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**Uncertain Livelihoods: Survival Strategies of Women and
Men in *Charland* Environments in India**

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Abstract

Charlands are river islands found on riverine plains and characterized by vulnerable and difficult living conditions and extreme resource constraints. The *charlands* may often be temporary pieces of land, their existence dependent on the rise and fall of the river. The inhabitants of *chars* have been dispossessed and are the poorest and most disadvantaged members of society; often migrants from other parts of the country or those who have illegally crossed the international border. In Southern Bengal, the *chouras* or *char* inhabitants have adapted to this marginal environment and have developed certain livelihood strategies to ensure their survival. This paper reports on the livelihood strategies of these *charland* inhabitants based on a study of women and men living in the highly dynamic *charland* environments of the Damodar River in Southern Bengal, India.

Charlands and their Inhabitants

In developing countries increasingly large numbers of people are living in marginal environments characterized by poor living conditions and extreme resource constraints. *Charlands* are temporary, low river islands common to deltaic regions, and epitomize these characteristics. *Char* inhabitants have been dispossessed and are the poorest and most disadvantaged; often including illegal migrants. In Southern Bengal, the *char* inhabitants have adapted to this environment and have developed livelihood strategies to ensure their survival. This paper focuses on livelihood strategies of the *charland* inhabitants based on a wider study examining vulnerability of livelihoods in the highly dynamic *charlands* of the Damodar River in Southern Bengal, India. Our study owes a great debt to Baqee's research (1998) on *charlands* in Bangladesh describing them as '*Allah jaane*' (God knows, or whatever will be, will be) lands and focusing on the process of occupancy, dislocation and resettlement. Other research on *charlands* (such as that by Chowdhury 2001) examines issues such as disaster mitigation, but so far little has been written about livelihood strategies in these temporary lands.

All *charland* dwellers have well-established livelihood strategies which are characterised by highly diverse production and income-generating activities. These include farming, livestock rearing, fishing, petty trading and working as itinerant wage labourers in sand quarries or agricultural fields. However, it was noted by experts in Bangladesh that for the extreme poor, these strategies merely permit survival rather than the accumulation of sufficient assets to overcome poverty (Elahi et al. 1991, ISPAN 1995).

Examining these livelihood strategies is important to understanding the ways people maximum utilization of scarce resources for survival and to cope with the vulnerabilities brought about by natural hazards. It has been noted (Valdivia and Gilles 2001) that water, land, livestock, crops and knowledge all play significant roles in the livelihoods of most of the world's rural households. In *chars*, the vulnerability created by flood and riverbank erosion plays a dominant role in the livelihoods of inhabitants who are largely excluded from mainland services and infrastructure, as loss of land and other assets completely destroys their survival base. These people do not constitute a priority for local or state governments as the legal status of their land is not easily determined, though most inhabitants of the *chars* are illegal immigrants occupying public land.

Research Methodology

Participatory research methods have been used to explore the livelihood strategies of poor migrant people living in *char* Gaitanpur as it offers a creative approach to information-sharing. This method has become significant in recent years in the field of social research as it emphasizes a 'bottom up approach'. The participatory approach is based on field visualization, interviewing and group discussions promoting interactive learning, shared knowledge and flexible yet structured analysis (IDS 1997).

Both primary and secondary sources of information have been collected for this study. Secondary information is limited to the 2001 census figures for *char* Gaitanpur. The primary data collection used both quantitative and qualitative methodologies. The survey was carried out in different phases from June 2002 to September 2004. During the first six months, we spent long hours walking around the *char* with people. These early observations and discussions helped in the formulation of the questions that we asked later during interviews. A household survey with a structured questionnaire was carried out with the help of a group of eight trained assistants. This survey covered each of the 202 households in *char* Gaitanpur. We also surveyed 50 women of different age groups and different economic classes to explore the gender roles in *char* livelihood strategies.

Another set of qualitative survey data was collected from 50 women and 50 men through personal interviews and by recording of oral histories. The selection process of these men and women was opportunistic and ensured that our study involved only those who wished to be a part of it. Small group discussions took place on different aspects of livelihood such as agricultural credit and

marketing, fishing, sand lifting, vulnerability to land changes, and the gender roles in livelihood systems. These were small groups not exceeding six or seven people, and among the five group discussions, two were organized for men and three for women. The group discussions were organized quite informally, but we always advised people about the discussion prior to our meetings.

Theoretical Background

Lets us first clarify what we mean by the term 'livelihood'. Various scholars have defined livelihood in different ways. The first connotation of the term is of course economic well-being; Gungulid et al. (1997: 577) see livelihood as a set of strategies undertaken by a particular household in order to secure its economic well-being and specially, its long-term survival. This draws from a tradition set by Pearson in 1977, identifying the place of economy in society as the livelihood aspects of human community in his book *Livelihood of Man*. Pearson analysed the emergence of economic transactions and the origin and development of trade, money and market from tribal through peasant to modern society as part of human livelihood. Some recent studies such as that by Valdivia and Gilles (2001: 7) also see livelihood strategies as a portfolio of activities and the social relations by which families secure or improve their well-being or cope with crises. According to Frankenberger (1996) livelihoods consist of on-farm and off-farm activities, which together provide a variety of procurement strategies for food and cash. These definitions tend to emphasise the economic dimension of living, but others have put more importance on the overall processes of securing a survival. For example, according to Blaikie et al. (1994: 9), the word means the command an individual, family or other social group has over an income or bundles of resources that can be used or exchanged to satisfy its needs. This may involve information, cultural knowledge, social networks, legal rights as well as tools, land or other physical resources. This clearly indicates that livelihood is much more than just the financial resource. Other experts too have chosen to see it as a broad amalgamation of various elements. Ellis (2000: 10), defined livelihoods as 'the assets (natural, physical, human, financial and social capital), the activities (strategies of use), and the access to these (mediated by institution and social relations) that together determine the living gained by the individual or household'.

The livelihood approach to understanding the survival strategies of poor people, as well as development processes, has become increasingly popular in the last decade. This has been a direct response to making the planning process work for the poor according to what is important for them. Oberhauser et al. (2004) considered the study done by Chambers in 1983 as the pioneer work on livelihoods of the poor. In 1989, Chambers noted that livelihoods are more sustainable when households have secure ownership of, or access to, resources and income-earning activities, including reserves and assets, enabling them to offset risks, ease shocks and meet contingencies. Since then a number of studies have been done on different aspects of livelihood. Most of the livelihood studies are based on poor community people living in rural areas of developing countries, mostly in Asia and Africa (for example see Ashley et al. 2000; Bebbington 1999; Brock and Coulibaly 1999; Bryceson 2000; Bryceson et al. 2003; Chambers and Conway 1992; Francis 1999; Marzano 2002; Scoones 1998; Yaro 2002 etc.). Developmental agencies and governments are increasingly using the concept of livelihoods in the design of policies, projects and programmes. Although frameworks for livelihood analysis differ in their detail, the basic elements consider resources (what people have), strategies (what people do), and outcomes (the goals people pursue). Research and policy initiatives connecting livelihoods research with poverty reduction objectives have been given a high priority by developmental agencies such as the Department for International Development (DFID) and Institute of Development Studies (IDS). Since the late 1980s, a new angle in these literatures has been the emphasis on sustainability. The livelihoods are 'unsustainable' since they are poorly equipped to cope with sudden or even long-term changes. Consequently, many livelihood studies carried out by development agencies to alleviate poverty have focused on examining sustainability as an insurance against total breakdown of livelihoods (Ashley and Carney 1999; Brock 1999; Carswell et al. 2000; de Haan 2000b; DFID 2002; Toufique 2001). The concept of sustainable livelihoods used in these studies relates to the conditions of poverty, well-being, capabilities, resilience and the natural resource base of households and communities. Sustainable rural development and the search for different indigenous systems developed by the communities

themselves are also analysed by some scholars with academic interests (Baumgartner and Hogger 2004; Shepard 1998).

A number of studies in livelihood literature focus upon the roles migration can play in the livelihoods of poor rural households (de Haan 1998, 1999, 2000a; de Haan et al. 2000; Mc Dowell and de Haan 1997 etc.). It is now generally recognized that migration is part of the normal livelihood strategy of the poor and does not occur only during times of emergency in some poorer countries of Asia and Africa (see Hossain et al. 2003 and Siddique 2003 for work on Bangladesh). However, the rate of migration for improved livelihood increases at times of socio-economic distress, political crisis and/or natural disasters. It is also not an uncommon feature for poor people in developing countries to seek opportunities on a temporary basis during certain times of the year. Such seasonal migration from poverty-stricken to a better-off rural areas, or from the villages to urban areas, are now well recorded (Deshingkar and Start 2003; Hampshire 2002).

Another set of literature has looked at the issue of diversification of the livelihoods of poor people as the critical element in creating better options for sustainability. If the livelihood is dependent upon only one economic activity, it is easier for people who are unable to cope with change to sink quickly into the depths of poverty (Deb et al. 2002; Ellis 1998, 1999; Toulmin et al. 2000). Both the environmental conditions as well as the economic policies of the state can force some communities to become marginal over time, with the loss of their livelihood resources. The question they must face is how to develop strategies to diversify the survival base in order for the poor to cope better with change (Ginguld et al. 1997; Karnath and Ramaswamy 2004).

Vulnerabilities do not always affect women and men in similar ways. Women in poor communities may constitute the poorest or weakest group, bearing the burden of care for the children and family. Thus, the ways women and men seek and sustain a livelihood are different. The following studies (for example Cleaver 1998; Francis 1998, 2002; Hapke and Ayyankeril 2004; Masika and Joeke 1996; Valdivia and Gilles 2001) look at livelihood as a gendered activity. Most of these studies have emphasised the livelihood strategies of poor women and how they manage the scarce natural resources at their disposal. A few studies such as the one by Francis (1998) analyse the bargaining power of women and their access to household resources along with their contribution towards the livelihoods of the households. Critical questions such as 'do women have greater bargaining power when their contribution to household livelihoods is mediated through markets? Does money talk?' are raised, to examine women's power in the household management system. She showed that women struggle to earn a livelihood for the family and to run the household, but do not enjoy significant additional power as a consequence (Francis 1998: 75).

Char Gaitanpur

Char Gaitanpur is located on the Damodar riverbed under the jurisdiction of Gaitanpur *mouza* of Khandaghosh police station in Burdwan district, West Bengal. The *char* is situated at 23°14' N latitude and between 87°47' E and 87°48' E longitude. It comprises a total area of 2.5 sq. km (2.5 km long and 1 km wide in a north-south direction). Burdwan town, the district headquarters of about 300,000 people is located 3 km north of this *char* and provides an important market for both the labour and products of the *char* inhabitants.

The relative position of this particular *char* on the riverbed has changed several times due to the frequent shifting of the thalweg (main flow channel) within the river. Bhattacharyya's (1998) study of the Damodar refers to Dicken's map of 1854 showing Gaitanpur as a marginal bar (attached *char*, attached to the south bank of the river). Until the 1950s it was part of Gaitanpur village located on the south bank of the river and was separated by a small drainage channel called *Gaitampur bana*. In September 1959 there was a major flood which opened up this *bana*, making it deeper and wider than it had been (Damodar *Patrika*, 1959). Since then this channel has become the major branch of the river with the steady erosion of the bed during each rainy season. The Survey of India map of 1970 showed it as a mid-channel bar (island *char*). During the devastating flood of 1978 the course of the river completely changed; Gaitanpur again became an attached *char* (attached to the north bank of the river). The old course of the river in the north has become an agricultural field, though

is not registered in the government settlement records, while on the southern bank, some land (which no longer exists) is registered in these records.

The physical character of the *char* Gaitanpur is somewhat different from other *chars* located in the active delta region of the Ganga–Padma and other rivers in deltaic Bengal. Regular flooding, an important characteristic of these *chars*, is absent here. Gaitanpur was flooded by only knee-deep water during the 1978 flood. The problems of annual inundations, shifting land and the consequent regular conflict that can accompany the re-demarcation of land that has been covered by sand and alluvium, are less intense in this *char*. Gaitanpur provides a comparatively secure environment in which migrants can settle, while at the same time presenting a marginal environment in which established local communities may not wish to live in. Property boundaries have become more or less permanent, which offer residents a slightly safer, but not an adequate, livelihood.

River erosion is an even bigger threat to the dwellers of Gaitanpur *char* than floods. The film of loamy soil is only about 3 to 6 inches thick above the substantial layer of sand. This loosely packed silt and fine sand is highly susceptible to erosion and the consequent loss of agricultural land pose serious threats to the residents. Bank erosion reached its peak during the 1978 flood when the half the *char* was lost to erosion. However, simultaneously, this flood deposited sand and alluvium on the old course of the river channel made an extensive area available for cultivation. Some households have been displaced by erosion up to three times during their length of stay in this *char*.

Peopling Process

Char Gaitanpur was first settled in about 1947 when a group of Bihari boatmen¹ colonized the land by clearing bush and jungle. These boatmen were involved in river trade between the north Indian plain and Bengal. After the partition of Bengal and the development of roadways these people found themselves without their traditional occupation and in search of new lands. Saraju Chowdhury, a 78 year old man who came to *char* Gaitanpur as a child with his father, tried to explain this choice of location: ‘We, the boatmen were accustomed to the riverine environment and found it suitable to settle. Another reason for choosing to live on the *char* was free access to land for cultivation. Since there was no dearth of fertile soil in the mainland of Burdwan, these *chars* remained uninhabited for a long time before we came here’.

As the land was cleared and prepared for farming by the Bihari community news of this activity spread by word of mouth among the kin, neighbourhood and village friends, and more landless people moved to the *chars*. This process of peopling continued until around 1954, by which time the initial occupancy of the land in *char* Gaitanpur was complete.

This period is marked by the sudden onslaught in that year of a local group of ex-servicemen of the Burdwan *Raj* (such as the Munsis and Tahasildars) who visited from Burdwan town and claimed the land as their property. The Biharis claimed that they will leave the *char* only if locals can prove their ownership of land in the records in Burdwan *Raja*’s register. Local people could not prove their legal ownership of the land as, according to local custom, the entire *char* Gaitanpur was automatically the property of the *Raj* family. Between 1954-55 the official land survey for revenue purposes started and the Bihari settlers received their legal rights to the *char*lands.

At present there are 58 Bihari families living in this *char*. Since the completion of the revenue survey, many Bihari families have left the *char* society and others have entered it to make a living. In discussing the reasons people might leave the *char*, Rambali Mahato commented: ‘After arranging a piece of land in *char* Gaitanpur, some people brought their families over here from Bihar. But within a few months, the hardship of life especially the difficulties in the rainy season, forced them to leave the *char*. Only those people who are like me, extremely poor and without any other options of living in mainland areas, continued to stay here and are still struggling with poverty’. It appears

¹ Biharis are well-known for choosing to migrate to other parts of the country to escape severe poverty in their original homes in north Bihar exacerbated by natural factors such as floods, water logging and shifting river courses. Raja in his 2003 thesis gives an excellent analysis of the Bihari migration in India.

that Rambali, and perhaps others, have remained in the *char*land due to the complete absence of alternative subsistence options.

This lack of choice is echoed in the voices of Bangladeshi immigrants living in *chars*. The history of Bangladeshi migration in *char* Gaitanpur began in 1988 when Gopal Mondal, the first Bangladeshi settler, purchased a large plot of 13 acres. Gopal had come to India in 1972 after the Bangladesh war of independence, and settled temporarily in 24 Parganas district. From his new base, he continued to look for cheap land; 'I was a farmer in Bangladesh and sold my fertile agricultural land at a negligible price before I moved to India. I saved that money for purchasing land in West Bengal. I frequently visited different places in West Bengal wherever I had the slightest contacts searching for cheap land. I know farming better than any other work and I have the confidence of turning any land into a productive one by using methods such as bio-manuring passed on to me by my forefathers. I had a relative in Udaypalli (the part of Burdwan town across the riverbank near *char* Gaitanpur) who told me that land in this *char* was available. Then I purchased² a large plot of 13 acres at the cost of Rs. 39,000.' However, since the *char*land was being eroded on the southern side, he purchased a more stable block of 4 acres and sold his previously held land to Bangladeshi relatives who immediately came to India.

Gopal and his relatives came from the Khulna district of Bangladesh. Since 1990 many more Bangladeshis have come to live in these *char*lands. About 95 per cent of these Bangladeshis are originally from Khulna district. Many of those who migrated to other parts of West Bengal have now come to live in the *chars* through a chain network of kin and village folks. This steady immigration has resulted in a significant peopling of this small *char*.

Population Composition

Char Gaitanpur is settled by two distinct groups of migrants – Biharis and Bangladeshis – but the population composition has changed rapidly since the 1990s. Biharis were the majority until 1990, however they are now a minority group, occupying approximately one third of the total houses (58 out of 199). This situation has arisen because of their failure to develop agricultural skills, being fishing people traditionally, and much of their cultivable land has been sold to Bangladeshis. Some of the Biharis left the *char* in search of shelter and cash work in the nearest towns. Out-migration of young Biharis continues; the younger generation appear unwilling to face the hardships of life and have no interest in farming which requires intensive labour and from which the ready return of cash is uncertain. These younger Biharis prefer informal jobs with fixed wages and consequently they leave the *chars* as soon as they get a job on the mainland.

Migrants also use *char*lands as places of short stay on the way to more stable locations. The ease of entry into *char*land society, due to its relative physical isolation from the mainstream life, attracts fresh migrants especially those crossing the border without papers. However, many try to leave for Burdwan town as soon as they are economically secure.

The uncertainties of life characterise human habitation in *char*lands; Paresh Das clarified: 'We never think of living here permanently. We know that any day my land and house can vanish into the river. But until that does not happen we are here. If I get two to three good crops, I make enough high profit to leave. I am here to save up just about enough money to build a house in the mainland.'

Yet, new inhabitants, especially illegal migrants, continue to come to this *char* and the total population is increasing at a spectacular rate (11 per cent per annum compared with the Indian national population growth rate of 2 per cent per annum in the last decade). In 2001 the population of *char* Gaitanpur was 797, and increased to 1,068 in 2004.

² This piece of land was previously owned by someone who lived in a nearby town, but used to farm the land with hired labourers.

Settlement Pattern

About one-third of *char* Gaitanpur is higher ground. This is a relic of the original *char*land formed before the Damodar Valley Corporation. The remaining low-lying land was reclaimed from the abandoned river channel in the north as the water level dropped with each passing rainy season. These minor variations in relief are not missed by the new settlers. Houses are built on higher lands and the marginal lower lands are used for cultivation. This land use arrangement has been adopted to protect the residential houses from low-intensity floods. In most cases, the agricultural lands adjacent to a house are 'owned' by the householder; this ownership arrangement is accepted, understood and respected by all inhabitants. This proximity has facilitated the employment of family labour, especially women, in the field and allows for continuous supervision of the vegetables they produce.

A wide dirt track, running east-west cuts through the *char* and houses are aligned on both sides of this track. Most of the houses are built of bamboo (the dominant species in the *char*) and mud. The roofs are made of either paddy straw or corrugated tin and asbestos. Family members construct their own houses. Initially they make rudimentary wall structures with bamboo logs or with pieces of locally available timber (from mango or jackfruit trees). The walls are then coated with mud when sufficient time and labour are available. The poorer homes often remain as bamboo walls for several years because the occupants have not been able to organize the extra money to put the finishing touch of mud. The cold winter wind blows through these walls increasing their discomfort. Uma Mondal, one of our participants, said that, 'the nights in winter in our house are so terribly cold that they make me look forward to the mornings, although the day means more work for me'. Recently two residents, Ratan Mondal and Viswanath Sarkar, have built their *pucca* houses on the riverbed with loans from local *mahajans* or moneylenders, in the hope of getting better prices in the future when they try to leave the *char*.

The Bihari and Bangladeshi communities have their own social seclusion which is expressed physically in the arrangement of houses. The Bihari neighbourhood is separated from the Bangladeshis, which continues to grow in size. There are differences in the appearances of the two quarters as well; the roads and houses are cleaner in the Bangladeshi neighbourhood than those of Biharis which are unkempt and bear the stamp of acute poverty. A poor sense of health and hygiene also makes the Biharis more vulnerable to diseases. There is not so subtle a sense of hostility between the two; a Bangladeshi quack doctor practicing in the *char* commented: 'These Biharis were totally uncivilized before. After I came here in 1989 as a local doctor I tried to teach them the minimum about health and hygiene. Still, I could not change their old habits, and they still live in houses without any sense of cleanliness and often fall sick as a result.'

Livelihood Assets

Livelihood assets are a combination of natural, physical, social, human and financial capital upon which a group or community develop their livelihood. These assets are usually created where production leads to a surplus beyond immediate consumption requirements, and households use the surplus, willingly or unwillingly, to invest in physical stores. Swift (1989) defined livelihood assets as a wide range of tangible and intangible stores of value or claims to assistance, which can be mobilised in a crisis. The sustainability of livelihoods of any community largely depends on their access to assets, which they can exchange or cash-in during times of crisis (Yaro 2002). People's ability to generate or increase their livelihood assets depends on their access to productive resources and their ability to control and use resources effectively. Berry in 1989 noted that access depends on participation in a variety of social institutions, as well as on material wealth and market transactions. In *char*lands of Damodar, the main livelihood assets are in the form of physical capital including cultivable lands for cropping, pasture for livestock rearing, river water for fishing and washing-cleaning, subsurface water for drinking, and riverbed sands for quarrying.

Natural capital includes the annual silt deposited by the floodwaters that make agricultural land fertile and the high availability of groundwater which makes irrigation easier. As the river has dried up, attention has focused on land-based assets.

Social capital is represented by the kin relations and community support provided the people living in this vulnerable environment. The human capital of these people includes their farming skills and the physical labour. All these assets are used by the *char* residents to generate financial capital which rarely surpasses the livelihood needs of the households to create reasonable amounts of surplus for further investment.

Livelihoods in the Early Stages of Settling

‘We spent days with only one meal. We would eat only if we earned some money during the day by selling whatever we produced on the land. The market in the nearby Burdwan town helped.’ (Rambali Mahato)

‘I can still remember the hunger pains of those days. I came here at the age of 16 just after my marriage. Sometimes I could not tolerate the long gap between the only two meals of the day with which I was not accustomed in my parental home. However I tried to cope with those situations without retaliation, because speaking about pain does not reduce it rather gets enhances.’ (Sumaria Rajbhar)

We spent day after day by taking only flour prepared from seeds of *mesta*³ jute which was the most common crop of the *char*. Getting rice or bread for either lunch or dinner was really a rare experience of life in those days.’ (Saraju Chowdhury)

The early Bihari settlers of the *char*lands lived by catching fish or by doing some labouring work in nearby mainland areas. Cattle-rearing was another important means of earning a livelihood in the early days. The new settlers did not utilise the land for planting crops because they lacked farming skills and a knowledge of irrigation. Most of the *chars* were covered by bush, plum trees and *bena* grass (a local grass that can grow up to about 2 metres). *Mesta*, wheat, maize and pulses were the main rainfed crops produced without effort on the limited agricultural land. Acute poverty accompanied people then and it still does, but the cultural landscape of the *char*lands has changed since the immigration of Bangladeshis who have an intimate knowledge of low-lying lands and their ecology. It is the Bangladeshi immigrants who have given rise to the present livelihood bases of the *chars*.

Present Livelihood Strategies

Agriculture

As in many other places in South Asia (see DFID 2002; World Development Report 2000), agriculture forms the mainstay of the economy in the *char*lands of Damodar (see Table 1). About 73 per cent of households in *char* Gaitanpur have some farming land, although most are best described as either small-scale or marginal farmers. *Char* agriculture is characterised by the small size of land holdings (Table 2) and labour intensive cropping methods. Double cropping is practiced all over the *char*land, but multiple cropping is limited to lands owned by farmers with shallow pumps for irrigation (26% of the farming households). Other significant crops include vegetables which are sold in the local markets, and paddy which is a household staple.

³ A variety of jute which is red in colour and grows without much water and nourishment.

Table 1: Household sources of livelihoods

Sources of livelihood	Number of households	Pent cent of households
Cultivation	29	15
Cultivation & Agricultural labour	87	43
Cultivation & Petty trading	23	12
Cultivation & Service	5	2.5
Cultivation & others	28	14
Agricultural labour	24	12
Agricultural labour & petty trading	3	1.5
Total	199	100

The high water requirement of crops grown in sandy soils means that only those with shallow and submersible pumps can tap the groundwater to produce paddy. Poorer farmers keep their lands fallow during the *kharif* or monsoonal main cropping season (July to October) as they cannot arrange their own minor irrigation system during this time of high evaporation. The dry season in winter and early summer, from October to March when temperatures are lower, is the main cropping season of the *char*. During this time a number of vegetable crops like eggplants, cauliflower, cabbage, carrot, peas, spinach and mustard are produced. Relatively better off farmers produce paddy for two seasons of the year (*kharif* and *boro* or winter crop).

Farmers get a better price if they take their vegetables to the nearby Burdwan wholesale market which is located within two kilometres of Gaitanpur. Farmers use bicycles to transport agricultural produce or carry it in jute bags or in large baskets on their heads. Large-scale farmers ('big farmers') sometimes hire labour to take their products to the wholesale market. However, in case of other bulky crops like potato, they have to depend on the middlemen to take their products from the fields.

Table 2: Proportion of agricultural land under different holding sizes

Size of land holdings (acres)	No. of households	Pent cent of households
Less than 1	76	52
1 - 2	59	40
3 - 4	11	8
Total	146	100

Farmers with more than three acres of land are defined locally as 'big farmers' who usually have their own minor irrigation system such as a shallow tubewell and can hire additional labour for farm work. Small and marginal farmers (owning 1-2 acres and less than 1 acres of land respectively) sometimes have shallow pumps but generally cannot afford to hire labour, and therefore all the able-bodied family members, including women and occasionally young children, work on the farm.

Risks in Agriculture

*Char*land farmers usually face *two* major risks in their farming practices: floods and price fluctuations. Floods are a natural hazard, which always accompanies the life of the *char*land people and brings loss of crop. To cope with this risk most of the lowland farmers usually keep their land fallow in the rainy season. If there is heavy rainfall in winter the upper catchment area, the sudden increase in water level can ruin the vegetables of farmers who cultivate in the land recovered from the abandoned river channel. This occurred in January 2002 and water remained stagnant for a few days, which almost destroyed the winter crop of several farmers in *char* Gaitanpur. Pest attack sometimes affects the production of vegetables and reduces the yield.

Among different risks in agriculture the most significant is the fluctuating price of crops. Farmers face the greatest impact in years when the price of potatoes falls considerably. Potato is the staple crop in *charlands* as the sandy lands are most suitable for their production and there is no risk of loss of crop by natural hazard like flood as it is a winter crop. The average yield of potatoes (15,000 kg per acre) is also higher in *charlands* in comparison to the nearby mainland areas. Over the last ten years the average price of potatoes varied between Rs. 120 and Rs. 300 per 100 kg (Table 3). Profit and loss varied accordingly. However, the *charland* farmers cannot hold their produce in order to get a better price as they do not have access to cold storage. The transport costs of moving potatoes to cold storage are also too high. Above all, most farmers produce potatoes with loans from Mahajan at a high interest rate, and they need immediate cash to repay the loan, even if they have to bear a loss.

Table 3: The economics of growing potatoes

Average yield per acre (kg)	Price per 100 kg	Total Price (Rs.)	Total expenditure per acre (Rs.)	Profit (Rs.)	Loss (Rs.)
15,000	300	45,000	21,000	24,000	-
15,000	150	22,500	21,000	1,500	-
15,000	120	18,000	21,000	-	3,000

All farmers grow potatoes despite the high investment cost and high risk of price fluctuation as it gives very high return if the price level does not fall. Ganesh Halder described the farmers' strategy regarding the potato farming very clearly. 'The annual livelihood status of the farmers are entirely dependent of the price level of potato. If we get a good price then the return from potato farming on only one acre is sufficient for the annual cash expenditure for the poor people like us. Therefore, we always take the risk of planting potato. At the same time, we do not have much of an alternative too. On this sandy soil, we cannot produce winter rice as it requires as much irrigation water that we can not make a profit out of it.'

Wage Labourer

The livelihood of the landless is characterised by the seasonality of activities (Makita 2003) in which working as wage labour plays an important role. In the *charlands* of Damodar landless households usually earn their livelihood as wage labourers either in agricultural fields or in the sand quarries on the riverbed. As large tracts of land remain fallow in the summer season, agricultural labourers usually work in the sand quarries during this period. However, there are some who earn their livelihood from sand quarries throughout the year, with the exception of a few weeks during the rainy season when water from the upstream reservoir floods the river channel.

Given a choice, younger people prefer to work in the sand quarries rather than as agricultural labourers because they receive slightly higher daily rates of pay. Agricultural labourers can earn only up to Rs. 50 (~US\$ 1) per day as a fixed wage while sand quarrying is done on a piece-rate contract basis by a group of four to five people, and can vary between Rs. 80 to 120 (~US\$ 1.8 – 2.4) depending on the volume of work. However, the work is more physical and hence the older people are unable to do sand digging work. As a consequence, many older men become jobless when the demand for agricultural labour falls during the lean growing season.

Livestock Rearing

Livestock rearing - particularly goats, ox-bullocks, cows and pigs (Biharis prefer to raise pigs) - is an important subsidiary livelihood activity of the *charland* people. The fallow sandy lands are usually used as pasture for domestic cattle, and agricultural lands are also used for grazing during the lean cropping season i.e. summer and the rainy season.

The cost of rearing cattle is very low in the lean season as the animals only need to be fed fodder at night. Dairy cattle are usually fed by fodder, which *char* people have to buy, whereas goats are managed by collecting tree leaves from courtyard trees. However, the cost of cattle rearing increases

in the peak season (October to March) when all the agricultural land goes under crop. During this time people tend to graze their cattle along the roadsides or in small fallow patches.

Cattle rearing requires constant supervision during the peak cropping season. Older people, especially women, usually look after the animals to supplement their family income. However they rarely have a say over the profit made. Women prefer to rear milk cows as domestic cattle because of the multiple contribution they make to their daily livelihood. Fulmati Mondal, one of our women participants, made it clear: 'With goat, I can earn some cash from selling it after a certain period of time. If I rear ox or bullock then they are used for ploughing the land, which ultimately help men in their field jobs. However, the cows give us milk, which lessens our burden of providing food for children to a large extent because with milk I do not need anything else with rice. I can manage the family's daily meals with rice, some mashed potato and milk. This reduces both the cost of food and the time for cooking as well as improving the health of my kids.'

Petty Trading

Petty trading is an important livelihood activity for some families due to the nearness of *char* Gaitanpur to urban centres on the mainland. Petty trading helps to earn on average between Rs. 40 to 50 per day depending on the market price, which is comparable with the wages for agricultural labourer. Some households depend entirely on petty trading, while for others it is a supplementary source of income. In *char* Gaitanpur 53 people (20 males and 33 females) from 199 households are engaged in petty trading. Most sell vegetables from door to door in nearby Burdwan town, and only two are engaged in fish trading. All the people engaged in petty trading walk to the nearby wholesale markets in the early morning to buy either vegetables or fish, and spend half the day selling from door to door.

Vegetable sellers do not purchase vegetables directly from the farmers, which could be more profitable to both the farmers and the petty traders. However, for various practical reasons farmers prefer not to sell their vegetables directly. We quote Sachin Mondal on this point: 'We prefer to sell our vegetables to the wholesaler rather than to the petty traders. Petty traders usually take smaller quantities of different vegetables, which is not feasible for us to sell. We sell our vegetables in large quantities at a time and we don't have the time to weigh the vegetables in smaller quantities. Again sometimes it becomes difficult to get the cash back from the petty traders. Rather we get cash for our products on a daily basis from the wholesale traders.' This increases the economic circuit and the number of jobs involved.

The age of men involved in petty trading is usually in the range of 25 to 40, whereas for women it is 35-55. Younger women are not usually allowed by their partners to get involved in petty trading. The responsibilities of childcare also mean they are unable to leave their homes for prolonged periods of time.

Many men choose petty trading because there is an off-season in the demand for agricultural labour, whereas petty trading provides a source of income throughout the year. Women usually choose this occupation to get access to the outside world and to improve their economic and social status within the household.

Fishing

Fishing has lost its significance as a major source of income for people living in *char*lands. Gandhari Dhali, a woman of mid fifties told us 'we used to catch fish by hand without any net. There were plenty of fish in the river. We never had to buy fish for our own consumption. However, now things have changed. My husband still goes to the river to catch fish regularly, but gets the catch rarely. My sons buy fish from the nearby market for us.' The availability of fish has reduced remarkably with the reduction in the flow of water and the rising level of pollution in the river water.

However, *char*land people still fish either for their household consumption or for subsidiary income. Their fishing activities are influenced by the availability of fish and the ease of fish catch during

different seasons. The catch varies from 250 gm to 10 kg; increasing in summer and decreasing in winter. The price paid for fish varies from between Rs 40 and 100 depending on the type and size of fish.

Diversification of Livelihoods

Diversification of income and assets is closely linked with livelihood strategy (Datta and Hossain 2003) as it offers people options for coping with crises. Household incomes are usually generated from different and varying sources depending on the income-earning opportunities open to each individual or household (Yaro 2002). Diversification across income sources helps households to combat instability in income and thereby increases the probability of their maintaining livelihood security (Deb et al. 2002). Agriculture remains the main source of income for the majority of the households of *char* Gaitanpur, however a degree of diversification in livelihood strategies has taken place over the last ten years. Proximity to Burdwan town and the development of transport infrastructure has facilitated this livelihood diversification.

Diversified livelihood strategies are more common among poorer people than among those who are relatively better off. Another study carried out by Deb et al. (2002) in two villages of Andhra Pradesh, India observed that ‘whilst there are a small number of cases where diversification has enabled households to lift themselves significantly above the poverty line, the overwhelming experience of diversification is as a coping strategy’ (p. vi). In our study area, diversification is taken up by landless households and small, marginal farmers as a common livelihood strategy. Large farmers occupying better land on higher ground usually produce three vegetable crops per year with the help of their own minor irrigation systems, the production and marketing of which requires much manual labour. Therefore, members of such farming households are occupied to such an extent by agricultural activities throughout the year round that they do not have any scope or need for diversification of livelihood activities.

Livelihoods during the lean season

The lean agricultural season i.e. April to September, is a hard time for most of the *char*land people, especially landless agricultural labourers. The relatively better off farmers can support themselves during the lean season with the profit they make from winter crops. Farmers who own minor irrigation systems can produce summer crops, especially rice, although on limited stretches of land. The rest keep their land fallow and try to find other forms of employment and income. As most of the land remains fallow between April and September, some agricultural workers go to the mainland to look for seasonal work, but women labourers cannot go such a long distance, as they also have to look after the household.

An important livelihood strategy during the lean season is the farming of vegetables on a subsistence basis for their daily needs in the courtyard of their houses. Ashalata, a woman agricultural labourer stated: ‘We always buy our rice and mustard oil for the whole year from our income in the peak season. We grow vegetables in our courtyard to meet the daily needs of vegetables. We have four hens, which give us egg sometimes. We sometimes go to catch fish from the river for our own consumption. Including all these we can manage our livelihood in the lean season when we do not have regular job. We do not have acute poverty and crisis for food neither we have enough surplus. However, we face problem if any unseen expenditure comes like any of our family member falls sick. Then we have to take loan from the *mahajan*⁴.’

Poverty and Credit Systems

Poverty is an important characteristic of the lives of *char*land dwellers, and many households have to depend heavily on different types of credit available locally. Both availability of credit and repayment conditions play an important role in the livelihood strategies of *char*land inhabitants. In *char* Gaitanpur only 14 per cent of households have a savings account either with the bank or the post office. Households without any savings frequently take loans from different formal or informal

⁴ Local moneylender.

credit organizations. At the time of our household survey 66 per cent of households had loans of different amounts (Table 4) from different sources (Table 5). Loans are usually taken for several reasons including running the household / daily living, cultivation, purchasing land, leasing of agricultural land, buying cattle, petty trading, constructing a house, and arranging the dowry of a daughter's marriage.

Table 4: Distribution of households on the basis of existing loans

Loan Amount (Rs.)	No. of households	Pent cent of households
3,000 and Below	42	32
3,001 – 5,000	25	19
5,001 – 10,000	23	17
10,001 – 20,000	39	30
Above 20,000	3	2
Total	132	100

Table 5: Proportion of different sources of loans

Sources of loan	No. of households	Pent cent of households
Bank	5	4
<i>Mahajan</i>	99	75
Kin / Relative	11	8
Neighbour	11	8
Shopkeeper	6	5
Total	132	100

*Dadan*⁵ is a primitive loan system that still plays a role in the subsistence economy of the charlands. In this system farmers receive all the finances for a certain crop such as seed, the cost of irrigation water, fertilizer and pesticides from a person as a loan. This loan may be in cash or in goods. The rate of interest is similar to that charged by a *Mahajan*, but the essential condition of this type of loan is that it is given for only one crop i.e. for three months. If farmers cannot make a profit, and they cannot repay the loan, the farmers' produce is taken at the lower market rate, up to the amount that exactly reimburses the value of both the capital and interest. This is a double loss to the farmer and they try to avoid this system of finance. However, this system still operates in *charlands* because of the poverty of the marginal farmers. *Mahajans* will not make loans to farmers who have poor repayment capacity. Whereas a *dadan* loan is accessible to farmer's even if they have little repayment capacity.

Gender Roles in Livelihood Activities

Charland women make a significant contribution to managing the household. In addition to their household chores, women are burdened with heavy manual jobs that provide an uncertain income. With little or no security made available through the state support system, women are forced to devise innovative ways of making a living in hostile circumstances. In terms of their decision-making power, women are marginal both within the household and within society. They work from dawn to dusk without any rest. Gender role differentiation is very strong and women's work is identified with the private sphere of the household, therefore all domestic work is considered to be the responsibility of the women. The work burden of non-earning housewives is relatively less than those of working women.

Our survey revealed that a persistent social stigma is still attached to female work participation. Women's employment continues to be considered a sign of poverty. Therefore poorer women, only constituting 28 per cent of total women surveyed, go to work to earn a livelihood outside their

home. The younger women in poorer households who have younger children to look after often take them to their place of work. Some do not even get much rest to recover after childbirth. Working women who have other female members of the household (mother-in-law, daughter or daughter-in-law) to share the domestic burden consider themselves lucky. However, despite the positive impact of women's labour force participation on human resource allocation and economic productivity, there are some negative implications.

The collection and management of fuel for cooking is an important livelihood strategy adopted by *charland* women. Women take sole responsibility for both cooking and collecting fuel in every household. Households who have cultivated land usually use the straw from some crops such as jute, wheat and mustard for fuel. Women from households that own cattle, usually prepare special dung cake with a coat of cow dung around jute straw and store these for use during the rainy season. The poorer households without agricultural land and cattle have to depend entirely on wood, catkin grasses, crop residues, dried up vegetation, rice bran etc. for fuel throughout the year. Women use tree branches from their own courtyards in times of severe fuel crisis, such as during the rainy season. They fall into real trouble if rain occurs over consecutive days and in times of flood.

Women's domestic burden increases in times of floods. The loss of utensils and other household essentials puts great hardship on women. They have to bring drinking water from distant areas as most of the tubewells' water becomes contaminated with floodwater. Construction of houses is another post flood job in which women are involved. Floods also undermine some of the women's well-being because of their dependence on economic activities linked to the home. Losses of harvest and livestock have a high impact on women, as nearly 58% of women rely on cattle and chicken for their cash income.

Women-headed households

There are eleven women-headed households in *char* Gaitanpur. All these women are between the ages of 30 and 45. Some of these women came to *char* Gaitanpur with their husbands who have passed away or left them in destitution. Others came as widows along with their kin and their children. It is usually a close male relative who arranges their shelter and livelihood strategies in this *char*.

These women-headed households constitute the 'poorest of the poor'. They usually work as landless labourers, and have a limited number of cattle and other domestic animal resources. Compared to other low-income households, female-headed households are marginalized in all respects – income-generating activities, social status, health and decision-making. They don't even have access to private loans from local moneylenders as they are considered unable to repay their loans, and in times of emergency they have asked their male neighbours to act as guarantors in order to secure a loan.

The Role of Social Capital in Making Livelihoods Sustainable

Social capital plays an important role in the process of occupancy as well as in making livelihoods sustainable in the *charlands*. Kin relations and neighbours provide immense help in securing food and shelter in the early stages of settlement and in helping to purchase land or arranging some form of work, or other assistance, if the earning member of the household is temporarily unable to work.

In old age people become dependent on their adult sons for their livelihood and security. Some old people will lease out agricultural land in exchange for ready cash, and are relatively better off. However, difficulties occur if the adult sons are separated from their elderly parents or when there are no younger family members to look after them.

It is a headman who arranges community help for the poor in time of crisis, such as a daughter's marriage or the funeral of deceased parents. However, in times of natural disasters like floods, *charland* people are forced to depend on external help such as a disaster allowance. We noted that even during a low-intensity flood, some people take on the responsibility of getting everyone,

including their poultry and cattle, to the nearby embankment by boat. However, there is political power play at work; some people do not receive any help if they do not follow the dictates of certain political parties within the *char*land. People identified with a particular social group receive assistance and livelihood support not available to others.

Conclusion

How do poor people live in extreme, uncertain, resource constrained situations? As we have shown in this paper, *char*land inhabitants live difficult lives in eastern India, yet they have adapted to this marginal environment and have developed certain livelihood strategies to ensure their survival. Inhabitants of *chars* are marginal people in that they have been dispossessed and form the poorest and most disadvantaged group in society. In this paper we reported on our study in *Char* Gaitanpur, but our larger study encompasses a fuller understanding of local rural and urban livelihoods and the interactions of people in relation to water management and the consequences for their lives.

The value of this grounded research lies in locating the place specificness in poor people's livelihood strategies. Cultural rootedness of people in specific places and occupations continue to play important roles, with the Bihari inhabitants less able to cope with the *char* dynamics than the Bangladeshis. As we saw in this paper, the *chars* have a long and complex history of settlement. People come to live in the *chars* with their limitations, preferences and skills, which they apply in selecting a livelihood in spite of the constraints. Contrary to popular belief, the level of diversification of livelihood strategies is high. While none of the occupations can individually provide a solid subsistence, the overall mix proves to be reasonably adequate for survival, even if on a temporary basis. Social capital plays a significant role in mobilizing kinship networks, not only in migration, but also in building up and consolidating livelihoods once settled. We note the different perceptions and strategies adopted by women and men in creating livelihoods, and highlight that although most women migrated as part of the family the burden of livelihood falls upon them, and they play an important role in sustaining family incomes.

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