

Priyanka Dutta*

Migration as source of risk-aversion among the environmental refugees:

The case of women displaced by erosion of the river *Ganga* in the *Malda* district of West Bengal, India

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Editors: Jeanette Schade and Thomas Faist

* Doctoral Fellow in Sociology at the Institute for Social and Economic Change (ISEC),
Nagarabhavi, Bangalore-560072.

Comments welcome to: priyanka.dutta80@gmail.com

Editorial

The conference “Environmental Change and Migration: From Vulnerabilities to Capabilities” was the first of a new conference series on “Environmental Degradation, Conflict and Forced Migration”. It was organised by the European Science Foundation, the Bielefeld University and its Center for Interdisciplinary Research. The Center on Migration, Citizenship and Development (COMCAD), the Universities’ unit responsible for scientific content and quality of the conference, has launched a COMCAD Working Paper Series on “Environmental Degradation and Migration”. The new series intends to give conference participants the opportunity to share their research with an even broader audience.

The symposium focused on how environmental change impacts the nexus between vulnerabilities on the one hand and capabilities on the other hand, and how this relationship affects mobility patterns. Although the conference organizers chose to include all kinds of environmental change and types of migration, climate change figured prominently among the submissions to the conference. Therefore, the conference aimed to bring together the perspectives from climate change, vulnerability, and migration studies, and to draw conclusions about the political implications of the knowledge scientists currently have available. Toward that goal, the conference was structured along three pillars. The first concentrated on climate change and the vulnerability of certain regions and groups. It covered case studies as well as different approaches for making climate change projections and assessing the likelihood of vulnerability. The second pillar focused on empirical research on environmentally induced migration from a vulnerabilities perspective, but acknowledged the occasionally strong elements of capability within it. In this way, the aim was to learn about approaches and options to support existing capabilities. The third pillar was concerned with the opportunities and pitfalls of policy options in dealing with the future challenge of climate induced displacement, and with the analysis of dominant public discourses within the field.

The researchers invited represented a wide range of disciplines, including sociology, social anthropology, migration, conflict, gender and development studies, geography, political science, international law, and climate and environmental science. The conference was also well balanced in terms of geographic origin, gender, and academic status of the participants. The conference programme and full report can be found at www.esf.org/conferences/10328.

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University of Bielefeld
Center on Migration, Citizenship and Development (COMCAD)
Postfach 100131
D-33501 Bielefeld
Homepage: <http://www.comcad-bielefeld.de>

Abstract

It is by now a well known fact that unsustainable development projects all across the globe, especially in the developing countries of the global South, have resulted in various kinds of environmental hazards like land slides, river-bank erosion, floods and so on and this has displaced a huge chunk of population, known in the current literature as the ‘environmental refugees’ from their ancestral homes and traditional livelihoods. In this context, it has to be kept in mind that all people who are displaced and are termed as ‘environmental refugees’ do not migrate. The decision to migrate in crisis situations like environmental hazards depends on a host of institutional and structural factors. Thus, not only the degree of vulnerability of an individual or a family in crisis situations depends on the institutional and structural factors as observed by various studies, but the capabilities and opportunities for mobility also depend to large extent upon these factors. Keeping this in mind, the present paper through an ethnographic field study in a few erosion-prone villages of the most backward district (in terms of Gender Development Index and Human Development Index) of the state of West Bengal in India, namely the *Malda* district, tries to find out how institutional and structural factors affect the migration decision of women belonging to various social and economic groups. The *Malda* case represents a unique situation of displacement of huge chunk of population, caused partly by shifting of the course of river Ganga and partly by the construction of a development project, namely, the *Farakka* Barrage. The main finding of the study is that migration in many of the cases, especially for the women-headed household, has often proved to be an enabling experience. The decision to migrate has often saved these households from the perils of starvation death caused by loss of cultivable land and other livelihood resources from the engulfment of the river *Ganga*.

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1. Introduction

It is by now a well known fact that unsustainable development projects all across the globe, especially in the developing countries of the global South, have resulted in various kinds of environmental hazards like land slides, river-bank erosion, floods and so on and this has displaced a huge chunk of population, known in the current literature as the ‘environmental refugees’ from their ancestral homes and traditional livelihoods. The occurrence of such kind of environmentally induced migration is not new phenomenon and it can be traced back to ancient history.¹ However, in recent times the anthropogenic causes of environmental change have increased the incidence of migration in unprecedented ways. But it has to be kept in mind that all people who are displaced by ecological factors and are termed, as ‘environmental refugees’, do not migrate. Now the question that comes up is why all people who are affected by environmental hazards do not migrate. There are quite a few studies on climate change, which have observed the fact that the degree of vulnerability of an individual or a family in such situations depends on institutional and structural factors (Enarson & Morrow 1998). There are also a number of studies, which talks about the greater vulnerability of women in crisis situations caused by environmental hazards (Ikeda 1995; Kafi 1992; Dreze & Sen 1989; Akhtar 1992). But there are not many studies available in the current literature on climate change and migration, which show how in situations of environmental crisis migration can act as an adaptation strategy and that the capabilities and opportunities for mobility depend to a large extent upon the institutional and structural factors.

Keeping this in mind, the present study through an ethnographic field work in a few erosion-prone areas of the most backward district (in terms of Gender Development Index and Human Development Index) of the state of West Bengal in India, namely the *Malda* district, tries to find out how institutional factors and structural factors affect the migration decision of women belonging to various social and economic groups. The *Malda* case represents a unique situation of displacement of huge chunk of population, caused partly by shifting of the course of river *Ganga* and partly by the construction of a development project, namely, the *Farakka* Barrage. In the context of *Ganga* erosion in *Malda* district it has been found that migration in many of the cases, especially for the women-headed household, has often proved to be an enabling experience. The decision to migrate has often saved these households from the

¹ Shifting of the course of river *Ganga* in the *Malda* and *Murshidabad* district of West Bengal can be seen from the Moghul period-the rule of *Aurangzeb*. But its speed has aggravated from the time of the construction of *Farakka* Barrage.

perils of starvation death caused by loss of cultivable land and other livelihood resources from the engulfment of the river *Ganga*.

2. Objectives and Methodology of the Study

The paper has three-fold objectives:

- a. To see how women are more vulnerable than men in crisis situations caused by environmental hazards.
- b. To find out how institutional and structural factors affect the migration decision of women belonging to various social and economic groups.
- c. To see whether migration can lead to risk aversion or increase capability of the women suffering from environmental crisis.

The study is based on data collected from both primary and secondary sources. The secondary sources of data include official reports, books, articles, magazines, clippings from national and sub-national dailies, local newspapers of *Malda*, and a documentary film. Primary level data have been collected through a field research conducted in few erosion-prone regions (which includes villages, resettlement colonies, embankments and *chars*²) in the two most erosion prone blocks³ of *Malda* district of the state of West Bengal, namely, *Kaliachak II and Manikchak*, during the period of November-December, 2007. The field study has been carried out at specific places like *Khatiakhana Char* (part of *Hamidpur Gram Panchayat*⁴) and *Banuatola Char* (originally part of *KP Jhowbana Gram Panchayat*, a *Gram Panchayat* which has been completely engulfed by the river *Ganga*), *Asoktola*, and *Aladitola* villages (parts of *Uttar Panchanandapur I Gram Panchayat*), *Akundabaria- Madrasapara* village and Field Colony- resettlement colony (part of *Bangitola Gram Panchayat*) in *Kaliachak II Block* and in *Shibontola Bundh*⁵ (in *Manikchak Gram Panchayat*) in *Manikchak Block*. The different methods of data collection includes in-depth face-to-face interview, focused group discussion, non-participant observation method etc.

2 Chars are the riverine islands that emerge on riverbanks after floods or erosion of the riverbanks.

3 Blocks are administrative units for classifying territories in the districts in India.

4 Gram Panchayats are local governments at the village or small town level in India.

5 Bundhs in Bengali means embankments.

3. Relationship between Climate Change, Vulnerability of Women and Migration: Evidence from Literature

Environmental hazard is generally considered to be a 'great leveler' as it affects people, irrespective of their class, caste, gender, race, ethnicity and so on. But this is hardly true. According to Cutter, Blaikie et. al., Downs et. al., Anderson and Woodrow, Oliver-Smith, Anderson, Maskrey, Varley (quoted Enarson & Morrow 1998:2), vulnerabilities to natural and environmental hazards are not at all equally distributed. Unstable global patterns of settlement, resource management, social organization and political economy increasingly put some population groups more than others at risk from natural disasters and climate change. Thus, it can be said that exposure to environmental hazard and risk of catastrophic disaster, like other life chances, are shaped by overarching social structures of caste, class, race, ethnicity, age, physical ability, and gender. Cannon rightly pointed out that individuals and social groups carry different and disproportionate "*vulnerability bundles*" (ibid).

Gender is an important variable for deciding the extent and nature of vulnerability in a crisis situation like environmental change, as gender stratification is evident in every culture and society in the world. The differential evaluation of people's social worth primarily on the basis of sex is the key aspect of gender stratification. Such views become a characteristic of the entire social system leading to unequal distribution of power, prestige and property. Gender inequality affects every aspect of culture and society. Its affect is prominent everywhere- be it in the family structure, the education system, the economy and so on. Just like social class systems, gender is a structural feature of society. As a result of gender stratification the universal status of men is higher than women under patriarchy. Therefore, men enjoy a greater allocation of societal resources of power, prestige, and property, while women have a disproportionate share of obligations. This has its implications for the victims of climate change as well.

Amartya Sen has categorically pointed out that because of intra-household inequalities that already exist in the levels of literacy, health, nutrition etc., women and children are bound to be affected more. These disparities tend to get aggravated at times of economic stress in the post crisis situations (quoted from Ganguly Thukral 1996:1500). Lyla Mehta interestingly argues that there is a "*double bind*" which entraps women who suffers from natural hazards. On one hand, male biases in society help to perpetuate gender inequality in terms of unequal resource allocation and distribution and also legitimize silencing of women's interests. On the other hand, biases within state institutions, structures and policies dealing with displacement and rehabilitation & resettlement following a crisis situation help to perpetuate and exacerbate these inequalities (Quoted from Kumar 2005:8).

M.Q. Zaman's (1989:196) paper, which talks of human adjustments to riverbank erosion hazard in the Brahmaputra-Jamuna floodplain of Bangladesh, begins with a small poem:

*Nodir ekul bhange, okul ghore,
Eito nodir khela.
Shokal belar raja, are bhai
Fakir sondha bela.*

It means

*Breaking this bank, building that
Bank, this is the river's lark.
It makes the rich man of the morn
A destitute by dark.*

The male bias in these lines is evident because 'raja' is a male status. Apparently, misfortunes demeaning women has not received much literary attention. Since literature reflects social predispositions, one may infer that women's 'social sinking' is not worthy of mention in a patriarchal order. Thus, we see that women are already in an unequal position and at times of risk, such as when extreme environmental events occur, women's position in a patriarchal society is further marginalized. Male dominance and ideological constraints can even limit women's access to life-saving public shelters, as Ikeda found in Bangladesh's devastating 1991 cyclone (1995:188):

„Women are deprived of the capacity to cope with disasters by being kept in dependent positions in terms of accessing information from the world outside the bari, and by being denied their right to take major decisions. In this respect, purdah as an institution, which prevents women from engaging in socio-economic roles outside the household directly, prescribes women's vulnerability to disaster. Prevailing gender relations are reflected clearly during the occurrence of sudden-onset disasters. Gender-related vulnerability is deep-rooted in persistent inequalities.“

Now let us find out from the existing literature how women suffer more, in times of crisis situations like natural disasters because of the "vulnerability factors" and the ways in which they suffer.

Sharif A. Kafi's (1992:61) case studies of victims of flood and other natural hazards in Bangladesh illustrate that destitute village women, widowed women or women abandoned by their husbands, are likely to find themselves victimized, cheated and exploited by the men of their community. These cases demonstrate the vulnerability, powerlessness and destitution of women in case of natural hazards. In one account he points out how 'Shariah law' was brought in by the male relatives to confiscate the family land in the event of a woman's husband's and son's deaths by a tornado, leaving the woman and her two daughters poverty-stricken and turned them almost into destitute. Again, work opportunities for women in many

areas virtually being non-existent, therefore, when hit by disasters and displaced, for survival, women of many families are forced to take beggars bowl (ibid: 40). The situation is worst for women who do not have a male relative in the family (husband, a brother or a grown up son). The author has given numerous accounts of single woman affected by disasters whose children are never sent to school but for begging for family survival. Restricted mobility does not allow or encourage women to move to unknown destinations on their own in search of employment. Being illiterate, the skills women possess too, are limited and basic. Having no other means of survival, poor women sometimes are engaged in disguised prostitution, as found in Atiur Rahman's study (1986:9) of impact of river bank erosion in Bangladesh.

Dreze and Sen (1989:55) argue that the "the priorities of the family are often pro-male in distress situations," suggesting that women under such circumstances often have difficulty avoiding disastrous entitlement failures. According to Vandana Shiva, under conditions of duress, the relative disadvantage of women and girls in many less developed societies can be magnified.⁶

Farida Akhter's (1992:64) study of flood situation explains with the help of a graphic example from Bangladesh how girls and women are more at risk due to social factors when floodwaters rise:

"Abul Kalam had five daughters and one son. He was a poor sharecropper. He was holding his children together and fighting against the wind-fearful of the rising water. In his struggle to survive, Abul Kalam released his daughters one after the other, so his son could survive. "

When one talks about climate change and vulnerability, migration as a coping strategy or adaptive response with regard to environmental hazards and climate stress automatically comes into our mind. This is because increased vulnerability with climate change is and also will be a major factor driving future migration flows, especially in the developing countries of global south. But the relationship between climate change and migration is nuanced rather than having a one-way relationship. In other words, the people most vulnerable to climate change are not necessarily the ones who are most likely to migrate. The ability to migrate is a function of mobility and resources (both financial and social). Thus, migration may not function simply as an expression of vulnerability but also of capability. Migration – in certain circumstances – serves to increase life-chances indirectly by insuring against risks such as crop failure or income loss more generally. Or it may open new possibilities for earning a

⁶ Quoted from Bolin, Robert, Jackson, Martina and Crist, Allison, *Gender Inequality, Vulnerability, and Disaster: Issues in Theory and Research* in Enarson, Elaine and Morrow, Betty Hearn, (eds), op.cit, p.42.

living. Hence, it is necessary to look into these aspects, which most of the studies on migration and climate change fail to do. Most of these studies consider human beings migrate involuntarily when they are driven by external shocks like natural disasters, climate change and so on and they are not capable of taking their own decisions autonomously. But migration may not simply be a reactive response to external shocks but a proactive choice to improve living conditions. In this context it is worth-mentioning that the Human Development Report 2009 (HDR) makes a surprising assertion –“being able to decide where to live is a key element of human freedom”. This assertion seems like a bolt from the blue because policy “common sense” for many years has usually seen migration of people across borders and inside countries as a negative thing, caused by underdevelopment and violence and as a source of trouble, poverty and joblessness.

Moreover, there are not many studies, which have looked into how environmental change impacts the interplay between vulnerabilities on the one hand and capabilities on the other hand, and how this relationship affects mobility patterns from a gendered lens. For this a very nuanced understanding is required, which the present study tries to do through an in-depth fieldwork among the women affected by *Ganga* erosion in the *Malda* district of West Bengal. Looking at this relationship from a gendered angle helps to establish the fact that women affected by environmental stress are not always victims, but are autonomous actors having their own ‘voice’ and can take their own ‘decisions’.

4. An Overview of Displacement and Migration caused by *Ganga* Erosion in *Malda* and the *Farakka* Barrage Issue

In the state of West Bengal, the environment-related change accounts for a very significant percentage of displacement in the state. But it has never acquired the kind of alarming proportions as it has elsewhere in other states of India.⁷ The problem of shifting of the course river *Ganga* and the consequent erosion of riverbanks particularly along the West Bengal side is one such problem. This has been contributing to an almost continuous and sustained process of human displacement. Moreover, since it has been well spaced over a long period of time, it remains invisible from both public and State’s attention. In this context, it is worth-mentioning that the problem of *Ganga* erosion in West Bengal is not purely an environmental-related problem, but a unique combination of both environment (shifting of the course of

⁷ As in case of other states like Madhya Pradesh, Gujarat, Maharashtra, Chattisgarh on account of the construction of dams on river Narmada.

river *Ganga*) and a development-related project, namely, the *Farakka* Barrage (Rudra 2004 a:61; Rudra b 2006:27).

Now, the question that comes to our mind is how the *Farakka* Barrage is responsible for environmental hazard in the area.

It is a well-established fact that decisions about the levels and products of technology are most of the time mediated by broader developmental policies, which in turn are the outcome of socio-political and economic forces. So, a chosen technology reflects both a vision of society and the means by which that vision may be realized (Krishna 1996:216). After independence of India, for the sake of so-called 'development' of the country, about 4291 big dams have been constructed. 475 dams are still under construction. As result of the construction of these big dams, many villages have perpetually submerged under water and about 5 crores of people have been rendered homeless (Rudra 2004a:61). With the 'mining' attitude over resources, more often technological feats achieved in 'harnessing' nature ultimately results in enormous plight of the people in the receiving end, the common people. So, is the case of the *Farakka* Barrage and the people living near its surroundings along the bank of river *Ganga*. Construction of *Farakka* Barrage clearly shows a poor sense of understanding of consequence of the development policies by the developers and its implications on the lives of millions of already marginalized people.

The decision to construct the *Farakka* Barrage across *Ganga* was taken up by the Government of India in 1963 to divert 40, 000 cusecs of water from its prevailing main flow in the *Padma* to its moribund branch *Bhagirathi*. The objective was to improve navigation of Calcutta Port, improve portable water supply to the city and establish inland water transport etc. The site chosen was *Farakka*, 160 miles almost due north of Calcutta, situated on the Bengal-Bihar border near *Rajmahal* (Banerjee 1999:9).

But the impact of *Farakka* Barrage upon the human fabric cannot be judged merely in the frame of technical achievements and failures. It has also to be judged from the point of view of the enormous damage that it has caused by displacing lakhs of people. This technological interception has affected a whole system- the ecological processes of nature, which renews life support systems, the human population living on its banks, their lives and livelihood, their culture. So, this issue is thus also a question of *realpolitik*.

Various experts allege that the government policies of river water management have been faulty and the *Farakka* Barrage is a cause of the high level of erosion in *Malda*. As for example, one of the major critics of the proposal to construct the *Farakka* Barrage was Kapil Bhattacharya, an eminent engineer (a former engineer in chief of West Bengal). Mr. Bhattacharya categorically affirmed that the barrage would definitely fail in its promise of navigability. The then Pakistan endorsed Kapil Bhattacharya's view and appealed to international bodies against this scheme, as a result of which Shri Bhattacharya was branded as a traitor, an

agent of Pakistan and had to subsequently resign from his job (Banerjee 1999:9-10). Manisha Banerjee also pointed out that before the construction of the *Farakka* Barrage no Environmental Impact Assessment was done regarding the Project. Geological Survey of India did a geo-technical assessment of the project mainly to ascertain the best site for the barrage (quoted from FIAN Report R6 2005:13).

The official records regarding land erosion are available in *Malda* since 1931, which also took note of the fact that the river *Ganga* is slowly shifting its course in *Malda* district (Rudra 2006b:27). By this meandering phenomenon, the river erodes vast tracts of land in this region, depositing soil on the opposite riverbank adjacent to the states of Bihar and *Jharkhand*. Apart from the changing course of the *Ganga*, the government policies of river water management and construction of the *Farakka* Barrage is cited as cause of large-scale erosion of the riverbanks and frequent flooding in *Malda* (FIAN Report R6 2005:13). Kalyan Rudra quotes an official record of the Government of West Bengal (1997:1&5), which categorically states, “the severity of erosion has increased after the construction of *Farakka* Barrage”. To quote the words of Pundarikaksha Roy, Executive Engineer, Irrigation Department, *Malda* (Chattapadhyay 2003 :3):

“Prior to 1972, when the *Farakka* Barrage was constructed, there were floods and erosions, but the rate of it has increased to incredible proportions owing to the presence of the dam. Recent records state that from 1980 to the present, around 4,900 hectares of land has been lost to the *Ganga*.”

The sufferers of erosion in *Malda* also mostly identify the *Farakka* Barrage as the cause for their plight. The problem of erosion along the left bank of the *Ganga* in *Malda* district has been of concern for them since the early 1960s. FIAN’s report quotes an official report, which has also noted “the problem manifested itself to forcible magnitude during the post-*Farakka* condition” (FIAN Report R6 2005:13).

Whatever be the actual or main reasons for increase in the intensity of riverbank erosion in *Malda*, it has severe implications on the lives of the people living in the banks of the river *Ganga* in this region. Landlessness caused by river erosion in a rural economy primarily based on land, has been the major threat leading to further marginalisation and pauperization of the people. The major impact found here in terms of occupation has been a shift from agriculture in own land to primarily day labourers and petty service activities. Lack of work opportunities have forced some people to migrate to other parts of the country in search of work. All these have its impact on the women. As in all major dislocation process, here too women are the worst sufferers. Landlessness has forced women to take up additional burden of providing financial support to the family apart from adjusting with extreme domestic hardships. Women suffer in the same ways in which men suffer due to river erosion, but in addition

to this, there are ways in which women suffer more than men. High rates of male migration in these erosion-prone areas, in the post *Farakka* period add to women's burden. It has severe implications for their lives and also to their well-being. We need to understand that in an already unequal context, gender disparities get further exacerbated. This is especially true in a district like *Malda*, which was already backward in socio-economic terms before the *Farakka* Barrage was constructed (DHDRM 2007: 10).⁸

Now let us have a look at the magnitude of displacement and migration caused by erosion of river *Ganga*.

According to the District Human Development Report *Malda* (2007:169), one out of the three human vulnerabilities in *Malda* district is "losses of livelihood and property that have occurred periodically because of widening ecological imbalances, natural calamities and river bank erosion." The report very clearly states that in the district of *Malda*, human vulnerability resulting from ecological factors is felt particularly widely across the *Diara*⁹ blocks, where entire villages have been swept off the district map in recent times by the raging advance of the *Ganga*. Although quantification of the resulting land and property losses is available through official district records, their human impact have been further assessed by specific surveys and case studies conducted among the displaced population. These studies reveal how these vulnerable sections have in fact regressed in human development terms, whilst people living elsewhere within the same district have advanced relatively. The special vulnerability of the population that lives and farms in these regions along the river *Ganga* is thus rooted in the ecological factors (DHDRM 2007:169).

In *Malda*, the upstream areas of *Farakka*, on the left bank of *Ganga*, for a long time five community development blocks are being more or less affected by erosion. They are *Manickchak*, *Kaliachak I*, *Kaliachak II*, *Kaliachak III* and *Ratua*. The entire 174 kms stretch along the *Ganga*, from *Bhutni* in *Malda* to *Jalangi* in *Murshidabad*, has been facing erosion. However, in *Malda*, the worst hit areas lies in the unprotected zone on the left bank of the river, stretched between *Bhutnidiara* to *Panchanandapore* in the *Kaliachak II* block (FIAN Report R6 2005:13).

According to the report of the Committee set up by Planning Commission nearly 4.5 lakhs of people have lost their homes due to left bank erosion and 22 *mouzas*¹⁰ have gone in the river at *Manickchak*, *Kaliachak I* and *Kaliachak II* (Banerjee 1999:13-14). Between 1931 and 1999,

⁸ "District Human Development Report: *Malda*" is hereafter refer to as DHDRM.

⁹ *Diaras* are lands which lie on both side of a river, especially that of river *Ganga*.

¹⁰ *Mouzas* are a group of revenue villages.

the land eroded from the left bank of the *Ganga* in *Malda* is more than 200 sq. km., while that from *Murshidabad* is about 356 sq. km. (Rudra 2006b: vii). Over the last three decades 500 sq. kms of land and about 2 million people, from about 40 village *panchayats* in *Kaliachak I*, *Kaliachak II*, *Manikchak* and *English Bazar* blocks have been directly or indirectly affected by flood and riverbank erosion. This has rendered 80 thousand persons landless. Around four lakhs people have lost their livelihoods, settlements and prime agricultural lands. The dimension of loss of livelihoods can be seen in the loss of 61.10 sq. km agricultural lands, 25 sq. km orchards, 85 sq. km settled land, 7 sq. km wet lands and 13 sq. km other lands totaling 191.10 sq. km in last 10 years. Agricultural land and crops worth several millions, livestock of 700 million of rupees and other productive resources have been lost due to erosion. According to government records nearly 45 million people are left without shelter (FIAN Report R6 2005:14). In 2001 alone, about 2, 500 families were displaced in *Malda*. Two school buildings, with a student population of 500, were under water. The problem is that erosion does not always inundate the homes and residential places. But remaining at homes without the basic conditions of life is as good as losing homes. About 3,00, 000 people of three blocks in *Malda* faced the threat of being displaced. Many have lost their cultivable lands (Rudra 2004a: 5-6) . Moreover, the number of times the same family has been displaced ranges from an average of four to 16 times. It means that the displaced families have which have nowhere to go keep on moving within the unsafe and threatened areas (Banerjee, Ray Chaudhury and Das eds. 2005:138).

There is also high incidence of migration from these erosion-affected blocks of *Malda* to other parts of India, especially Mumbai and Delhi as a consequence of river erosion in these blocks. *Malda* District Human Development Report has also noted high rates of out-migration from these erosion-prone blocks (DHDRM 2007: 183). Manisha Banerjee's report (1999:18) also notes that in *Malda*, people have migrated in search of work to as far as *Gujarat* and *Maharashtra* where they are engaged as labourers in different kinds of manual work. She has cited the locals of *Panchanandapur*, who pointed out that at *Byculla, Mumbai* one could find a whole colony of erosion-affected people of this area. These people are often branded as Bangladeshi infiltrators as all their valuable documents have been lost in erosion, which only adds to their misery. Banerjee also mentions that the fate of these neo-refugees within their own land has never been properly studied or addressed in any places.

5. Findings from Field Research-Case Studies

This section is devoted to the findings or outcome of the study. There are a number of case studies collected during the fieldwork, which show that women are more vulnerable than women in times of crisis caused by environmental hazards. Whatever be the context or the

nature of society, women suffer more in a patriarchal society. It has come out well from the field study that women are more vulnerable than men in situations following an environmental crisis in terms of food security, health, education, migration, social problems like dowry, alcoholism and domestic violence, trafficking and prostitution. In the place of relocation also, women suffer more in terms of collection of drinking water, fuel for cooking, sanitation, arranging household articles, looking after old, pregnant women and children in times of distress. In terms of occupational activity also women suffer more.

Most of the households are very poor and hardly have any savings and given the amount of relief being so small and their land, in most cases, which is the main source of their livelihood being lost, they find it very difficult to maintain their basic food security. This affects the displaced women of the poor households most, as not only because these households do not have any savings and the relief that they receive in form of food grains is very little and it last just for a few days, but because preparation of food being the task of the women, women often starve in order to feed their family members, especially children. As for example, *Manowara Bibi* of *Akundabaria Madrasapara* starves most of the day in order to feed her children. Similarly, according to *Tarulata* Pramanik of Field Colony, her body has now become made of steel. To quote her “*Some people eat twice a day, while others eat thrice a day. But there are certain days when I cannot afford to eat even once. So, would not my body be then made of steel?*” All these clearly bring out the kind of food insecurity the displaced women have to face. The women in the female-headed households, mainly whose husband have either died or deserted them suffer the most from food security in the post displacement situations because they are already in a poor situation and sustained mainly with the help of their relatives and neighbours, but in the post displacement situations, they sometimes might have to resettle in other places than where their neighbours and relatives have resettled and also river erosion sometimes results in such situations that the people who helped them once might not be in a condition to help them any further. In such situations, there are women like *Krishna Bewa* of *Asoktola, Uttar Panchanandapur I, Kaliachak II, Bharati Bewa* of *Khatiakhana Char, Kaliachak II* decided to migrate. In case of *Bharati Bewa*, she moved with her daughters and sons to the *Khatiakhana Char*, where she started growing crops and with this she could feed her family. If she remained in the vicinity of her original home, she would have died with her entire family as the only piece of land she had, was engulfed by the ravaging *Ganga*. So, is the case of *Samnur Bewa*. Having no other alternative livelihood in her original place of residence and her husband being paralyzed, she decided to move to *Malda* town and started working as a domestic help in the neighbouring town of *Malda* (this is the district headquarter of the *Malda* district). Her children who did not get the opportunity to study in schools, once migrated to *Malda* town, got admitted to schools. Thus, her decision to migrate

in the aftermath of crisis situation helped her to earn a living and thereby save the entire household.

In this context it is worth-mentioning that Muslim women of women-headed households prefer to stay with their kins and neighbours rather than to migrate in search of livelihood because of certain system of charity prevalent among the Muslim community. From the field study, it came out that religion is an important factor which has a tremendous role to play in deciding the post-displacement situation of a household. Among the Muslim community, there is the prevalence of a system called the 'mutthi system', where every household which can afford, keep a handful of grain everyday and at the end of a month, this grain is collected from the households and given to the most poor household of the village. In most cases, these households are women-headed, where the head is a widow or have a disabled husband. It is one of the reasons why women from Muslim community migrate to a lesser extent in the aftermath of environmental crisis caused by *Ganga* erosion in *Malda*.

Again, there are charities like *Fetura*, *Asul*, *Zakat*, prevalent in the Muslims communities. In case of *Fetura*, every person in the month of *Ramzan*, gives money equivalent of three kilograms of wheat, to poor persons of the community. Again, *Asul* refers to the charity of two and a half kilogram per *mon (maund)* of the produced cereals, given to the poor people. In case of *Zakat*, two and a half percent of the total savings made, after incurring all the expenditure is given to the poor people (*Malda Samachar* 15 February 2006: 3). Many of the women, especially the widowed women, especially belonging to the Muslim community, sustain out of these charities and hence have lesser propensity to migrate.

6. Conclusions

The main finding of the study is that migration in many of the cases, especially for the women-headed households, has often proved to be an enabling experience. The decision to migrate has often saved these households from the perils of starvation death caused by loss of cultivable land and other livelihood resources from the engulfment of the river *Ganga*. Thus, the decision to migrate following any environmental hazards should not be seen just as an adaptive response or the last 'adaptation strategy', but also a matter of opportunity and capability. Just like vulnerability, the decision to migrate following a crisis situation, like environmental change, depends on a host of structural and institutional factors. Gender itself is one such factor, which is of great relevance. Hence, the whole issue has to be seen from a gendered perspective.

The study also brings out an interesting fact that though women suffer doubly due to climate change and this is a well-established fact, but climate change can also provide opportunities for women to migrate, which has often proved to be an enabling experience as the *Malda*

case reveals. This is especially important in a district, which stands last in the state of West Bengal in terms of Gender Development Index (GDI) and Human Development Index (HDI). It also brings out the fact that women are not always passive victims of any situation, but autonomous actors, capable of deciding their own course of action. Decisions of women heads of women –headed households, not only have saved the women members, but also other members of the household, including the male members. Herein lies the relevance of the present study. To conclude, it can be said that the study makes an attempt to gain a holistic understanding of the gendered aspect of migration caused by *Ganga* erosion in *Malda*.

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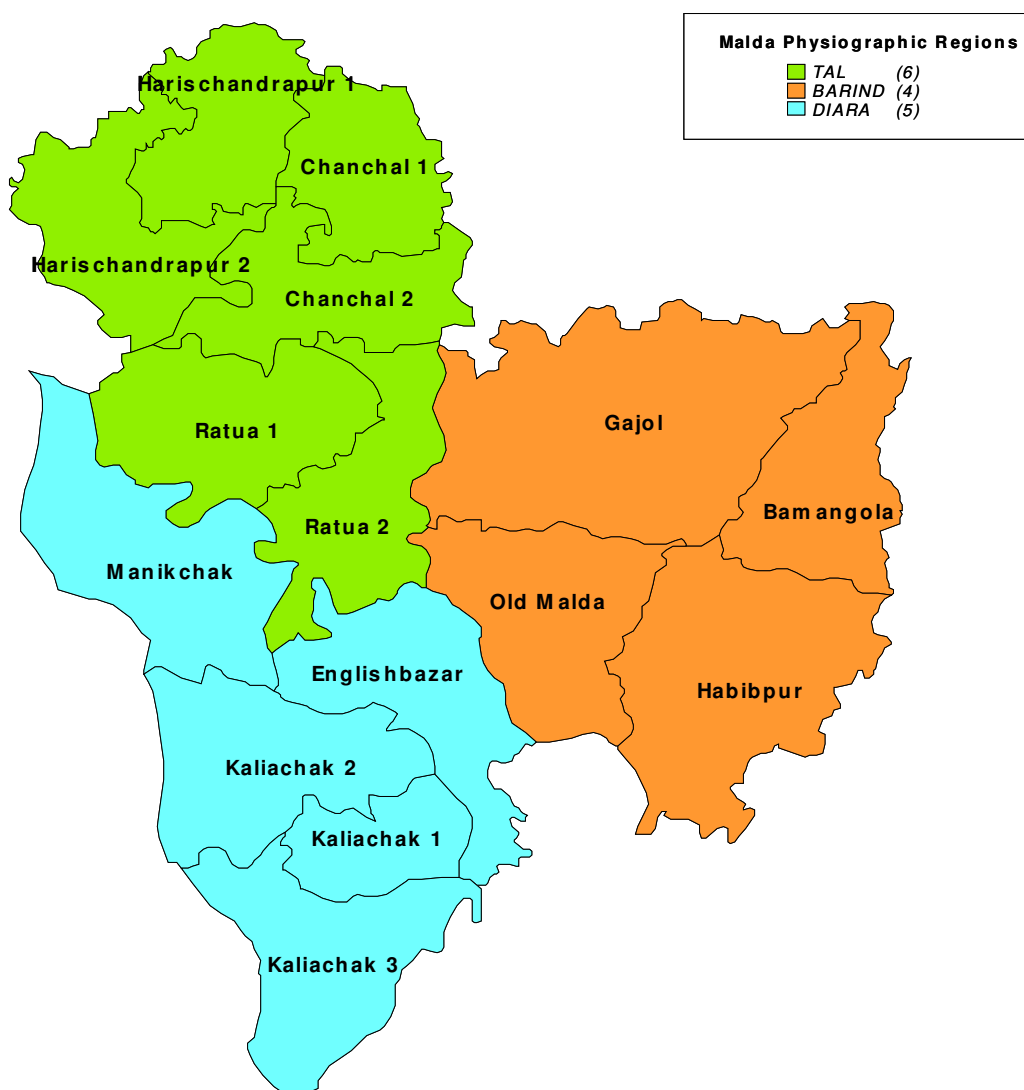
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Appendix

A.1) Block Profiles

Spreading over an area of 3733 sq. km with a population of 32.91 *lakh* in 2001, the district of *Malda* covers 4.2 percent of the total landmass of the state of *West Bengal* and is home to 4.1 percent of the total state's population. Located between latitudes 24⁰40'20"N and 25⁰32'8"N, and longitudes 87⁰45'50"E to 88⁰28'10"E, the district is bounded to its due south by the district of *Murshidabad* across the river *Ganga*, by Bangladesh and *Dakshin Dinajpur* district to its east and northeast, by *Uttar Dinajpur* district to its direct north and by the states of Bihar to its direct west and *Jharkhand* across the *Ganga* to the southwest. *Malda* district consists of 15 blocks, which have recently been regrouped into two subdivisions for administrative reasons (*DHDRM 2007:3*).

Map of Malda District

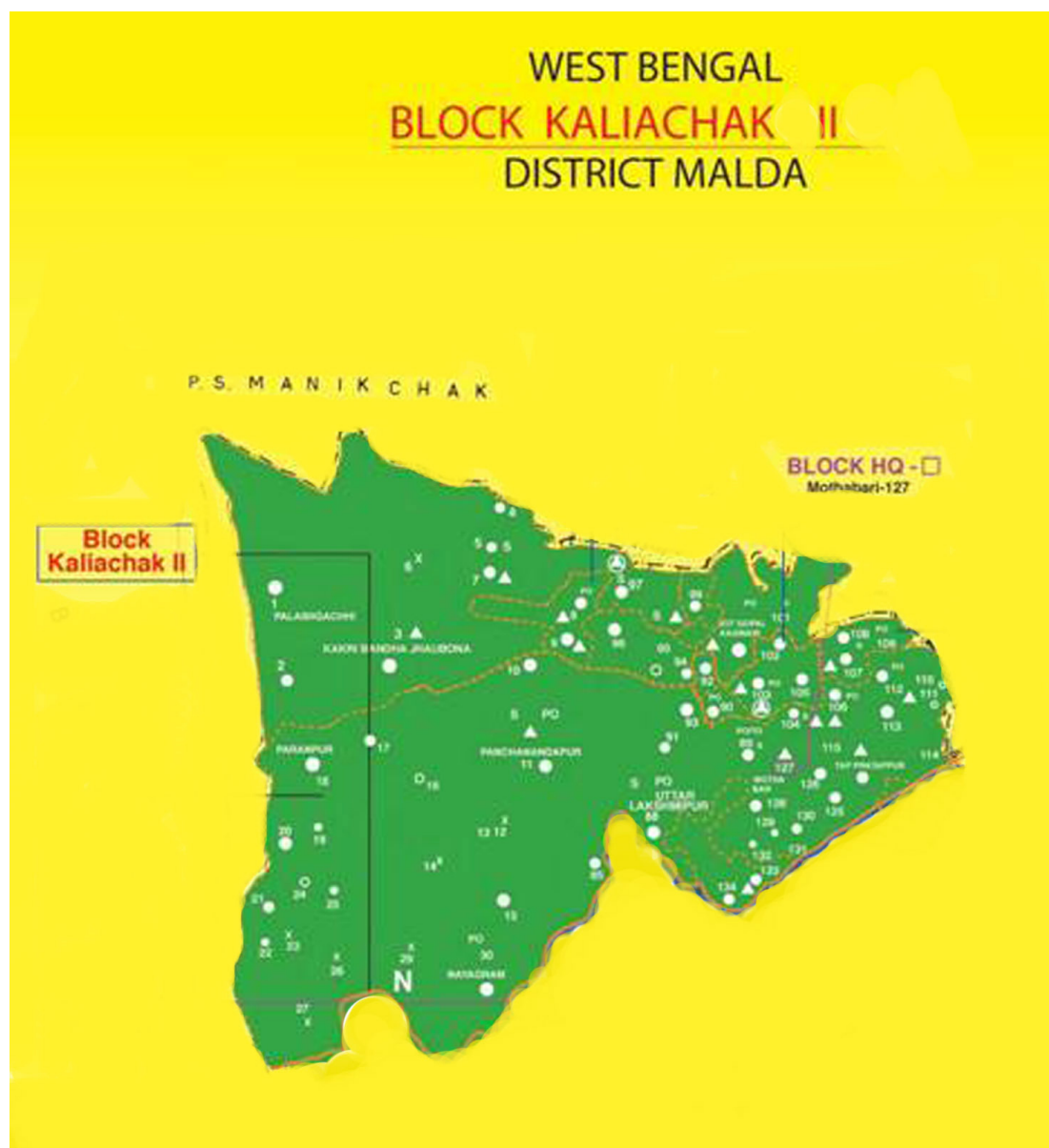


A.1a Kaliachak II

Kaliachak II Block is located under the *Sadar* Sub-division of *Malda* district. It covers an area of 209.17 sq. km and inhabited by a total population of 2, 11, 533 as per 2001 Census. Out of this, the number of males is 1,08, 955 and the number of females is 1, 02, 578 (*Malda District Portal: 2007*). The number of females displaced by *Ganga* erosion till 2001 is 26, 616 and the figure for that of the males for the same period is 28, 616 (*DHDRM 2007:184-85*). This block comprises of 10 *Gram Panchayats*, 317 villages and 66 *mouzas* (*Malda District Portal:2007*). Majority of the population in this block is Muslims (the disaggregated figure for *Kaliachak II* is not available, what is given is the combined figure of *Kaliachak I, II* and *III*, which being 66.74% of the total population in 1991) and about 50% of the total population engaged in agriculture belongs to the category of landless labourers (*Malda District Statisti-*

cal Handbook 2004:150,153). Women comprise 28.4% of the total main workforce, while the same figure for the men is 71.6% (Census 2001). Women comprise, however, 70.0% of the total marginal workforce; while the same figure for men is 30% (Census 2001). The female literacy rate for the block is 38.2%, while the same for males is 54.4% (Census 2001).

Map of Kaliachak II Block



A. 1b Manikchak

Manikchak Block is located under the *Sadar* Division of *Malda* district. It covers an area of 316.39 sq. km and is inhabited by a total population of 2,40,123 as per 2001 Census. Out of this, the number of males is 1,10,407 and the number of females is 1,03,716 (*Malda District Portal: 2007*). The number of females displaced by *Ganga* erosion till 2001 is 17,017 and the figure for that of the males for the same period is 18,126 (*DHDRM 2007:184-185*). This block comprises of 11 Gram *Panchayats*, 104 villages and 89 *mouzas* (*Malda District Portal: 2007*). Majority of the population in this block belong to the Hindu Community and as in 1991, the percentage of Hindu population to total population is 60.05 (*Malda District Statistical Handbook 2004: 150*). About 49% of the total population engaged in agriculture belongs to the category of landless labourers (*Malda District Statistical Handbook 2004:153*). Women comprise 18.5% of the total main workforce, while the same figure for the men is 81.5% (Census 2001). Women comprise, however, 58.7% of the total marginal workforce, while the same figure for men is 41.3% (Census 2001). The female literacy rate is 32.1% while the same for males is 56.0% (Census 2001).

Map of *Manikchak* Block



A.2) Tables

A.2a Estimate of loss by *Ganga* erosion in *Malda*

Year	Land loss in hectares	Affected Population
1931-78	14335	-
1979	60	340
1980	104	552
1981	259	1376
1982	65	345
1983	92	489
1984	68	361
1985	91	483
1986	106	563
1987	240	1276
1988	72	808
1989	152	850
1990	160	887
1991	167	680
1992	130	770
1993	145	850
1994	160	770
1995	145	1687
1996	450	500000*

1997	450	-
1998	395	-
1999	480	-

Together with those affected by flood. Source: Rudra (2004a), p.107.

Table 2b Estimated Impact of River Erosion in the *Malda Diara*

CD Block	Total <i>Mouzas</i> Affected	Total Area Af- fected (acres)	Total land Lo- sing Families
Manikchak	15	13204.02	3330
<i>Kaliachak II</i>	20	25114.67	7378
Total	35	38318.69	10708

Source: DHDRM, (2007),p.11.