

## **FIELD SURVEY, SESSION 2016-2017**

### **TITLE-SOCIO-ECONOMIC PROBLEMS OF NIRMAL CHAR**

#### **Introduction**



Field work, as per the norms of The University of Kalyani, has been incorporated as a compulsory element in the syllabus of Geography (Part III, Hons. and Part II, Gen.). Thus, the Department of Geography in the respected colleges conduct the required field work with the students in a selected geographical location in the home district, in general. In case of Berhampore College, its principal Dr.Samaresh Mondal guides the departmental teachers in the selection of its geographical location to carry out the field work.

It's a matter of pride that he considers himself as the guardian of the financially unstable students of the college. He is kind enough to defray the cost of the students' journey, food and lodging. At times he has given his precious time to these field survey conducting students too. The field survey of 2016-17 was organised in the Nirmal Char, Murshidabad on 12th December, 2016. Nirmal char consists of three mouzas namely DihiDamuria, KhamardiarNasipur and Nairmal char. DihiDamuria is situated on the eastern part of the Nirmal Char. It is on the bank of the mighty river Padma. It is administratively governed by the Nasipur Gram Panchayet of Bhagwangola II block of Murshidabad district. Geographically the area is situated roughly between  $88^{\circ}24'19''$  -  $88^{\circ}24'56''$  E and  $24^{\circ}20'33''$  -  $24^{\circ}20'55''$  N.

#### **Historical Background of the Evolution of the Char**

The course of the Ganga along the northern river-front of West Bengal has been fast changing due to unabated bank erosion, especially over the last few decades. The rotational bank failures between the Farakka Barrage and Jalangi, a stretch of about 100 km has become a matter of serious concern. However, the overall impact of erosion and the human response to this menace have hardly been taken into account in geographical studies. Recently Das and Dasgupta (1992) reported on threat to land resources from erosion by the Bhagirathi and the Ganga. But their work now seems back dated as the Ganga has remarkably changed its course since they submitted report in 1992. The Ganga was chosen as the international boundary in this stretch of land in 1947, at the time of partition of India. Since then, rapid growth of population, large scale human migration from the then East Pakistan, and unplanned expansion of habitation as far as the bank of the Ganga, wrong alignment of roads and

railways within the meanderbelt of the river, and above all the layout of the Farakka Barrage Project have drastically changed the landscape of the area. The recurrent bank failure and encroachment of the Ganga upon the Indian Territory has often taken a disastrous magnitude and threatened the possible benefit of Farakka Barrage Project (Banerjee and Chakraborty, 1983) and the possibility of delinking of the North and South Bengal cannot be ruled out. At present the Ganga has approached very close to the National Highway No. 34 and the railway track. The erosion has created a class of neorefugees. The erosion has not only uprooted them but has also compelled them to indulge in smuggling activities which has now become an organized business along the Indo- Bangladesh border. Thus agrarian economy has been seriously affected by the loss of fertile land. The Government has invested millions of rupees in erosion control works, but many such ventures have proved futile against the impinging fury of the Padma and truly so, the river has been known as Kirtinasa or the destroyer of creative works.

It seems to be a matter of paradox that human life in an area, which is geomorphologically marked as depositional, has been threatened by erosion. While about one million people are displaced every year by the flood and erosion in Bangladesh (Elahi and Rogge, 1990); it is no less than 10,000 people who are evicted every year from their homelands by erosion in Murshidabad district alone. The erosion and land relocation is an age-old problem along the bank of the Ganga. The erosion of vast stretches of land and subsequent emergence of chars has been in progress for last 2000 years or so. Major Colebrook, in his paper 'On the courses of the Ganges through Bangal' (1801), described the devastation caused by the Ganga in the Murshidabad district. He noted: "The quantity of land, which has been destroyed by the river in course of a few years, will amount, upon most moderate calculation, to 40 square miles, or 25600 acres: but this is counter-balanced, in a great measure, by alleviation which has taken place on the opposite shore." In the late 19th century, Hunter (1876) observed that an acre of land was engulfed by the gnawing Padma within half an hour. Captain Sherwill (1858) witnessed 'the emergence of charlands which became, cleared and cultivated, the population increased, large village started up, land revenue was collected for ten or twelve years, and then the whole fabric disappeared .

It has been observed that since the beginning of construction of the Farakka Barrage in 1962 the intensity of erosion has increased. Dhulian and its adjoining areas were severely affected in mid 1970s when about 50,000 people became homeless. The present site of Dulian is reportedly the fourth site (Bhattacharya, 1978). The encroaching river wiped out 50 mouzas and engulfed about 10,000 hectares of fertile land.

A large part of the interfluvies, lying between the Bhagirathi and Padma with an area of about 77 km<sup>2</sup> between Nayansukh and Giria, disappeared for ever between 1925 and 1974 (Rudra, 1992). Thus the map of this area has been changed beyond recognition, which is perceived by comparing the older topo- sheet published by Survey of India in 1925 and the recent satellite images. The erosion is a seasonal phenomenon experienced during the monsoon months every year. The erosion has been the cause of major distress of the people living along the riverfront of Murshidabad for the last two centuries, and the ravages caused by the mighty Padma at Akheriganj in Bhagawangola-II block in 1989 and 1990 surpassed all previous records. Akheriganj, which literally means the last settlement, virtually disappeared from the map. The disastrous erosion engulfed 2766 houses and left 23394 persons homeless. Many erosion-victims migrated to the newly emerged Nirmal Char along the opposite bank.

### **Relief and Physiography**

Chars are flat, low-lying islands of silt within a river. Silt raises the riverbeds, not only creating chars, but also gradually destroying them again through erosion. Siltation also makes the rivers shallower and may cause the rivers to spill over their banks resulting in floods, and sometimes even carrying out new colours. Average elevation of the study area is about 67.5 feet from mean sea level. The western and central parts of the area are comparatively higher than other parts. Highest elevation is about 72 feet.

### **Soil and Vegetation**

Chars are made of silt and sand carried by rivers. In the study area there about four types of soil are found. They are sand dune, sandy soil, silty sand soil and sandy clay soil. The central higher part which is comparatively older than other parts is composed of silty sand soil. Almost 80% of the area composed of sandy soil. Along the riverbeds hips of sand are also found.



Source: Field Survey, December, 2010

## **DEMOGRAPHIC CHARACTERISTICS OF NIRMAL CHAR**

### **Population**

Total number of the population in the DihiDamuria is 1818. All these people inhabiting in the region are erosion or flood victims from the mainland of the district. The density of the population in the char is less as compare to the density in the mainland. The reason behind this is lack of infrastructural facility and harsh natural condition. The percentage of male and female population to total population is 49.66% and 50.34%.

### **Age Sex Composition**

Age sex composition of the study area reflects the large number of dependent population (53%) on the working population. The base of the age sex pyramid is very wide which also shows the underdevelopment in the area. 23.65% population lies under 0-6 years age and another 22.66% lies in 7-15 years of age. So the total of about 46% population is youth category. The percentage of population having above 69 years of age is 6.71%.

### **Level of Education**

Level of education is very poor in the study area. There is only one school in the char. Student teacher ration ratio is very high. Most of the rainy season the school is closed as teacher cannot come from the mainland. There is also evidence of drop out. Almost all the families want to use their children as helping hands to their parents for extra earning instead of education. The illiteracy is very high i.e. 69.25%. About 60 % population has completed up to primary level of education only. The amount of drop out students is 20.77%.

### **Income**

An overwhelming majority of the people in the char are extremely poor. The average income and household expenditure is almost equal. So there is no scope for any savings for the

future. They seldom save the money. Besides this, almost all of them are daily labour of cultivators who cultivate their land for their subsistence only. There is also no scope for extra income in the char area also. The maximum population earns less than Rs. 1000 per month (57.80%). 34.81% populations' monthly income is between Rs.1000 -2000. Only 0.21% population has monthly income more than Rs . 5000.

Livestock are a key asset for the char people, they not only offer a means of adding value to the grasses that colonise recently accreted land before cultivation is possible, but they are also a mobile asset in the face of erosion. Nevertheless livestock are also vulnerable to floods, theft and normal disease hazards, and these problems are more significant in char areas than mainland because of the lack of services to counter these threats. Cattle and goats are the main types of livestock in the riverine chars, buffaloes were rare in the riverine char but being more tolerant of saline grazing are preferred in the new coastal chars. In peak floods moving cattle to higher land such as an embankment is a problem for char households, while storage of fodder and shortage of funds necessitates the sale of an important asset. About 99 per cent households in both of the chars own livestock. Goats and hens are more relatively more important for poorer households.

### **Occupation**

Maximum population inhabiting in the surveyed char belong to non-working group. Only 26.07% population has definite work. As in the other parts of rural areas of Murshidabad district, the main occupation of most people living in the surveyed char relates to crop cultivation. 88.9% of the surveyed household directly cultivate their land and act as sharecropper and 3.37% belong to agricultural labour category. Another occupation in the area is fishing though few of them earn from this occupation. Mostly fishing is practiced for their supply of daily food. 5.48% of the population is marginal agricultural labour.

### **Agriculture in Char**

The intensity with which agriculture can be pursued on a char depends very much on the stage of its development. Some of the chars may be cultivated without having human settlements on them, particularly in their early stage. Like in the mainland, rice is the main crop, which is cultivated in three seasons: Aus (April-July), Aman (August-November) and Boro (January-April). No irrigation is required for Aus and Aman, but for boro irrigation is often required depending on the variety and location of the cultivation. Rabi crops (from December- March) include pulse, wheat, groundnut, chili etc for which irrigation is required. Both surface and groundwater irrigation is practiced depending on the availability of surface water on the char. Although Kaash (catkin grass) grows naturally, char dwellers often plant this special type of grass as it is a source of cash as well as household use. Moreover, it encourages siltation on the char.

Source: Field Survey, December, 2010

### **Fishing in Char**

As water is available all the time of the year fishing is very important occupation among the char- dwellers. Many of them catch fish for their daily use as well as for selling in the mainland market. During the rainy season the opportunity of fishing increases and almost all the population of the char catch fish for their use. Fish is the main source of animal protein in

the char. Many of the surveyed household poses boat for fishing. They used to catch fish during afternoon and early morning.

### **Agricultural Labour**

Many of the char-dwellers earn their livelihood as agricultural labour in others land. Almost over 90 per cent of the char people have no land to cultivate and few of those possessing the land is very small. So whatever they grow it cannot serve the adequate amount to the family also. They have to depend on others land as agricultural labour. Some people also earn as share-cropper.

## **PROBLEMS OF CHAR DWELLERS**

### **Sanitation**

It is the issue of sanitation and access to clean drinking water on the chars that is particularly dire. In this surveyed char only 16.82% of households have toilet inside the house and rest of the households used open space for this purpose. This explains the high incidence of water borne diseases like diarrhea in the char. The situation is further exacerbated during the annual monsoon floods when many tube wells, vital to clean drinking water, become submerged, leaving a large percentage of islanders



Source: Field Survey, December 2017

with

only polluted river water to drink. Such realities, coupled with the collapse of sanitation facilities, places whole communities at risk to a host of water- borne diseases.

### **Drinking Water Supply**

Drinking water supply is very poor in char. Most of them collect drinking water from far away. They have common tube-well. Only 28.13% of the population has their own tube-well inside their houses. 60.24% population collects drinking water from within 50 metre distance from common tube-well. 7.64% and 3.97% of the char dwellers has to go 50- 100 metre distance and more than 100 metre distance respectively.

### **Health Service**

In general, almost no health services, not even temporary ones, are available strictly within the surveyed char. However, very occasionally some vaccination camps take place in the char. Though not within the char, some health facilities exist around, at varying distances. The char dwellers have to travel long distances and suffer a lot to receive health services from the qualified provider since the provider available nearby are unqualified in most cases. These providers also use traditional and homeopath treatment as well. In absence of the modern health facilities, the traditional healers are very prominent in the char area.

### **Land Ownership**

Lands on chars are used for purposes of settlement as well cultivation. The ISPAN study indicated that of the chars that are not eroded in the first four years of their emergence; over

ninety percent are used for either cultivation or settlement by the end of these four years. After seven or eight years, both settlement and agricultural practices are commonly found in these chars. Reliable data on landholding size is difficult to obtain in the active chars where claims to land may be maintained although it is submerged where occupied land may be technically khas land (no man's land), and where areas used change frequently between water and land and from grassland to crops.

Almost all the inhabitants of the char (more than 95 per cent) are landless farmers. A very few of them belong to marginal land holder category (i.e. below 1.0 hectare). Cultivators from mainland possess a large amount of agricultural land in the chars. These people act as sharecroppers here.

Control over and access to the natural assets of the chars, and especially land, is critical to the livelihoods of char people. This access is a function of government laws, policies and rules and of local practice, social norms and social power. Within the charlands the dominant arrangement is private ownership of land. Land tenure in unprotected mainland that has a long unbroken history of ownership and use is not different from other mainland areas, except to the extent that proximity to an eroding bank-line makes it difficult to sell land. These areas are resettled without involving government authorities and are managed by the local mattbars (local leader) and amins (surveyors) with occasional disputes between equals settled through salish (local tribunals), but some benefits in areas gained going to the mattabars who control surveying, maps and past records (Thompson, 2000).

### **House Condition**

Two status of dwelling units are found in the char—house on owned land and house on squatted land. About 44.04% populations in the study area have their houses on squatted land. As expected, the condition of the houses in the surveyed char is very poor. Fortunately



almost 95% of the households own at least the structure of their houses. There is no evidence of cement- brick house in the area. Almost all the houses' floor is made of clay. 6.11%, 91.14% and 2.75% are houses' wall is made of –brick, thatch

and metallic sheet respectively. On the other hand the roofs of the houses are made of metallic sheet (11.01%), tiles (6.11%) and grass thatch (82.88%). The structure of house and their poor condition make them very much vulnerable to natural hazards such as river bank erosion and flood. Many times they have to rebuild their house and relocate to another part of the char. This phenomenon is very much usual in this area.

Source: Field Survey, December, 2017

### **Public Services**

Service provisions are very poor in these chars, compared to the main land. It is understood that the provision of public services in chars is difficult and expensive. There are few specific policies or instruments for these areas. Land laws related to the submergence and reappearance of land in theory help poor people by allocating land to them or by protecting their interest in land when it re-emerges. In practice the government plays a limited part in this process and one way or other those with power and influence can control and influence

the process to the benefit of themselves and their followers. The study also found that the root causes of poverty in these chars related to the

physical environment of the chars, the lack of income earning and accumulation opportunities, the low status of women and the vulnerability of children. These were closely linked to weak local level service provision by government and NGOs which were they linked to the national level rules of the game by which expenditures and programmes were planned and which were influenced by donor. School pupil enrolment and attendance levels are on average low in these charlands due to less no. of schools, poverty and problems of mobility in both monsoon and dry seasons. Only two schools are found in the study areas.

Health facilities within the island char areas are absent in the study sites. This is logical to the extent that thana and union health centres are buildings that cannot be moved and so the investment is risky in island chars that frequently erode and accrete. During the survey it was also asked about visits of health workers to the chars and 50% of the inhabitants told that in a period of 6-8 months health workers visit once. Where schools exist infrastructure in itself is not the answer to meeting educational needs, this depends on the regular presence of teachers providing a service of acceptable quality and on the level of enrolment of children.

### **Infrastructure**

The most important mode of transport in the chars is by boat-in the monsoon. Most areas are



accessible by boat, while the dry season produces a changed landscape of new chars each year that may need to be crossed on foot. Moreover boats are essential in floods or in some cases of erosion when households must move whatever they can salvage to higher

ground. Engine boats, powered by the same diesel engines as are used for irrigation, have brought important changes in char life in the last two decades. There are relatively high numbers of engine boats in the island chars, and these are used both as regular ferry services, for example on market days, and hired for moving bulk items, for example cattle and grasses. They can also be hired to move homestead materials, but a common complaint is that the cost of hire goes up in flood times when people have no alternative if they are to save their house materials and livestock. Markets serve as important trading places for char people to sell their produce (crops and livestock) and buy necessities that they cannot produce, as transport hubs, and as meeting places.

Considering the char lands as a whole about one in five inhabited mauzas has a market (hat)-in addition to market days that may be weekly or more frequent, there are often a few permanent stores. Such markets are concentrated on unprotected mainland where they form a link between the island chars and mainland, but are consequently prone to erosion. The markets on unprotected mainland tend to be more important for char people, while some secondary markets have developed in the island chars and reduce the transport problems of char people when bulky goods need to be moved. Travel to and from market is easier in the monsoon when boats can navigate almost door to market, whereas in the dry season long walks across exposed sandbanks are often necessary. There is little other infrastructure or

services in most chars. Electricity is virtually unknown in these study areas. For most char people

local money-lending arrangements are the main source of credit. Banks are absent from the chars themselves and are distant and intimidating for most char dwellers. With the lack of financial institutions, these people have limited opportunities to save money. The alternatives are to hold cash or livestock but there is always a risk of theft in the chars. In any case most households do not achieve a regular surplus over immediate survival need.

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