি সবসময় নিজেকে ক্লান্ত মনে হয়? | হ্যাঁ | না |
| ১৯. আপনি কি পেটে অস্বস্তিকর অনুভূতি বোধ করেন? | হ্যাঁ | না |
| ২০. আপনি কি সহজেই ক্লান্ত হয়ে পড়েন? | হ্যাঁ | না |

১৬. আপনার দৈনন্দিন সমস্যা বা অসুবিধার কারণে খুব আপনি কিভাবে মোকাবেলা করেন ? যদিও ভিন্ন ভিন্ন সমস্যা ভিন্ন ভিন্ন প্রতিক্রিয়া তৈরীকরে, তবুও সমস্যা বা অসুবিধার কারণে চিন্তিত হয়ে পড়লে আপনি কি করেন তা আমি জানতে চাই।

প্রতিটি বক্তব্য বলছি আপনার ক্ষেত্রে কোনটি প্রযোজ্য ?

- ১) খুব কম করি
- ২) মাঝে মাঝে করি
- ৩) বেশী ভাগ সময় করি
- ৪) সব সময় করি

১. আপনার সমস্যা বা অসুবিধা থেকে রক্ষা পাওয়ার জন্য আপনি কি করেন, যেমন আপনি কোন কাজ করতে থাকেন যাতে করে আপনার সমস্যা বা অসুবিধার কথা মনে না আসে বা চিন্তা না হয়
.....

B. এ সময় আপনি সাধারণত কি করেন

২. আপনার সমস্যা বা অসুবিধা নিয়ে আপনি কতটুকু আশাবাদি বা ইতিবাচক যার ফলে আপনার সমস্যা আপনাকে কম দুঃখিত করে

৩. আপনার সমস্যা বা অসুবিধা সমাধানে আপনি আল্লাহর উপর কতখানি নির্ভরশীল

৪. আপনার সমস্যা বা অসুবিধা সমাধান অন্য কোন উপায়ে করা যায় তা নিয়ে আপনি কি কোন পরিকল্পনা বা চিন্তা করেন

৫. নির্দিষ্ট কিছু কাজ করে আপনার সমস্যা বা অসুবিধা দূর করার চেষ্টা করেন

৬. আপনার সমস্যা বা অসুবিধা সম্পর্কে আপনি অন্যকে কতখানি বলেন যার মাধ্যমে আপনি কোন সাহায্য বা উপদেশ পেতে পারেন

৭. আপনার সমস্যা বা অসুবিধা সম্পর্কে আপনার অনুভূতিগুলি আপনি কতটুকু অন্যকে জানতে দেন?

৮. আপনার সমস্যা বা অসুবিধা সম্পর্কে আপনার অনুভূতিগুলি আপনি কতটুকু অন্যকে জানতে দেন যাতে আপনি এগুলো ভুলে থাকতে পারেন

১৭. আপনার সমস্যার জন্য মানসিক চাপ বা দুঃচিন্তা কমাতে আপনি নিজেকে কোন কাজ করে সাহায্য করার চেষ্টা করেন ? (Q. 17. how much you try to solve your problems yourself)

২১. আপনার কি কোন জমি আছে? এর মধ্যে আপনার বাস্তুভিটাসহ ফসলের জমি অন্তর্ভুক্ত-(Q. 21. do you own any land)

কোন জমি নাই	১
শুধুমাত্র বাস্তুভিটা আছে	২
০.০১ থেকে ২.৫০ একর জমি আছে (বাস্তুভিটাসহ)	৩
২.৫১ থেকে ৭.৫০ একর জমি আছে(বাস্তুভিটাসহ)	৪
৭.৫১ একরের বেশী আছে (বাস্তুভিটাসহ)	৫
উত্তর দিতে আপত্তি	৮৮
উত্তর নাই	৯৯

৩৪. আপনার এখানে নিজস্ব কোন সাহায্য আছে কি? যেমন - আমরা আত্মীয়-স্বজন বা সমাজের উপর নির্ভর করি আমাদের সাহায্য এবং সহায়তার জন্য। অনেক সময় আমাদের খাদ্য বা টাকার প্রয়োজন হয়, আবার অনেক সময় আমরা কেবল মাত্র পরামর্শের জন্যও অন্যের কাছে যাই। আপনার প্রয়োজনের মুহূর্তে আপনি কি আপনার অ-আত্মীয় বা সমাজের অন্য কারো উপর নির্ভর করতে পারেন? (Q. 34.)

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

৪২. আপনি এখন কি ধরনের কাজ করেন (Q 42 : Type of work)-----
 পেশা ----- (উল্লেখ করুন)

জমির মালিক, কৃষক	১
অন্যান্য প্রাথমিক উৎপাদন	২
স্বনির্যুক্ত, অ-কৃষিকাজ	৩
দৈনিক, সাময়িক মজুর	৪
দীর্ঘ-সময়ের মজুর	৫
মজুরী ছাড়াই বাড়ীতে কাজ করেন	৬
ছাত্র	৭
বেকার	৮
অন্যান্য -----	৬৬

উত্তর নাই ৯৯

৪৩. আপনার বৈবাহিক অবস্থা কি? (পড়ে শোনান) (Q 43 : Marital status)

অবিবাহিত.....	১
বিবাহিত এবং স্ত্রী/স্বামীর সাথে একত্রে থাকেন	২
বিবাহিত কিন্তু স্ত্রী/স্বামী থেকে আলাদা থাকেন	৩
তালাক প্রাপ্ত/প্রাপ্তা	৪
বিপত্নীক/ বিধবা	৫

উত্তর নাই ৯৯

৪৪. আপনার বয়স কত? (Q 44 : How old are you?)

বৎসর উল্লেখ করুনঃ -----

কোডার পুরন করুন

৩০ বৎসরের কম	১
৩০ থেকে ৩৯ বৎসরের মধ্যে	২
৪০ থেকে ৪৯ বৎসরের মধ্যে	৩
৫০ বৎসরের উর্ধে	৪

৪৫. আপনি কত বৎসর স্কুলে লেখাপড়া করেছেন? (Q 45: Years of schooling)

বৎসর উল্লেখ করুনঃ-----

কোডার পুরন করুন

৪৬. স্কুলের লেখাপড়া ছাড়া অন্য কোন প্রশিক্ষণ গ্রহণ করেছেন কি? (Q 46 : Other training)

হ্যাঁ	১
না	২

উত্তর নাই ৯৯

৪৭. কোন প্রশিক্ষণ গ্রহণ করেছেন?..... (উল্লেখ করুন)
(Q. 47. what training you received)

৪৮. আপনি পড়তে এবং লিখতে পারেন? (Q 48: able to read write)

হ্যাঁ.....	১
না	২

উত্তর নাই..... ৯৯

৪৯. আপনি সহ এই খানার কতজন বাস করেন (প্রাপ্তবয়স্ক ও নাবালক সহ)?.....-----
(Q 49 : how many persons)

৫০. এই খানার কয় জন সদস্য পরিবারের জন্য উপার্জন করেন?.....-----
(Q50 : members contribute to your household income)

৫১. আপনার স্কুল বয়সের কোন সন্তান আছে কি? (Q. 51. do you have any school-age children)

হ্যাঁ/ না/ প্রযোজ্য নয় [উত্তর না হলে ৫৪ নং প্রশ্ন দেখা]

৫২. আপনার কোন সন্তান কি স্কুলে যায়? (Q. 52. do any of your school-age children go to school)

হ্যাঁ/ না/ প্রযোজ্য নয়

৫৩. আপনার কোন স্কুল বয়সের সন্তান কি আপনার পরিবারের জন্য রোজগার করে? (Q. 53. do any of your school-age children contribute to earnings)

হ্যাঁ/ না/ প্রযোজ্য নয়

৫৪. আমাদের প্রশ্ন শেষ। আমাদের এ কাজে সহয়তা করার জন্য আপনাকে ধন্যবাদ। আমাদের যদি আবারও আপনাকে প্রয়োজন হয় তবে আমরা কি আপনার কাছে আসতে পারি?

হ্যাঁ ১
না ২

৫৫. আমাদের এ পরীক্ষণের ফলাফল সম্পর্কে যদি আপনি জানতে আগ্রহী হোন তবে আমরা আপনার ওয়ার্ডের ইউ. পি. সদস্যের কাছে তা পৌঁছে দেব। এক বৎকস খনেনব সময়ের মধ্যে তা পাওয়া যাবে বলে আমরা আশা করছি। আপনাকে আবারও ধন্যবাদ।

সাধারণ স্বাস্থ্য সংক্রান্ত মানক

শেষ করার আগে আমি আপনার অনুভূতি সম্পর্কে ১২টি প্রশ্ন করতে চাই। প্রত্যেকটা প্রশ্নের জন্য আপনি দয়া করে আমাকে বলুন আপনার অনুভূতিগুলি আপনি অনুভব করেন- কখনোই না (১), কখনো কখনো (২), অনেক সময় (৩), অথবা, প্রায় সবসময় (৪)।

১. আপনি যে সব কাজকর্ম করছেন তাতে মনযোগ দিতে পারছেন কি?
২. দুঃচিন্তার দরুন আপনার ঘুমের ব্যাঘাত ঘটছে কি?
৩. কোন কাজে গুরুত্বপূর্ণ ভূমিকা পালন করছেন বলে মনে হয় কি?
৪. নিজেকে কোন বিষয় সম্বন্ধে সিকান্ত দেওয়ার যোগ্য মনে হয়েছে কি?
৫. আপনি ক্রমাগত ভাবে মানসিক চাপের মধ্যে আছেন কি?
৬. আপনি অসুবিধাগুলি কাটিয়ে উঠতে পারবেন না বলে মনে হয়েছে কি?
৭. আপনার দৈনন্দিন সাধারণ কাজগুলি উপভোগ করতে পেরেছেন কি?
৮. আপনি আপনার সমস্যাগুলির মোকাবেলা করতে পেরেছেন কি?
৯. আপনার নিজেকে অসুখী ও বিষন্ন মনে হয়েছে কি?
১০. আপনি নিজের উপর আস্থা হারিয়ে ফেলেছেন কি?
১১. নিজেকে একজন অপদার্থ ব্যক্তি বলে মনে করেছেন কি?
১২. সব কিছু বিবেচনা করে নিজেকে সুখী মনে করছেন কি?

FLOOD ADDENDUM

এবারের বৃষ্টি ও বন্যা আপনার পরিবারকে কিভাবে ক্ষতিগ্রস্ত করেছে সে সম্পর্কে এখন আমি আপনাকে কিছু প্রশ্ন করব।

*) এবারের বৃষ্টি ও বন্যা আপনাকে কতটুকু বিব্রত বা চিন্তিত করেছে? আপনি কি বলবেন ...

মোটোও বিব্রত বা চিন্তিত নয়	১
কিছুটা বিব্রত বা চিন্তিত	২
বেশ বিব্রত বা চিন্তিত	৩
ভীষন বিব্রত বা চিন্তিত	৪
উত্তর নাই	৯৯

*) এবারের বৃষ্টি ও বন্যা আপনার পরিবার (বাসস্থান) কি ক্ষতিগ্রস্ত হয়েছে কি?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

*) এবারের পানি ও বন্যার কারণে আপনার পরিবার (বাসস্থান) স্থানান্তর করতে বাধ্য হয়েছেন কি?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

*) বন্যার আগের তুলনায় এখন আপনার জীবন -

আগের মতোই	১
একটু খারাপ	২
বেশ খারাপ	৩
খুবই খারাপ	৪
উত্তর নাই	৯৯

*) বন্যার কারণে কি আপনার বিশুদ্ধ খাবার পানি পেতে কষ্ট হয়?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯

*) এবারের পানি ও বন্যার কারনে আপনার সম্পদের ও টাকা পয়সার যে ক্ষতি হয়েছে তাতে কি আপনার খাদ্য ও অন্যান্য প্রয়োজনীয়তা মেটাতে কষ্ট হয় ?

কষ্ট হয় না	১
একটু কষ্ট হয়	২
মোটামুটি কষ্ট হয়	৩
বেশ কষ্ট হয়	৪
উত্তর নাই	৯৯

*) এবারের পানি ও বন্যার কারনে আপনার পরিবারের স্বাস্থ্যসমস্যা কি আগের চেয়ে বেশী ?

হ্যাঁ	১
না	২
উত্তর নাই	৯৯