

Suffering with the River: Floods, Social Transition and Local Communities in the Ajoy River Basin in West Bengal, India

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Abstract

The degradation of river basin ecosystems and its repercussions on human societies across Asia have emerged as major issues for the Asia Pacific in this century. This region has a great number of river systems, and human interference in the form of dam building and other construction activities have affected river basin ecosystems, the flow dynamics of the rivers and the lives of the communities who dwell by the side of the rivers and, thus, can be seen as a component in river basin ecosystems. This article is based on a case study of the Ajoy River Basin region in West Bengal, India. The River Ajoy is known for its frequent floods, and local scholars generally believe that an upstream dam has increased the intensity of the floods while decreasing their frequency.

This article discusses the social dimensions of flooding and how people's perceptions of flooding change with experience. It explores issues such as the relationship between the river and the bank dwellers, how the bank dwellers perceive the man-made changes in the river regime, and to what extent they are involved in these changes. The main finding of the article is that, as the river has shifted its course, floods have devastated bank-dweller communities repeatedly. Urban expansion in the river basin has disintegrated those communities dependent on the river by removing their control over its water resources. In addition, a lack of information about the river's characteristics has led to dangerous ignorance on the part of the people engaged in construction activities and bank-dweller communities increasingly dependent on the urban centers for their incomes.

Keywords: Ajoy river basin, communities, floods, India, social transition.

Introduction

This article is about the social aspects of the ecosystemic and landscape changes taking place in a river basin in India. The river in question is Ajoy, a tributary of the Bhagirathi Hooghly, which drains the waters of the Ganges through West Bengal. The river originates in the highlands of Jharkhand and flows through urban and rural areas of the Bengal basin. The urban areas lying along the river's course include industrial cities like the famous locomotive manufacturing center of Chittaranjan, while the rural settlements that dot the river's course in the downstream Birbhum district stand in a marked contrast because of the subsistence mode of life in many tiny villages. The course of the river has been described by Mukhopadhyay et al. (2006:11–12) as:

The river Ajoy originates from an obscure hilly region in the Chhotanagpur plateau called Chakai (near Sarath of Jamui District in the state of Jharkhand) and merges into the mighty Bhagirathi at Katwa in the state of West Bengal, running a course of 370 km in the process. The geological feature of the vicinity of the origin is that of Archaean Gneiss (including Biotite Gneiss, Hornblende Gneiss, Quartzite etc.).

The River flows for 192 km over this lithological condition. The middle part of the river basin is that of Gondwana sedimentary rocks. The river runs for 32 km through this landform. In the vicinity of Pandaveswar this kinds [sic] of rocks are prominent in the basin. In the middle part of the river basin older alluvium is also present in some parts. In the lower part of the course, from Bolpur downwards up to Katwa, landforms of recent alluvium of West Bhagirathi plain are dominant. Urban centres like Deoghar, Illambazar, Bolpur, Katwa, the well-known locomotive industry of Chittaranjan and a number of agriculture-based villages are settled along this river.

As the authors later point out, the river has become polluted of late, due to both biologically induced and chemically induced pollution, meaning that both traditional rural societies and industries located upstream are responsible for the decline in the water quality (Mukhopadhyay et al., 2006:86).

The River Ajoy and the issue of frequent floods are closely related. Two devastating floods in recent memory occurred in 1978 and 2000. Though floods are a historic presence in this river basin, especially in the downstream areas, there has been much debate about whether the recent devastating floods were caused by anthropogenic activities that directly or indirectly affect the river regime. Both in 1978 and 2000, the floods coincided with an extraordinarily vigorous monsoon (Chakraborty, 2004), though the effect of an upstream dam has also been described as crucial (Chakraborty, 2004). Sarkar (2005), however, while analyzing the 2000 flood in particular, has pointed out that:

Although, in some causes [sic, cases?], floods may get intensified by rainfall, they are not actually the result of rainfall. Emergency release of stored water from the barrage (to safeguard the structure from excessive load of stored water) may cause a *man made* flood; that had happened in some parts of the Bengal plain during 2000 (Sarkar, 2005: 61–62) [Emphasis original].

The concept that man-made changes have drastically altered the river morphology and its hydrology has been discussed by Mitra and Mukhopadhyay (2005). They mention bridge building and dam construction on the river and one of its tributaries as major examples of anthropogenic changes. Most of the researchers cited so far in this article are associated with Visva Bharati University in Santiniketan. They contributed to a volume edited by Rahim et al. (2005), which sought to examine the different aspects of flooding. However, as discussed earlier, some of the papers made contradictory claims, and it seems most of them dealt with statistics regarding the hydrological aspects of flooding, with little visible work on the social aspects of such events.

This article, while analyzing the transformation in the social landscape in the river basin, aims to answer the following questions:

- What is the relationship between the River Ajoy and its bank dwellers, and how does the river figure in their lives?
- What is the nature of the floods in downstream Ajoy and how is it related to human activities?

This article is the result of a month-long survey undertaken by me in August 2008. I had known the Ajoy River from my childhood: its wide and mostly sand-filled channel left a mark on my childhood memories. I chose to do my survey near Bolpur, a town a little distance away from Santiniketan, where I was born. I eventually visited six small and mid-sized villages, spanning a nearly 30-kilometer stretch of the river, as well as the towns of Bolpur, Illambazar and Santiniketan. This region is situated in the lower reaches of the river basin. The lower part of the basin, especially from the village of Satkahonia near Ilambazaar, is considered to be extremely flood-prone (Mukhopadhyay and Mukherjee 2005), and the two floods mentioned affected this area immensely. Hence, I believed this to be a worthwhile region for my investigation of the impacts of floods on local life and the effects of people's activities on floods.

I carried out my survey mainly by qualitative in-depth interviewing of local people. Though the towns and villages are full of people, I ended up talking more to the villagers. I also talked extensively with the official in the oldest water-monitoring station on the river, located at the village of Satkahonia, and the teachers of a village school. My main objectives were to explore the impact of urbanization on the social landscape of the area and how these changes are perceived at the level of the villagers. Thus, the majority of my time in the field was spent in some nondescript villages, most of which have no more than a few tens of households and are situated right beside the river. In this article I shall refer to these villages as *bank-dweller villages*.

The Bengal Basin and Environmental Degradation: A Preliminary Study in Literature

The Bengal basin is one of the most densely populated regions in India. The undivided Bengal used to be the hub of activities in British colonial India, and the lower part of the state of West Bengal still retains fertile land especially suited for agriculture and widely known for its farming output. However, with the changing Indian economy, West Bengal's agriculture has also come of age. It not only flourishes thanks to nature's providence, but is increasingly managed by man, through the ingenious use of agricultural technologies, coupled with administrative measures like land reform policies adopted by the state governments (Rogaly et al., 1999). Gazdar and Sengupta (1999) have pointed out that agricultural output in West Bengal rose particularly sharply after the 1980s. Incidentally, this was also the time when the whole nation's economy grew remarkably. Sen and Sengupta (1995) have analyzed the upward trend in agricultural output in most of the eastern Indian states at that time. Gazdar and Sengupta (1999) give credit to the new regime of the Communist Party of India (Marxist), better known as the CPI(M), and to its effective land reform policies after a long period of political uncertainty. However, rule by the Left, it can be argued, has not been an unmixed blessing. Harriss (1993) has shown that though the overall situation of state agricultural output has been remarkably bright, land reform has had little effect on productive output in the villages of Bardhaman and Birbhum. Harriss also points out that the development of groundwater irrigation led to the changes that came in Bardhaman and Birbhum, rather than land reform.

The drive towards industrialization and mega-engineering projects has created its share of damage to the environment in West Bengal. The issues of environmental degradation threatening the Bengal basin have been discussed by Basu and Ghosh (2004). They offer a number of cases of groundwater contamination, depletion of river basin ecosystems, and widespread industrial pollution in freshwater systems across the state.

The amount of change caused by human agents over time in Bengal becomes even more astonishing when a historical approach is adopted and the time frame is extended. O'Malley (1910), in his District Gazetteer report on Birbhum during the colonial era, points out that the district was covered in forests, and a wealth of flora and fauna could be found, including animals like leopards and bears, no trace of which can be found today because of widespread felling of trees and the disappearance of the once common forestland.

Urban Lures and Unfulfilled Promises: Finding the Concept of Liminality in the Ajoy River Basin

The area covered in my research is situated at a moderate distance from the township of Bolpur and is very close to the adjacent smaller town of Ilambazaar. But it seems a world of its own. The concrete road that took us to the place was potholed and in bad shape. The people living by the river do not have automotive vehicles for transportation. In fact, they do not have concrete roads connecting their villages. The main road at times is the earthen embankment of the river that winds its way through the village landscape. During the monsoon season, the water eats away at the foundation of this earthen embankment, and every year there are crevasses along the embankment, formed by the water erosion. This eroded road is treacherous and often is a big obstacle to communication between the villages that exist by the river. Every year the breaches are repaired, but the Officer-in-Charge of the water monitoring station said that at no time are there sufficient funds for the repair work to fully mend the road, and the department concerned does not have the resources to deal with this problem.

People who live a subsistence mode of life are dependent on the river in the most direct sense. The river gives them the means for livelihood. They cut sand out of its bed and send that to construction houses, till and farm lands in the basin that are sustained by the flow of the river, and even build their houses with mud from the river bank. These people, some said, are clinging onto their existence by the river because they have handsome material benefits. Whenever flooding occurs, it was alleged, cash compensation is provided and the bank dwellers stand to gain hard cash in this process. This seemed a very questionable claim to me. Nowhere could I see any sign of opulence in the villages: they are very humble and even precarious existences by the river.

A village woman told me that her family has lived in the area since her forefathers. To them, the relationship with the land is not only a means of income but a source of their identity. She told me that when floodwaters rise high, both banks are flooded, and in extreme cases they have to relocate to higher ground nearby. But, she said, they always look forward to returning to this area, as soon as the floodwater recedes. What also seemed very evident is the fact that these people have no special skills to become favorably positioned in the surrounding urban townships. They can and do work as laborers in the towns, but in India, a country which is home to over a billion people, and in West Bengal, where the population density is very high even compared to Indian standards, there is no

dearth of laborers in mid-sized cities like Bolpur.

On the other hand, what the riverside offers them is land which they can cultivate, at least at the subsistence level, and eke out a living in the process. Thus, the allegation of people staying by the river that has so often taken their dwellings in the past due only to the prospect of hard cash seems a gross exaggeration. What this also implies is a fundamental disconnect between the urban and the liminalized rural people. These kinds of allegations arise because the urban residents cannot fathom why the bank dwellers choose to stay in squalor beside the river in what seems to them a meaningless and uncertain life. The villagers are further marginalized by the roads and rail links that connect the urban regions around them, but not the rural ones. Roads perhaps will be built in the not-too-distant future in these villages, but they will not be built to alleviate the plight of the villagers. They will be built to connect new places for capital formation when the existing places run out of resources, or are too burdened with the pressure arising from intense resource use, or even more dangerously, as a growing footprint of the urban centers that requires them to procure places for dumping urban waste. A genuine concern for the restoration of the landscape is certainly not entirely unforeseeable, but in a nation like India, where leaders of parties left, right and center of the political spectrum are increasingly worshipping industrial capital, and where corruption in public offices is rife, leading to the overwhelming advantage of immediate monetary returns over long-term resource returns, such concern may not be fully effective.

A related phenomenon is the diminution of the river's presence in local life. Population increase, industrialization in the towns by the river, and increased human activities on the landscape have changed the river as an entity in the lives of the villagers. This can be concluded from the fact that the river is not the main transportation route these days, nor is it the main source of potable water. The first evidence is readily seen: no boats ferry people to places across the river. The boats that ply it are there to lift sand with pump-sets, or for fishing. The villagers by the riverbank told me that they bathe their cattle in the river and wash their clothes, but its muddy water is not drinkable. As the river is no longer the main source of potable water, further aggravation of the water pollution has resulted. With the absence of technology to clean up the river in these areas, the people find themselves resigned to the reality that the river cannot be brought back to its earlier purity, and they end up polluting the water even more.

The Impact of Dams on the Transformation of the Riverine Landscape

The impact of dams on the river regime has been sketched by Goudie (2000):

There are examples of rivers where...floods carried away the sediment brought into the main stream by steep tributaries. Reduction of the peak discharge after the completion of the dam leaves some rivers unable to scour away the sediment that accumulates as large fans of sand or gravel below each tributary mouth (Dunne and Leopold 1978). The bed of the main stream is raised, and if water intakes or other structures lie alongside the river they can be threatened again by flooding or channel shifting across the accumulating wedge of sediment (Goudie 2000: 210–211).

...Besides such effects, an embankment constructed to protect river side localities from floods may also have a negative impact, as it can prevent the

flood water from flowing back into the main channel, thereby waterlogging vast sections of land (Goudie, 2000: 215).

In India, the main rivers were dammed for irrigation, electricity generation, and flood control purposes, and the major dam on Ajoy is actually located where its tributary Hinglo joins its course in upstream Jharkhand state. This dam, since its creation, has been a subject of debate, as local geographers have pointed out that since the Hinglo came up, the floods of Ajoy have become much more menacing (Mukhopadhyay et al. 2006). I was not able to find conclusive proof of this during my fieldwork, since I was doing my work in an area situated at a considerable distance from Hinglo. But people seemed to agree that the river morphology and the hydrology have shown remarkably different trends in the recent past, coinciding with the inception of the dam. The older people I talked to had witnessed this change, while the young had obtained this perception from memories of their fathers and grandfathers. So, the anecdotal evidence seemed to point to the fact that the river has undergone considerable morphological and characteristic change in a time spanning a couple of generations at most. The geography teacher in the local Rajatpur High School said that the river is considerably wider now, and its navigability has been reduced considerably. The Headmaster of the same school, who was present during the interview, later said that this contrast was even greater when compared to historical times, when the river was the main route of transportation, and the village of Supur was the location of the biggest port in the locality. He was talking about the pre-colonial period. He also said that Supur was the capital of King Surath's kingdom, which is difficult to prove, for this pushes the history into the Puranic ages.

However, people familiar with the history and geography of the area seemed to agree that, even in the recent past, the river was much narrower and the channel was much deeper. The geography teacher recalled that as a child, he had to climb the pillars of the old rail bridge connecting Bolpur to Bardhaman district because they were so much higher than the river bed. But now, he claimed, the river is so silted, it is flowing far above where it used to flow even four or five decades earlier, and one can now jump from the river bed onto the rail tracks. This, to me, seemed a grossly exaggerated claim when I went to the exact location he was talking about, and saw that no one could really jump on to the rail tracks from below, as the height is at least 30 feet (10 meters)! In fact, the rail bridge is still so high that my camera could not see the rail tracks when I came close to one of its pillars and took a photo of it. Why did this happen? Was the man who spoke to me just lying or did he forget how high the bridge is now because he no longer visits the place? Both seem unlikely.

What seems to have been the case is that when he was a child, which would be roughly four decades ago, the bridge being referred to as "the old rail bridge" was the only bridge on the river in this locality. It was an imposing structure in the landscape with its impressively built arches. For a child, the bridge had had a towering presence in his mind. In contrast, now there are as many as three bridges over that same stretch of the river: one more railway bridge to ease the rail traffic, and a road bridge. The once towering bridge is now the oldest of the three bridges, and rather than being an imposing presence on the landscape, they are very much an expected feature. Thus, for the local people, the bridge has diminished in its presence, and hence the man casually said that one can "jump onto it." Obviously, this is not to say that the river has not been silted heavily in all these years, but in spite of being silted, it has not quite come up to the height that would seem

to be the case from the man's words. What I find here is the juxtaposition of two very contrasting realities in the same landscape, which together make a new "fable." The first reality is geographical, or morphological, of the river being silted, broadened and altered in its characteristics. The second reality is that constructions on the river have become increasingly commonplace, and consequently, the "perception" of the landscape around it has changed in the local people's minds. The juxtaposition of these two has led to the "imagined" reality or "fable" that the *river* has drastically changed; and little realization that *the landscape* has undergone a huge change.

Floods in the Ajoy Basin: A Composite Reality

A key issue that arises repeatedly in literature about this region, and which, I saw, indeed occupies the minds of a great many of those I talked to, is the issue of recurrent floods in this river basin. Let us look at what causes floods in this river basin, especially areas downstream near Bolpur, and try to assess why they are so debatable.

The first cause of floods in this river basin is the vigorous nature of the Indian monsoon. The huge amount of rain that often comes at the end of the monsoon season, mainly in the months of August and September, causes the rivers of the land to overflow. In some years the rainfall is remarkably heavier than the mean rainfall, and floods are a natural consequence of this phenomenon. The second cause is the fact that the carrying capacity of the Bhagirathi-Hooghly River at its point of confluence with Ajoy is far below the volume of water that the latter discharges during peak flow times. The third cause is the effect of dams on Ajoy, especially the major one on Hinglo, which have caused the river bed to become silted and, in years of extreme rainfall, sudden and enormous volumes of water were released from the reservoir(s) that flooded the land on both sides of the river (Mukhopadhyay et al. 2006).

However, the geography teacher in the local school staunchly opposed the idea that the Hinglo dam is responsible for the floods. In fact, he said that the dam checks floods. He informed me that because the local people had been told by certain NGOs that the Hinglo dam was causing flooding to their localities, the local people trudged their way up to the Hinglo confluence point to ascertain the truth. He said that he and others led this mission and they found that Hinglo is a very small dam, which could not discharge so much water as to create catastrophic floods. This was also the claim made by the Officer-in-Charge in the Satkahonia Water Monitoring Station near Ilambazaar. In direct contrast, a civil servant residing in Santiniketan informed me that both the 1978 and 2000 floods could be partially attributed to Hinglo, apart from the obvious contribution of the exceptional rainfall in those two years. In both instances, he said, huge amounts of water were released from the dams (though he referred to the Hinglo dam as *barrage*, which seems to be a mistake). He told me that the 1978 flood was primarily caused by an excessive spate of monsoonal rain that fell ceaselessly for five days, and secondarily by the midnight release of water from the dam. The torrent swept away the villages in the southern bank of Ajoy, towards the township of Guskara, which is an extremely low-lying area and is flooded whenever there is excessive rain.

Thus, apart from the people who were beneficiaries of the state government directly, people seemed to agree that the dam is related to the floods in some way or other. In his analysis, Chakraborty (2004) has been direct in holding the dam responsible for the floods, and the historian I talked to, who was also an eyewitness of the events, concurred.

In contrast, the village geography teacher is an active member of the ruling party and the Officer-in-Charge is a state government official. The emergent pattern therefore is quite straightforward and predictable. The state government people sought to defend “their” dam while the general public held it responsible, at least partially, for the floods. What can be observed further is a deeper reality. Neither camp is totally wrong, nor is any one of them fully correct. The defenders of the dam ignore the capacity of the dam to alter river morphology and hydrology, and it is a fact that the dam discharged water in huge volumes both in 1978 and 2000, the two worst floods on record (as verified by the Officer-in-Charge of the water monitoring station), as well as in public memory.

However, the dam alone did not lead to the massive floods. The rainfall levels in those two years were abnormally high (as everyone’s memories and the records concurred) and there are numerous small streams and rivers joining Ajoy, like Hinglo, Kunur and Patro Nala, which overflowed due to the excessive precipitation. Thus the floods in the Ajoy basin were composite events, formed by three factors: excessive precipitation, dam discharge, and overflow of tributary rivers in the basin. This composite picture has never been clearly expressed in the existing literature, especially in the case of some books by Mukhopadhyay et al., reports edited by Mukhopadhyay, or surveys carried out by the NGO, Akhil Bharat Bhuidya O Paribesh Samity. These have tended to focus only on the dam dimension, resulting in a one-dimensional explanation of the events, which seems to have grown out of their preconceived idea that dams must be responsible for big floods. What we see here is a case of perspectives growing out of sociopolitical or socioeconomic scenarios, vying with each other to become the standard version of reality. In doing so, they end up fragmenting the landscape through perceived realities and generating “fables” or imagined realities.

Widespread vegetation loss on the banks of the river is another potential contributing factor to the increased severity of floods. I remembered in my youth having seen a lot of trees on the banks of the river, but on my trip to the field I could scarcely find any. When I was talking to the village geography teacher, I asked him where the trees had gone. He replied that they had been systematically chopped down, as they posed a major threat during peak monsoon season, when rain and the riverwater would combine to erode their bases and they had fallen, dislodging a huge amount of soil and creating mini-breaches all over the earthen embankment. He alleged that such mini-breaches created a threat of flooding for the bank-dweller communities, and so the trees had been cut down. To me, the logic seemed dubious. Chakraborty (2004) has observed:

Measures to control soil erosion along riverbanks to increase bank resistance is [sic] another measure to control flood. Bank protection with loose stone and mud...*afforestation in erosive soil*...are efficient measures in this perspective (Chakraborty 2004: 17) [Emphasis added].

The real incentive behind chopping down the vegetation seemed to be entirely different. As the whole region becomes more and more urbanized, the vegetation is cut down to create croplands in order to produce more food (Chakraborty 2004: 30), or for the production of timber for the furniture companies. If one travels from Bolpur towards Ajoy by road, one has to cross a vast tract of land thickly covered in *Shorea robusta* trees, locally known as Sal. These are big trees, and they are prized for their timber. This part of the land is now under protection, but similar vegetation that can provide timber for

the expanding furniture-manufacturing business in Bolpur and Ilambazaar may be the real reason behind the disappearance of vegetation from the riverbanks. When a forest or some vegetation cover is cut down, the loss is not limited to the number of trees that are lost, but also involves the destruction of the ecosystem that depends on and is sustained by the vegetation.

Floods as Perspectives: Social Construction of Flood

Flooding in the Ajoy basin is not only a composite phenomenon, but is also a socially perceived phenomenon. Therefore, there is no universally agreed upon and correct definition of “flood” in these areas; rather, flood is perceived differently at different sociopolitical and socioeconomic levels. This is what has often been ignored by the local scholars, for in no published literature could I find a recognition of the differing perceptions. In his unpublished thesis, Chakraborty (2004) writes:

The extent of flooded area—seen by the unblinking eye of the Canadian satellite “RADARSAT” and as stated by the Institute of Wetland Management and Ecological Design—Government of West Bengal—was 6,898 sq. km compared to 23,756 [sq.] km as measured by the State Irrigation Department (Chakraborty 2004: 29).

The anomaly is enormous, but Chakraborty then goes on to explain that RADARSAT was not able to measure a large area; however, he continues by saying that the figure of the State Irrigation Department was not wholly honest in giving the real spatial extent of the 2000 flood. The reason he suggests is that the Irrigation Department deliberately gave a falsely exaggerated figure and even falsified the amount of rainfall to portray a large “natural” flood, whereas the reality was that the flood was “man-made.” He writes:

according to data, 1066 mm [of] rainfall took place at Suri, where as [sic] rainfall only 5km away was reported to be 667 mm, so a question arises, that a difference of 499 mm [in] rainfall in areas only 5km apart, can be [sic] meteorologically be possible? (Chakraborty 2004: 28)

My experience on the ground leads me to question the reliability of data quoted by Chakraborty. I went to two gauge stations on River Ajoy. One was Budhra near Bolpur, and the other one was Satkahonia near Ilambazaar. The Budhra gauge station is nothing but a mud-house, standing forlornly on the steep bank side of the river. The roof is made of hay and the only thing that marks it from other humble mud-houses of the village is a yellow-colored signboard that proclaims the structure as a gauge station. When we went near, no one could be found inside, and peeping through the locked grill door, I could only see a kerosene lantern, a bed and a bed-sheet inside the one-room station. No instruments, files, trace of electricity, or electronic communication tools were to be seen. My visit to Satkahonia was a much different experience, as it is a brick housing complex with a large garden, and inside the station there are generators, a computer and telephones. However, the files that supposedly have the data on Ajoy are rotting on a wooden shelf, piles of moth-eaten papers that have turned brownish-yellow and are barely readable.

What seems clear from these two experiences is that Ajoy basin gauge stations

do not have the facilities to measure anything accurately, and the records that do exist are kept in such a manner that the statistics are often irretrievable. The Officer-in-Charge himself admitted that there is a woeful lack of trained personnel, and he alone was keeping fort with some staff members who had no knowledge of scientific measurement. In this scenario, the two rainfall readings offered by Chakraborty are not conclusive. Either one or both could be anything ranging from false (in a scenario that they were never taken and just imagined, or taken by those who could not measure properly), to errors of measurement due to instrument condition. It is certainly not improbable that one of these readings was taken by a man wearing only a loincloth, shielding himself from the driving rain with an aroid leaf over his head.

Next, the claim that the rainfall figures mask the reality and culpability of the dams in the Bengal basin with respect to the flood in 2000, is also a partial truth. The extent of floods can differ according to who measures them and how the measurements are taken. For someone measuring a flood through satellite imagery, “flood” is what is definable through the parameters recognized by the monitoring system and the analyzer. However, for the people who live close by the riverbank, a rise in the river water level seems to be a “flood” as the rising waters, if spilled by a river whose hydrology and morphology have been altered by a combination of human and natural agents, happen to threaten their shelters and existence in some way. The shelters, as I saw in the field, are mud houses which are extremely vulnerable, not only to water rising from below, but also to raindrops falling from the sky. It may be the case that one of the reports of the floods took into account reports by the affected people, whereas the other simply took the physical parameters. When the RADARSAT is involved, the “flood” is what is judged from physical parameters of the phenomenon.

The Swings in the Mood of the River: How Ajoy Creates and Devastates its Basin Communities

One of the most important factors behind the devastating flood in the Ajoy basin in 2000, worth mentioning separately, is the change of the river course. When a river changes its course, often after excessive downpours, the result is usually catastrophic. The biggest flood in 2008 took place in the Kosi River basin in Northern India, where the river abandoned its course and flooded the settlements that came in the way of its new path (Times News Network 2008). Similarly, Ajoy changes its course at times, and whenever it changes its flow the villagers close to the banks face the maximum threat of being swept away. The historian in Santiniketan told me that the devastating flood saw the river change its course and go to its “old” channel. The result was an inundation of settlements located along this path. As Ajoy has little water during non-rainy seasons, after the river changes its course, people start living practically on the old channel as they find fertile land for cropping.

In 1978, the river suddenly flowed into the old channel, leaving the hapless villagers with no escape route. Because of the sudden release of water from the dam, the river swelled to gigantic proportions, with water rising to a height of 15 feet (nearly 5 meters). This would mean that the settlements that came in the way of this massive flood wave were all wiped out, for the village mud houses are not higher than 10 feet (3.3 meters). The village of Basudha, mainly inhabited by people who came from Bangladesh at the time of partition in 1947 and famous for its rich crops, was totally annihilated.

A vast area became affected by sand splays. There were numerous breaches along the earthen embankment of the river in 2000 as well, and though the loss of lives was less than in 1978, the damage to crops was much more extensive. The geography teacher in the village high school also spoke in similar terms. He pointed out that the village of Geet Gram was totally inundated by the raging waters in 2000, and the 64 households in that village have since been relocated elsewhere. The Officer-in-Charge in Satkahonia informed me that the 1978 floods saw the river change its course. Since then the river has flowed through a new course, after abandoning its older course, which again came at the expense of widespread inundation of settlements. The state government had been trying to alter the flow of the river since the 1970s, by trying to divert the water into a straighter path that happened to be a rivulet by the main channel. But the efforts were unsuccessful until 1978, when nature decided to take Ajoy onto the straighter course.

These were conflicting claims. If the river changed its course in 1978 and has been flowing in that course since then, what is the logic behind its waters entering the “old” channel in 1978, as the historian claimed? Clearly, the two claims could not both be correct. The Officer-in-Charge told me that I could see the point from where Ajoy changed course in 1978. When I arrived at the location he suggested, I could see that the river bifurcated from a point. As for the channel that now lay without water, I could see the high embankment eventually meeting the high embankment of the present channel near the Budhra gauge station. While taking a closer look, I found that the old channel went for some distance, about 5 kilometers, and then turned towards the present flow. The huge turn, which itself spanned half a kilometer at least, suggests that this old channel was not artificial. This seems to indicate the truth in the Officer-in-Charge’s words. However, it is highly probable that the river shifts its course repeatedly, spanning across a vast territory. This change of the river’s course is what gives an extra and devastating dimension to floods in some years. So far, this phenomenon has not been fully appreciated by the local geographers, and there is no indicative study about whether the shifting of the river’s course follows any pattern across time, to what extent the upstream dam can be held responsible for changing courses—as described by Goudie (2000)—and whether the range of its changing courses can be predicted with acceptable accuracy.

Who Knows Best? The Local Level Knowledge Vacuum

The absence of scientific monitoring of the river and the ecosystem in the basin region is a major problem for researchers, as it is extremely difficult to separate from ground realities the myth or “imagined” realities arising out of improper investigation, or the conclusions of the poorly executed studies that have been carried out so far. The Natural Disasters Management Cell of Visva Bharati University, the most famous university in the region, was created in 1996 (Mukhopadhyay and Mukherjee 2005). When I asked the people on the Ajoy banks if they were aware of the activities of the Disaster Management Cell, all replied in the negative, without exception. This seems to point to the fact that though the Cell exists physically, its activities have fallen far short of what a central university research cell should be capable of. I could not explore the reasons behind this inactivity, but the evidence is clear that in Santiniketan, no comprehensive research has been carried out by this Cell concerning the river dynamics and the basin ecosystem, which could have been extremely useful for flood forecasting and flood relief works.

Another area where there seemed to be a lack of proper knowledge is the

indigenous practices of subsistence agriculture. The Officer-in-Charge of the Satkahonia water monitoring station informed me that the bank-dweller communities, whom he referred to as “squatters,” yield four different crops in a calendar year in the fertile soil. He said that these people are most affected by floods, as they doggedly refuse to move when waters rise. I saw little appreciation on his part of the remarkable skill of these poor farmers, who can grow four crops on a thin slice of land in a year, without the aid of sophisticated technology. This practice requires detailed understanding of the floodplain land and seasonal characteristics of the region, as well as knowledge of crops and cropping methods. Such indigenous farming practices all over rural India are in trouble now, and they constitute the vastly rich tradition of sustaining the common-pool resources in rural India, as exemplified in the remarkable paper by N.S. Jodha (2007).

Conclusion

One of the main aims of qualitative research is to raise more questions, rather than provide exhaustive answers. Nevertheless, in this section I aim to provide some tentative conclusions as answers to the questions I referred to in the beginning.

The relationship that the bank dwellers have with the river is one of direct sustenance. They are mostly subsistence farmers and foragers. Some of them, mostly able-bodied men of a relatively young age, are involved in working in the construction industries in the cities. Consequently, in many ways, the river is the source of their identity. They can reap four crops a year using traditional techniques. Their farming technique does not involve chemicals, and they can sustain that practice for years on the same strip of land. However, when the river rises or when there is a flood, these people are hit almost immediately. As they have no survival package that allows them to settle in the surrounding cities (in the absence of any special skills that can benefit them in the face of competition with other migrants), they cannot flee the land when hit by floods. Thus, their fate as a society is linked with the fate of the river. Here I choose to say “fate of the river” because the floods are not entirely dependent on the moods of nature. A strong correlation with water release from the dam upstream is suggested by the data. Thus, the River Ajoy is being changed by anthropogenic activities which, in turn, affect the bank dwellers’ societies.

With respect to the floods, when asked, most villagers implicitly indicated a rapid transformation in the river’s morphology and hydrological characteristics. Most replied that the river is more silted, wider, and shallower now than at any time in the past. In years of excessive rainfall, such changes in the river regime most likely have combined to make recent floods in the river basin more devastating than floods in historical times, even as the dam upstream has reduced the frequency of the floods. The same dam has been implicated time and again in the two largest floods in living memory. Most people identified floods as destructive, perhaps even more so now with their reduced frequency and increased intensity. If the floods had continued to be a normal feature of the landscape, the chances are that their impact as destructive events upon the perceptions of the bank dwellers and the rest of local society would not have been as significant as it is now. The reduced frequency of the floods means that the bank dwellers have become oblivious to the danger of living by the river, and when sudden floods sweep everything away, the result is a profound shock. This shock then reverberates through the surrounding habitats—rural, semi-urban and fully urban—and gives rise to the concern that floods must be checked at

any cost. Though floods are disruptive events, they are actually natural features of a river system and their role in replenishing the floodplain cannot be ignored. In recent times, the sole focus has been on how floods can be checked, not how societies can live with floods. This has resulted in much debate and planning, but ultimately little progress for the societies along the riverbank. They simply do not have anywhere to go, and so they are continually affected by floods.

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