

Impact of Ecological Change on Haor Livelihood

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ABSTRACT

This study paper will discuss how residents adapt themselves with the biological and geographical system of Haor ecology (Hakaluki Haor) to merely survive. This Haor has lost its equanimity and the ecological system has started showing its impact on the typical livelihood. It is evident that both man-made and natural factors are root causes of destroying harmony between nature and its beneficiaries. Besides, human extensive miss use of resource depletion makes the Haor more vulnerable for the natural resources and declaring Hakaluki Haor. The government is contemplating using the “Wise use” strategy for resource management; though, local syndicate satiates with full capacity by keeping village people apart from catching fishes from their land. Integrated financial support, alternative livelihood and skills to maintain a relative equivalence between need and availability will improve the situation, at least will act as a prophylactic measure reducing impact of manmade causes.

KEY WORDS: Haor Livelihood; Ecology; Eco-system; Climatic Drivers.

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I. INTRODUCTION

Bangladesh has extensive natural resources like land, water, gas. Due to this inhabitant are led their life using this resource. Haor people are only depended on it for their livelihood. Culturally and inherently they adopted with fishing and farming. Day by day Haor ecology is changing expressively and that has a huge impact on local inhabitants. Haor ecology is changing due to natural and anthropogenic influences. Main natural and anthropogenic causes are overexploitation of natural resources, uses of agro and industrial chemicals in the land, human infringement, lack of property rights and effective implementation of laws and customs. These lead to the Haor ecology of the country. Nowadays Haor ecology is changing; as the size of Haor decreasing gradually so Haor livelihood is suffering much.

The above background investigator tried to figure out the impact of livelihood on Hakaluki inhabitants due to changing ecology consistently. Other specific objectives are to reconnoitre ecological changes due to human interaction and nature as well as recommend some policy to ensure Haor ecosystem and livelihood security of inhabitants.

II. OBJECTIVE

This paper is intended to explore ecological changes due to human interaction and nature. Furthermore, this paper finds out the impact of ecological changes in the livelihood of local inhabitants followed by a set of policy recommendations to ensure a sustainable haor ecosystem.

III. THEORETICAL UNDERSTANDING

Ecology is directed towards the dynamic nature of ecosystems, where an individual takes decisions and actions and these choices become generalized as processes. The study concerned about how these individual actions, when aggregated, have their greater or lesser consequences on the structure and function of the ecosystems and bring changes in them. Adaptation has increased human capacity not only to explain natural events but also to misapprehend that often along with technological evolution lead actions to the destruction of an encompassing nature. These acts are to be understood within a cultural framework of meaning (Barth, 1993: 158). The study also tended to diagnose the meaning inherent in the cultural system of Haor people. However, in any environmental position, every human population gathers some knowledge about his environment to adopt with its nature which makes the norms and values of that society. That's distinct constraints made up the culture as knowledge (Barth, 1987). The study treated that knowledge and behavior as the main resource to sustain that persisting Haor ecosystem. Vayda's (1996: 16) concept of 'progressive contextualization' explicating further,

scaling 'backward in time and outward in space' which gives us a broad perspective of time, place and circumstances.

IV. STUDY METHODOLOGY

This is a qualitative study of nature. 20 Structured and semi-structured interviews, 2 Focused Group Discussions and 2 Key Informant Interviews have been conducted to getting the view of inhabitants. Systematic Random sampling was followed to select the targeted population from Sadipur and Shahpur village under Kulaura Upazila of Moulvibazar district. The key contents of the study tools were socio-demographic and economic condition, migration, educational background, landholding and some objective related issues.

This study also focuses on an interdisciplinary review of secondary sources related to ecological changes and the impact on livelihood. The institutional data have been collected from GOs, NGOs and development agencies.

V. ETHICS

Before the start of every interview/discussion, every participant (including children, parents, officers and other respondents) was informed about the core purpose of the study and their roles in the data collection. They were asked to provide consent before initiating the interview by the interviewer. The investigator read the consent form and if anyone declines to participate, no pressure was put upon their decisions. The consent form included:

- Purpose of the data collection for the study;
- Participant roles in data collection for the study;
- Risks and benefits of participating (if any)
- Voluntary withdrawal from the provision of data for the study; participants will be able to withdraw their consent at any point during the interview
- Terms of confidentiality
- Contact information of researchers involved in the data collection for the study

VI. FINDINGS OF THE STUDY

Populations are in threat of losing their crops and shelter due to the flash flood that is the common scenario of Haor. Due to continuous losses of shelter and crops they are becoming vulnerable and changing their means of livelihood. The disastrous floods of Hakaluki Haor are 1987, 1988, 1998 and 2004. The leading cause of Flash floods are created by harmful attitude of human towards nature. People become dependent on Haor resources like Hijol and Koroch for their fuel supply as their scarcity of fuel around their locality which cause the catastrophic effect of Waves. Afal is the dialectical term of waves in Haor. It is generated by the airstream. It is the common phenomenon of Haor area in monsoon season. The height of the Haor is about 5 to 8 feet. Afal causes Haor bank erosion.

The ecosystem of Hakaluki Haor is under threat due to points below-

- Increase demand of agricultural field, residence and firewood which reduce the size of Haor as well as Swamp forest;
- Destroying the reproductive capacity of the fishery due to inappropriate fishing practice like the use of illegal nets and poison;
- Change of biodiversity due to overharvesting of amphibians and bird hunting;
- Use of pesticides and rising demand for hybrid cause loss of genetic diversity;

Local inhabitants are dependent on Hakaluki Haor for fishing as it is the 'Mother fisheries. more than 70% of families led their life by fishing. The resource is a valuable one, and many tons of fish are caught daily during the peak fishing season. But nowadays it is rare to get fish for ecological change and it is a new threat for fishers.

Bird hunting is one of the main man-made causes of changing ecology in Hakaluki Haor. Hakaluki Haor is known as a famous place of hunting birds. Recently the government restricted for open access, it is now too difficult to hunt birds from the Haor. But lack of implementation of laws and illegal poacher makes it hard to improve the disproportionate hunting of birds and it has

Synopsis of case study-1: Rahima gets stuck in begging

Rahima Chan, 60 an illiterate old woman. Her husband is expired and all her sons and daughters are married. She had own house and land but she has lost everything in flood. Her sons used to earn their livelihood by catching fish, but this chance is totally off now. They are unable to look after their mother. She is now a beggar who leads a miserable life. There were no beggars in this village before but with the change of ecological condition, life style has also changed. Now many people have become beggar like her.

not stopped completely yet. Hunters hunt birds when they get a chance and sell them at a high price. They catch birds by setting different traps, nets and other materials and destroy their ecology.

Agriculture is the central source in the economy of the study people. They have large agricultural fields near the settlement. In this agricultural land they produce AUS and AMAN. Broadcast Aman is sown in the village in the month of Chitra(March-April) after the land is the plight and harrowed. After the seeds have germinated a ladder is dragged over the field in order to level the ground. When the lands are four to five inches high the soil is loosened.

The village also produces pulses, oilseeds, potatoes, and some other vegetables during winter. These are called Rabi Crops and Rabi vegetables. These pulses and vegetables are grown after the Aman harvesting is over. The cultivators start cultivating Rabi crops in the month of Agrahayan (November -December) and continued up to Falgoon (February to March). By this time the monsoon starts and the cultivators must prepare that land for sowing rice. This period of cultivation of Rabi crops and vegetables is between December and April. But the ecological change has also impact on their agricultural behavior adversely. Now it is rare to get kalijira, laltir 14,18,29.

Synopsis of case study-2: The way lives take a turn

Porimal Biswas, a fisherman of the village Shahpur. His socio-economic condition is very poor, living in 'KanchaGhar' with one son and three daughters. He has no land. He earns his livelihood by fishing. He is unable to send his son to school because he has to help him to fishing. Fishing has become a very tough job nowadays because gradually the size of Haor is decreasing with its amount of fishes. Due to heavy rainfall, soil from hill is being accumulated in the Haor. This causes a great change in the occupation, life style and socio-economic condition of people like Porimal Biswas. They become deceived of their basic needs; their offspring are being involved in several illegal activities due to lack of education and other facilities as well as for their poverty. Flood was very rare in previous years but now it has become very common even they have to suffer every year and losing their shelter. So the number of floating people also increasing day by day. They have to earn their livelihood by begging and black marketing. Because if they buy nets they have little chance of catching fish due to lack of place and chance because most part of Haor is now under ledge.

The most common occupations are Farmer, Fishermen, Businessmen, Day labour, Firewood collector, coal collector but for the reason of ecological change they change their profession; some people migrate to Sylhet, Moulovibazar and some went aboard. Some poor people are corrupted; they joined with smuggling, black marketing; hijacking etc and they take the drug. They are also changed culturally. The maximum of the local inhabitants' lives on fishing. From the following graph, it is clear that most of the local family about 90% are directly or indirectly depends on fishing and farming; the lowest 10% are in other occupation. In the study area there have some alternative sources of income. If there are any alternative sources of income, 34% (the second highest group) of people will change their occupation while 12% will remain in quandary. The highest 54% are satisfied with their current occupation because they believe that "Riziker Malik Allah" and said that they have nothing to do.

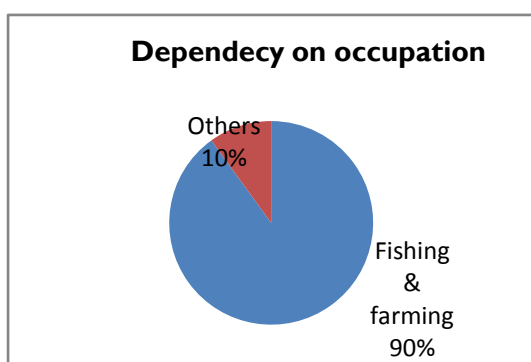


Figure 1-Data Source-Field work 2010

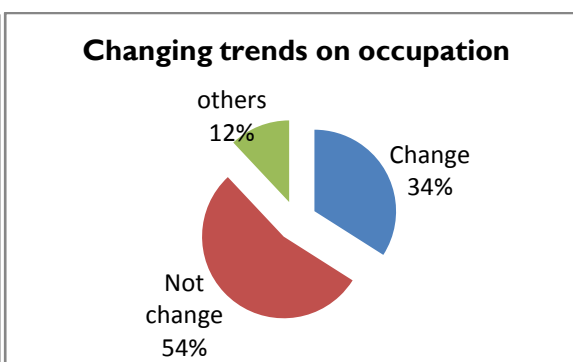


Figure 2-Data Source-Field work 2010

The study area people use boat in the rainy season and foot in the dry season but sometimes they use to boat due to unwelcome flood. In the study area, waterway and the way by foot are the main modes of communication. People Communicate from one place to another by country boat, motor launch, engine boat or trawler in the rainy season, and only by walking, cycle, motorcycle, CNG in the winter season. They have three types of boats. They are small local boats (Khosha), Medium boats and Mini engine boats for familial need, for

fishing and Communicate large distance area. As a result of ecological change sometimes they are not able move smoothly either due to over flood or mud.

Concluding Remarks

The people of the Haor are mostly farmers, followed by traditional fishermen and other resource users. There are also other traditional groups such as traders, barbers, boatman etc. At present, the fisheries are leased to private individuals. The local fisherman communities do not get any benefit and they cannot contribute the development activities. On the contrary, they, including the villagers, cannot catch fishes even in their lands attached to the fisheries. This system often leads to conflicts between local communities and the leaseholders. The findings show that the ECA (Ecologically Critical Area) are in critical condition for fisheries resources but also generates a series of economically important ecosystem services, which function to support and safeguard essential production and consumption processes.

Hakaluki Haor is a unique ecosystem rich in natural resources but under severe threat of gradual depletion. Since the government has already declared Hakaluki Haor as a Ramsar site, it is committed to implementing the 'wise-use' strategy of resource utilization in this area. With the declaration of Hakaluki Haor as Ramsar site, government and other national and international organizations have committed to preserving its resources and to protect its birds and other wildlife from illegal hunters and remove the man-made cause of ecological change and make awareness about natural causes.

The experience of community-based organizations and respondents also suggests that without adequate financial support and skills, it would be very difficult for local people to coordinate any large-scale fishing activities in the Haor. It has also been clear from the experience of fisheries management that local people cannot also prevent pirates to enter in the Haor basin and plunder its resources and reduces the bad impact of ecological change by reducing at least man-made cause which will help the Haor inhabitants to develop their traditional lifestyle through maintaining their source of livelihood.

VII. LIMITATION AND STRENGTHS OF THE STUDY:

The clearest limitation of this study was the low number of respondents and data gathered from two villages and only one Community Clinic that can't be generalized. The beauty of the study was that it cannot be claimed that saturation was reached or that the information obtained all of the country in terms of the traditional profession and unique culture of Haor people.

VIII. CONCLUDING REMARKS

The study people found that 90% of local inhabitants lead their life by fishing and farming. Besides, the rest of the population also depended on Haor for their livelihood few of them are engaged in service. Currently, Haor leased to private individuals due to political influence they can't avail the facility even they can't catch fish from their own land attached to the leased property. This situation leads to social fractions among communities and leaseholders. As a result, the livelihood and culture of local people are changing following changes of Haor that has been evident in the study. With the declaration of HakalukiHaor as Ramsar site, government and other national and international organizations have committed to preserve its resources and to remove the man-made cause of ecological change and make awareness about natural causes. The expert opines that need to take initiatives by GOs and NGOs to protect the livelihood and culture of the Haor inhabitants as well. Respondent also suggested to provide financial support and provide skill-based training for their existence. It has also recommended that need appropriate leasing management, awareness sessions that will reduce the bad impact of ecological change occurred by a man-made cause which will help the Haor inhabitants to develop their traditional lifestyle through maintaining their source of livelihood.

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