

Impact of Flood on the Livelihood of Tribal Community: With Special Reference to the Rural Region of Morigaon, Assam

Dr Banti Deori¹, Kabita Boro²

¹Department of Sociology, Assistant Professor, University of Science and Technology, Meghalaya

²M.A Sociology, University of Science and Technology, Meghalaya

Abstract:

This paper examines the impact of floods on the 'livelihood' and causes of vulnerability among the tribal community in the rural region of Morigaon, Assam, India. Villages in Morigaon, are located near the bank of the Brahmaputra River that have faced environmental issues and flood challenges every year. The flood has destroyed all the natural hazards and is responsible for deaths, and economic devastation, and largely has an impact on the local economy. Village inhabitants in Morigaon have their main occupations involved crop production, vegetable gardening, livestock, fishing, and a few small shops that have been affected during the flood. Therefore, flood is an important social problem that requires to be addressed, rather than only a natural hazard. Therefore, developing appropriate adaptation strategies is needed in Tribal communities in the rural regions. This paper will examine the impact and causes of the vulnerability of the tribal community in Morigaon village, that is impacts by flood. Further explore the vulnerable groups affected by floods including gender consideration. Finally analyse the underlying causes of the vulnerability of people in a tribal community in Morigaon.

Keyword: Tibal community, livelihood, Flood

1. INTRODUCTION

Flood are natural phenomenon's which occurs in almost every country. Flood can be caused due to the physical factors which include extended rainfall which last for days, sometimes weeks months of prolonged rainfall causes river banks to overflow due to excessive water. This is one of the key causes of floods in many countries around the world. Floods have many effects; it also considered to be very destructive and of all natural hazards covers wide range. Flood are responsible for deaths, economic devastation, and disease outbreak. Assam is a flood-prone state with its vast network of rivers. A combination of natural and man-made factors has contributed to the flood-related devastation in the state. During the monsoon period each year, Brahmaputra and Barak River have more than 50 numbers of tributaries, this causes the flood devastation. Almost every year three to four waves of flood ravage the flood-prone areas of Assam. Another major problem is the bank erosion caused by the river Brahmaputra, Barak, and its tributaries in the state.

Flood and bank erosion is one of major natural hazards in Morigaon district. The flood situation in Assam's Morigaon district has worsened as many people were forced to take shelter on the road after floodwaters entered their home. According to the administration, more than 50,000 people have been affected by the

current deluge in the district. Amid the covid-19 pandemic, lakhs of people in Assam are now fighting the devastating flood situation (India today, by Hemanta kumar Nath Aug 31,2021). As a result, many villages under Morigaon district experiences floods in every rainy season. The flood cause displacement of people from their usual dwelling places resulting into varying impacts on infrastructure, crops, health, education, environment as well as damage to property. The village inhabitants are main occupation is cropping production, some vegetable gardener, some livestock farming fishing and some runs small shops. This study examines impact of the Flood on the 'livelihood' of 'Tribal community' in the Morigaon district of Assam. Morigaon district is the worst affected one among the district of Assam and bank erosion in some parts of district causes serious problems for people by destroying their homes, damaging crop lands, loss of income sources etc. Morigaon, villages are located near the bank of Brahmaputra River, face environmental issue and flood challenges. One to examines the impact and causes of the vulnerability of tribal community in Morigaon village, that is impacts by flood and to explore vulnerable groups affected by floods including gender consideration.

2. REVIEW OF LITERATURE - IMPACT OF FLOOD ON LIVELIHOOD

The floods have a significant impact on the livelihoods of rural communities in the Assam state. Floods have destroyed crops, damage the homes and infrastructure, disrupt transportation and communication networks in the Assam state every year. This have led to the food shortages, loss of income, and increased poverty leading to vulnerable communities in the rural regions. With the understanding of changing climate, more frequent and severe floods are observed, this requires additional resources and strategies to be develop to adapted that are becoming difficult for the rural poor to implement without external support leading. Another problem is the floods have affected the district's economy by damaging roads, bridges, and other means of transportation that has led to loss of livelihoods for farmers, fishers, and other vulnerable groups. Moreover, floods can result in the displacement of people and lead to health hazards due to water-borne disease. The need for policymakers to consider the perspectives and needs of rural communities in their decision-making processes strategies to help them cope up after the flood. Effective governance is crucial in mitigating the impact of these disasters and ensuring the resilience of affected communities. The vulnerability of the community to flood hazards is with the lack of adequate warning systems and disaster preparedness measures in the region. Therefore, flood is important social problem that requires to be addressed and developing appropriate adaptation strategies to help them cope up Tribal communities in the rural regions.

For instance, the flood management programme in Barpeta district includes measures such as early warning systems. Importance of understanding the impacts of climate change on vulnerable communities and developing appropriate adaptation strategies to help them to develop effective coping measures. In case of need for better flood management in Barpeta district includes measures such as early warning systems, and flood shelters, and development of alternative livelihoods for vulnerable groups (Talukdar and Kalita, 2020). For example, more frequent and severe floods may require additional resources and adaptation strategies, which may be difficult for the rural poor to implement without the help of external support (Gulsan Ara Parvin, Annya Chanda Shimi, Rajib Shaw and Chaitee Biswas, 2016). The community-based approach to disaster management could be effective way in reducing the vulnerability of local communities to floods of the local communities in Nepal. This would involve improving early warning systems, strengthening disaster preparedness measures, and enhancing the capacity of local communities to respond to flood hazards that need for community-based approaches to disaster

management (Bitu Babu Shrivastava et, al.,2021). These strategies should focus on providing effective early warning systems, evacuation plans, and relief and rehabilitation measures for the affected households and communities. These studies have highlighted the need for appropriate measures to mitigate the impact of such events. For instance, studies suggest that early warning systems, improved infrastructure, and relocation programs could help reduce the impact of these disasters. the challenges that displaced communities face, including loss of land and property, displacement from their homes and communities, and the loss of livelihoods (Pompi Bora, Ankur Boruah). The physical effect of flood is similar for the all community, but due to lower social position, discrimination, restriction, and socio-cultural values certain groups within the same community become more vulnerable and are being harmed. The case study of Panchanandapur at Malda, West Bengal, India, where flood and bank erosion have caused significant damage to the community. The impact of flood and bank erosion is more severe in vulnerable communities such as the poor, marginalized, and rural populations. These communities often lack access to resources and infrastructure necessary for coping with such disasters (Samrat Majumdar, 2018). Vulnerability is unequally distributed across caste, ethnic groups and racial, and gender. In the rural areas women must bear more difficulties in life due to the impact of flood. Every year this annual tragedy leads to significant danger particularly in the life women. In rural areas women must experience severe risk in pregnancies, ill health, unhygienic camp, shortage of food and pure drinking water, poor sanitation facilities, drop out of girls from school, forced marriage etc due to the flood impact (Bukhari, & Rizvi, 2015). The requirement of significant impacts of floods and river bank erosion on the socio-economy of Golaghat revenue circle, Assam. The study highlights provide important insights into the need for effective disaster management strategies that could help mitigate the impacts of such disasters on the socio-economy of the affected areas (Mili, Acharjee, & Konwar, 2013). In case of impact of flooding in Bihar, India, women being submissive and dependent on male family members, wait for the men to decide where to evacuate for survival. Women were also less aware of relief material. Men who were addiction to alcohol, Ganja etc sold off even their relief material without thinking about family responsibility and in case of women normally use the relief material for survival family. After flood elderly women faced mental and health problems (Madhuri,2016). The issue of food vulnerability is complex and multifaceted, and gender plays a crucial role in shaping experiences of food insecurity.

Disaster management approaches, such as early warning systems, evacuation plans, and rescue operations, that are crucial for reducing the impact of flash floods. For instance, in Leh flash flood occurred, disasters by the role of the local community in the recovery process. Disaster management strategies are need to be tailored in the local conditions and effective communication, collaboration, and preparedness are essential for managing flash floods (Gupta, Khanna, & Majumdar, 2012). Another, study highlights on the flooding have resulted in the loss of many lives in Bangladesh. Community-based management is essential to cope with flood risk. Encouraging communities to work together and prepare for potential disasters can help reduce the impact of floods. Implementing resilient agricultural practices such as crop diversification, using flood-resistant crops and incorporating water harvesting and management techniques can help mitigate the impact of flooding on agriculture (Kabir, & Hossen, 2019). The Darbhanga district is particularly vulnerable to floods due to its location in the floodplains of the River Ganges and its tributaries. The floods have significant negative impacts on the rural population of Darbhanga district, including loss of lives, damage to property and infrastructure, displacement, loss of livelihoods, and health problems such as waterborne diseases. Moreover, floods have exacerbated existing social inequalities, with marginalized groups such as women, children, and the elderly being disproportionately affected in

the rural population. the study suggests proposed strategies include the construction of flood shelters and evacuation routes, the promotion of climate-resilient agriculture and livelihoods, and the provision of basic services such as safe drinking water and sanitation (Vikash Kumar, 2016). In response to the floods, the Thai government introduced a number of measures to improve flood management in the country. These measures included the construction of new flood barriers, the improvement of existing infrastructure, and the establishment of new flood warning systems. However, despite these efforts, there is still much to be done to improve flood management in Thailand. To address this, the government needs to continue investing in flood management infrastructure and improving water management practices (Poapongsakorn, & Meethom, 2013). Efforts to mitigate the effects of flooding in Agege have included the implementation of flood control measures such as the construction of drainage systems, the removal of waste, and the development of early warning systems. However, these efforts are often limited by inadequate funding and poor implementation (Abolade, Muili, & Ikotun, 2013).

3. METHODOLOGY

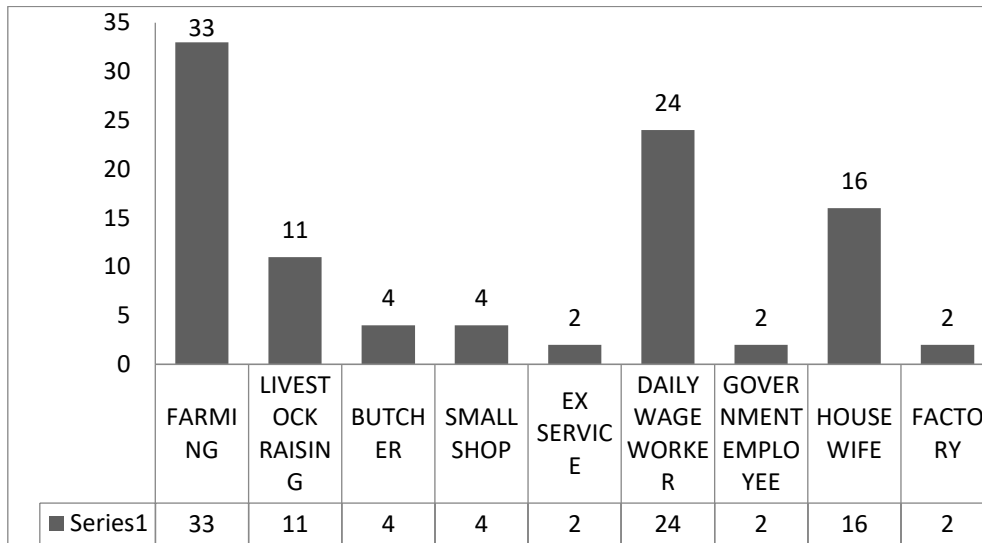
The study is descriptive in nature and the study is conducted using both qualitative and quantitative method (mixed method). The primary data is collected from the field through semi structure Questionnaire. The Secondary data are collected from newspaper, websites, etc. The present study was conducted under Morigaon district, three villages (Kuhiguri, Bhatkhuabori, kacharibori) Morigaon, Assam. The total sample size is 45 households, and total of 100 respondent. The 26 male and 19 female have been surveyed in all the three villages. The respondents are above the age of 21 both male and female. The aim of this study is to examine the impact of floods on the 'livelihood' of tribal community and causes vulnerability. This paper examines the underlying causes of the vulnerability of people impacts of the flood in the tribal community in the Morigaon, villages. Further the paper would explore on the vulnerable groups affected by floods including gender perspective.

4. DATA ANALYSIS

4.1 SOCIO DEMOGRAPHIC PROFILE

Morigaon district is in central part of Assam and the river Brahmaputra flows to the northern side of the district. Being an integral part of the Brahmaputra River, a large part of the district is an alluvial plain with number of rivers and waterways and marshes. The below figure 1.1 33% of the respondents are farmers and also along with doing farming they are engaged into different types of occupations. 11% of the respondents are livestock rearing,4% of the respondents are butcher,4% of the respondents are small shop,2% of the respondents are small shop owners,24% of the respondents are daily wage worker,2% of the respondents are government employee,2% of the respondents are working at factory and 24% of the respondents are the housewives.

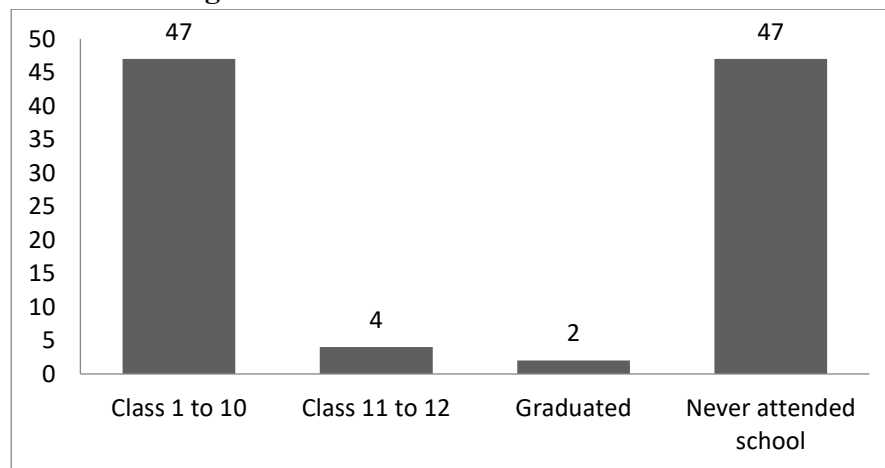
FIGURE 1.1 OCCUPATION



Sources –field survey, bhatkhuabori, kacharibori, kuhiguri, april

The below Fig 1.2 indicates that 47% of the respondents of all three villages are unable to attend school and other 47% of the respondents only are able to complete their class 10th. In case, 4% of the respondents have completed only their 12th class and only 2% of the respondents are graduated. Thus, we can conclude that educational level is very low in the Morigaon villages, due to the constant impact of flood problems affecting in the lives of the tribal communities in this region.

Figure 1.2 EDUCATIONAL STATUS



Sources: field survey, bhatkhuabori, kacharibori, kuhiguri, April

The above fig 1.2 observe that majority 44% of the respondents are in the age group of 21-22 and 33% are in the age group of 31-40 and 13% are in the age group of 41-50% and 2% are in the age group of 51-60 and 4% are in the age group of 61-70. The above figure 1.4 mentions head of the household are mostly eldest male member of the family. Majority of the 42% of the respondent are own self and 24% are husband and 16% are the father and 16% are the son and 2% are the mother.

TABLE 1- AGE CATEGORY

AGE	FREQUENCY	PERCENTAGE
21 -30	20	44
31-40	16	36
41 -50	6	13
51-60	1	2
61-70	2	4
TOTAL	45	100

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TABLE 2 –INCOME CATEGORY

MONTHLY INCOME	FREQUENCY	PERCENTAGE
500 -1000 Rupees	19	42
12000-15000 Rupees	6	13
20000-60000 Rupees	20	44
TOTAL	45	100

The above figure Table 2 mentioned that the 44% of the respondents earn (Rs 20000- Rs60000) the income annually, but are also engaged in other works income 42% are daily earner Rs Rs 500-Rs1000 ,13% is monthly Rs12000- Rs15000.Though they are engaged in the farming and majority of the villagers work as a daily wage worker. The below Table 3 indicates that 60% of the respondents are the belong ethnicity of Tiwa and rest 40% are the Bodo in the Morigaon village. But Tiwa people of the present study often Assamese language

TABLE 3-ETHNICITY

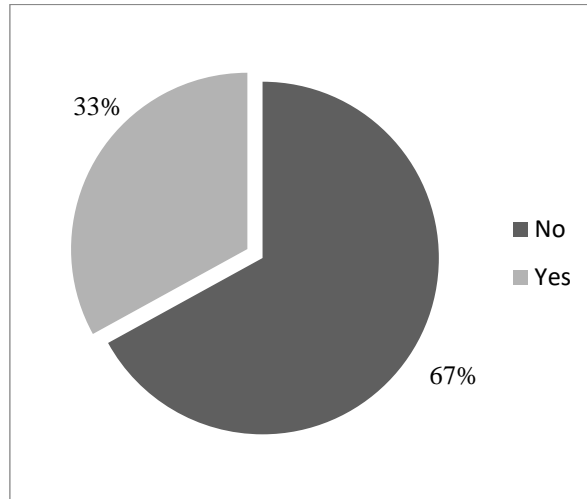
ETHINICTY	FREQUENCY	PERCENTAGE
1. BODO	18	40
2. TIWA	27	60
TOTAL	45	100

4.2 IMPACTS OF THE FLOOD ON THE LIVELIHOOD OF THE TRIBAL COMMUNITY IN MORIGAON

The flood occurs once in a month annually every year in the Morigaon regions. Few times the informed that the flood take place more frequently within the similar one month, for 3 to 4 times. The area in the southern bank of the river Brahmaputra is liable to deep floods. The below figure 1.3 mentions that majority 67%of the respondents reported ‘No’ local warning was been arrange before the flood and only 15% of the respondents were alerted on the flood. So, the study conclude that they do not every time people get any local warning before the flood. Mostly people predict from the continuous rainfall. Only

few respondents reported that they were informed on the **Local warning before the flood** from the neighbour villages.

Figure 1.3: Local warning before the flood



Sources –field survey, bhatkhuabori, kacharibori, kuhiguri, April, 2023

The Morigaon villages face different kind of damages apart from the Local warning before the flood from the neighbour villages. One of the respondents said,

“Bhatkhuabori and kacharibori people face damages related to agriculture, especially our houses, shops, livestock raising, road, communication were damaged during the flood”
(lakhimai boro, female, Bhatkhuabori, Boro, age-65, 11:00am, April)

Another respondent mentioned,

“Kuhiguri, our house is completely under water, road damage, communication.”
(khonemai dekaraja, female, kuhiguri, Boro, age-50, 3:35pm, April)

Apart from the displacement, flood have caused other than economic losses in the Morigaon villages. They do face problem related to employment and sources of income due to the flood. One of the respondents said

“All the three villages they face income problem, work issue because it’s hard to get daily wage job, health issues, and even death of livestock.”
(Priyanka Boro, female, Bhatkhuabori, Boro, age 34, april, 2023)

I could not continue education further due to financial problem).
(Rashmi Boro, Female, kacharibori, Boro age 21, april, 2023)

All the three village respondents reported that the school was closed during the flood situation. There was no scheme lunched for the complete damaged houses after the flood. Even though the Morigaon villages face flood related problem every year.

Other respondents mentioned,

“People have taken loan after the flood loss. Kuhiguri got the compensation of 3000 to 4000 twice for the agricultural damaged. The other two villages didn’t get any financial support after the loss due to flood but though they also face agricultural damaged.”
(Pompi dekaraja, female, kuhiguri, Tiwa, age-24, April)

The tribal people of the Morigaon villages impacted by flood has created economic instability, death of

livestock are valuable assets for tribal communities, providing them milk, meat, and source of income. The loss of livestock and agriculture has directly impact in their livelihood.

One of the respondents said

“All the three villages they face income problem, work issue because it’s hard to get daily wage job, health issues, and even death of livestock

(Rupjyoti patar, male, bhatkhuabori, Tiwa, age-25, april)

Another respondent mentioned,

‘All the three villages that they find difficulties in finding work, the flood ,to look after family, to find a safe place to keep family, to search for food for the livestock , had slept at the roadside, facing money problem.’

(Rahul boro, male ,kacharibori, boro age-26, 12:00pm, april)

‘ we even found difficulties in finding work after flood, during the flood found difficulties for shower, to go to toilets, and fear of kids playing in the water; have to manage the dependents members, found difficulties in menstrual period.’

(daki dekaraja ,female,kacharibori,tiwa,age-37,1:00pm,april)

All three villages faced problem related to health, especially prone to many kinds of diseases after the flood such as lotion motion, malaria, cough, and headache. Caused injuries –open wound is prone to infections.

One of the respondents said,

“ All three villages respondents that they suffered from lotion motion, malaria, cough, headache” (Rita boro.,female,kacharibori, boro,age-38,2:00pm,april)

Another respondent mentioned

Suffered from waterborne diseases in leg, some of the had nerve problem”

(Prasanta dekaraja, male, kacharibori, tiwa, age- 27, 3:05pm, april)

4.3 GENDER AND VULNERABILITY, RURAL COMMUNITY

Women face more problem than men especially during the flood. In many societies, women are expected to fulfil traditional gender roles which are like care giving and household responsibilities. During the flood women need to take care of children and other dependent members. Faced problem access to sanitation and hygiene facilities, health and reproductive needs, Example for pregnant women medicines may become limited or inaccessible during emergency due to road and communication damage. Since, male member were working away from home, could not come urgently. Women at home had to manage by own self. It is true that women often face more problem than the man.

One of the respondents mentioned,

‘Women had to pee openly sometimes, fetch water from the nearby village or go to someone house whose hand pump is available for water, we faced shower problem.’

(Rina bordoloi, female, kuhiguri, tiwa, age 23, 4:00pm, april)

Other respondents mentioned,

“All three villages that they faced financial problem, to do feed the kids, have to look after them if they had gone somewhere far, providing good food, if any members fall sick there was no vehicle to immediately to take away to hospital.

(bharati bordoloi, female, kuhiguri, Tiwa, age-25, 3:45pm, April)

The flood-prone region is entitled to various welfare measures and support to cope with the impacts of flood. This study observes that instead there was no such risk management Programme was being held, no health service available in the three villages (Table. 4). Thus, women face more difficulty during the flood such as to carry the baby, required to even stays inside the house during the flood. Therefore, to avail health care service is very important during and after the flood, because the, flood water is unhygienic and leads to various diseases.

Table -4 Types health services support

Health services existence	Frequency	Percentage
Yes	0	0
No	45	100
Total	45	100

(Sources–field survey,bhatkhuabori,kacharibori,kuhiguri,april)

The below Table 5. mentions that all the three village of the respondents reported that there is not any flood disaster risk management held by the government. One of the respondents said,
All the three villages, get the relief materials from the NGO and government but they do not get any compensation. Only relief materials such as- dal, mustard oil, soap, But the NGO provides water bottle, soap dal. (mahilla morigaon mehfil,NGO)

(Tilu boro male, kacharibori, Boro, age-25,3:20pm, April)

One of the villages Kuhiguri, do get relief material such as rice, dal, mustard oil these relief materials are equally distributed among the population in the village. Since, other two villages the relief funds are not distributed equally to everyone, only few of them receive the fund for agricultural damage. Instead of receiving any kind of help from the government the respondents, they seek help from the neighbour to move toward to the safer place.

One of the respondents said,

“We have save money from the selling crops and from livestock rearing. Asking neighbours to help carry the stuff”

(Jayanta bordoloi, male, kuhiguri,tiwa,age-28,3:55pm,april)

5. CONCLUSION

All the three villages are affected by the flood every year in the month of July. Kuhiguri village is most flood prone area, all the houses remain under water during the flood and must move outside the village. In case, the other two villages, during the flood can remain inside the houses, if not heavy flood occurs. All the three villages’ majority of population occupations are daily wage earner, farmer, and livestock farms. Government even though provide fund for flood prone region, the villages such as Bhatkhuabori and kacharibori people didn’t get any compensation. Only 10 people of Kuhiguri people got the compensation for the agricultural damage. There is no medical facility existing in all three villages after the flood impact. Kuhiguri village people get equal distribution of fund little for all kind of income households. Only relief materials being provided by NGO and government are water bottle, soap, and dal. There is no gender discrimination or harassments in the entire three villages. Furthermore, flooding ruins the income source of the community. Male had to out-migrate after a flood adds to women’s responsibility for the family. Women need proper a special care and proper hygiene during menstruation but during a

crisis the situation becomes worse for them especially for pregnant women. Temporary settlement in the bridge in tents women's and male's feels insecure and unsafe.

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