

MODE OF HUMAN INTERACTION AND ADJUSTMENT TO THE FOREST ENVIRONMENT: A Case Study in Dibru-Saikhowa National Park, Tinsukia, Assam

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ABSTRACT

Man has continually and at an alarming rate, being changing the forms and his interaction with the environment. Man modifies nature and nature modifies man, yet it is the nature itself which determines when and how man shall be so active. In other words natural powers are in every instance dominant, the determinism is complete. Population of the earth is growing rapidly and with the technological and scientific revolution developmental activities have been accelerated to such an extent that in certain areas they have become threat to the environment. The present paper is an attempt to study some important aspects of man-environment. Dibru-Saikhowa is one of the famous National Parks, particularly for migratory birds, feral horses, wild buffalo, and white winged duck. The entire park is located in a low laying active flood plain zone located between the river Brahmaputra and river Dibru. Man-environment relationship concept of forest village and man's impact and adjustment to the forest and its results are studied in this paper. The habitat area increases with the increase of population day by day, due to government's transparent policy to delimit the habitat area and also for the conservation of the park. The mode of interaction and adjustment of man to his environment is studied based on sample data and empirical observations.

Introduction

Man himself is the most significant component of man-environment relationship and its concept is not anew one. Human beings and his surrounding natural environment both are interrelated and interdependent. Dependency of man on nature and their adjustment to the environment is as old as human civilization. Thus man modifying nature and vice-versa, yet it is the nature itself which determines when and how man shall be active and effective (Mathur, 1988). As the activities of man determined by environment and have some probabilities beyond the two and also man have definite response to them. Thus man becoming the 'creator of environment'. Another important aspect is the culture of the people that determines the forms and process of human interaction and adjustment with the environment (Taher, 1993). It is very critical and interesting to study about the adjustment and interaction of man to a forest environment. It is because man has to be keeping his environment in balance without lost. For this man has to adjust with nature while acting as modifying factor. The mode of modification of adjustment is the primary concern in respect of today's environmental conditions.

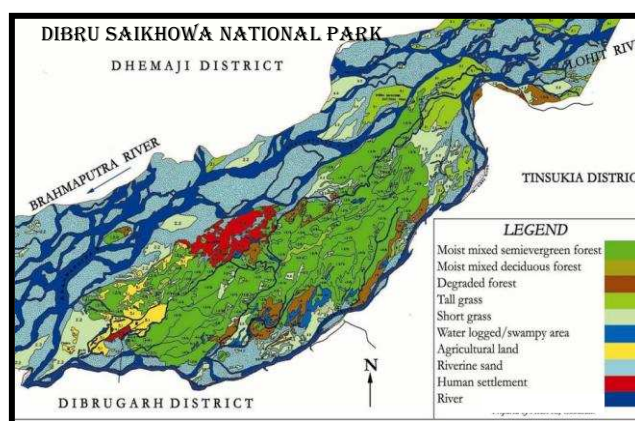
The study of man-environment concept is not a new one. The idea and theoretical framework are dated back to the dawn of modern geography (Beyer, 1974). With the new environment awareness started from early part of the 80's of 20th century, the study got a new dimension. Man and environment study is mostly related to natural and manmade hazards. Geographers are attempting continuously to correlate the age-old concept of human impact on nature are newly added. In this field of study Burton, Beyer, Kates, Swell, Kayastha, Taher, Bhagabati, Gogoi, etc showing their efficiency in terms of man-environment interaction and adjustment.

The Study Area

Dibru-Saikhowa is one of the largest biodiversity hotspots situated in the extreme east of Assam. It lies between 27^o30'N to 27^o45'N latitude and 95^o10'E to 95^o

45° E longitude at an average altitude of 118 mts from the MSL. The average rainfall ranges from 230—280 cm and the temperature range from 7⁰C to 34⁰ C. The forest types of Dibru-Saikhowa comprise of semi-evergreen, deciduous forest, littoral and swamp forests and patches of wet evergreen forests. The National Park is having about 35.84% moist mixed forests, 9.5% degraded forests and 21.25% grasslands. A total of 36 species of mammals have been recorded in Dibru-Saikhowa National Park. It is equally rich and diverse in herpetofauna. Besides these, two species of monitor lizards, 8 species of snakes, 62 different species of fishes and more than 350 species of birds have also been recorded from the National Park. This is the natural paradise of birds, especially for the migratory birds. In 1890, Dibru Reserved Forest was declared and in 1929 Saikhowa was declared as Reserved Forest. Further in 1986, it was declared as Dibru-Saikhowa Wildlife Sanctuary by the inclusion of both the Reserved Forests and some other adjoining areas, while in 1997, it was declared as National Park with a total core area of 340 sq. km. and buffer area 425 sq. km. surrounding the core.

Laika and Dadhiya are the two forest villages located in the westernmost part of the park. Though the villages are now occupied by the Mishings, but in reality the village Dadhiya was the winter camp for the Nepali people. It was the famous dairy farming area for the Nepali community before the Great Earthquake of 1950's. Dadhiya is derived from the word milk (Das,



2004). After the earthquake the Nepali community shifted their camp to some other places due to the continuous flood in their dairy farm. After the shifting of the Nepali the area was occupied permanently by the Mishing community in 1951-52. At that time there were only 210 households in both the villages. In the park area the people living are very much advanced to adjust themselves with floods and forests. Therefore they had found that area a suitable habitat for them at the time of 1950's with available support from the forest. At present there are all together 1500 households with an average family size of 7 to 8 people. Socio-economically the study area is very much backward and most of the people are illiterate. Further medical facilities, mode of communications, transportation etc are not available in the said area.

Objective and Methodology

The present study is carried to find out:-

- i) The human adjustment with the forest
- ii) Man-environment relationship and human interaction to the forest
- iii) Adjustment of the people with continuous flood and bank erosion.

For the findings and analysis a total numbers of 120 households are selected as sample data in two villages namely Laika and Dadhiya. Besides these, data from the secondary sources also collected for the comparative study. Further maps and some other related information are collected from the DFO Office, Tinsukia. But the overall discussion is made from the sample data collection and empirical observations.

Analysis

The average family size is more than 7 persons and total population of the surveyed households is 876. Of these total population 53% male and 47% female. So far the age group is concerned 61.64% of the total population are below 20 years indicating high growth rate; 26% of the total population are between 20—50 years and the rest are above 50 years. The area is still suffering a high growth rate of population with a very low literacy rate.

Human Interaction: During 1950—51, there were only 210 households in the newly established Laika and Dadhiya forest villages. Now the figure is increased upto 1413 and population pressure is also increased more than 10000. This large base of population is totally based on the surrounding forests of Dibru-Saikhowa. They turned out regularly to the forest, for collection of their necessary requirement like food and firewood, animal pasturing, housing materials, etc. Dependency to the forest is tremendous from both the villages (fig-2). Out of the total population 71% people moved for firewood and collection of housing materials, 44% for food collection, and 29% for fishing. But more than 32% of the total population turned out everyday for animal pasturing.

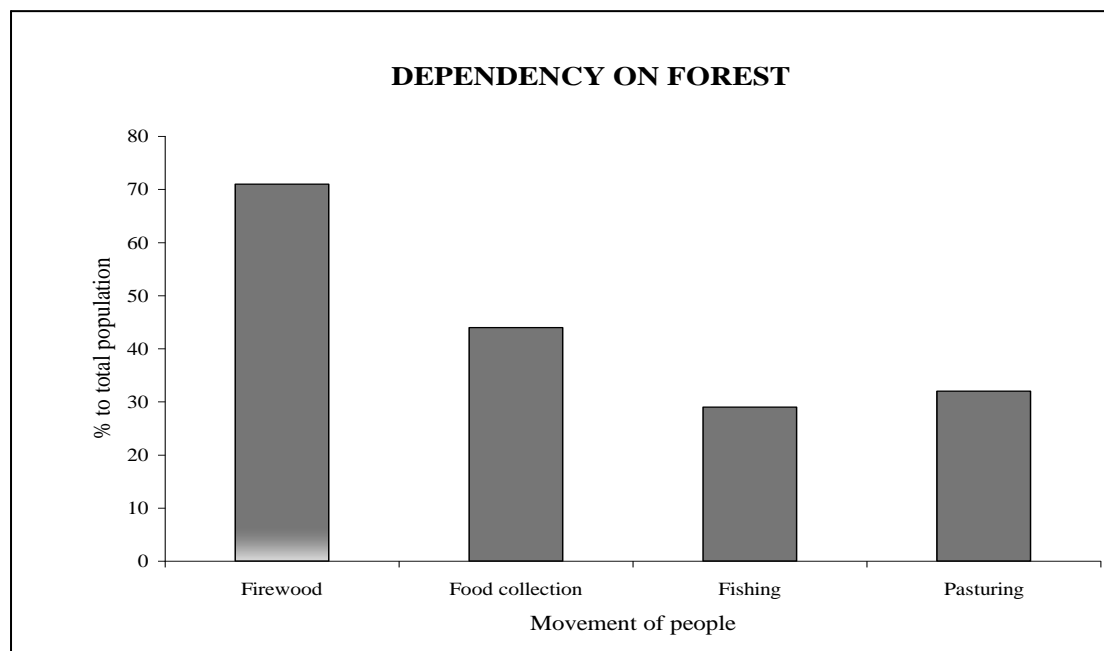


Fig. 2. Dependency on Forest

These activities are not considered for the rainy season, because in the rainy season the movement is restricted by the flood hazards. As per the official report, inside the park area, there are more than 15000 domestic animals. Cattle, buffalo, and goats are generally domesticated by people living in the Dibru-Saikhowa National Park. For their grazing, and all other activities as mentioned, obviously people moves to the interior area of the forest.

Settlement is a model of interaction between man and environment. The mode of interaction of the forest villagers in Dibru-Saikhowa is same that with other. All the people move out at the day time for food gathering, collection of firewood, animal grazing, fishing etc. (Fig-3). Sometimes people are also stayed inside the forest for fishing at the nighttime.

Rivers are the back bond for the human being. Dibru-Saikhowa is really an inspiring example of how people can adjust their lifestyle with perpetual hazard of flood and water logging. During the rainy monsoon season, flood makes the people helpless. The average frequency of flood occurrence is two to three times in every year in the park. Therefore the entire National Park is made up of low lying flood plain, making the soil extensive fertile one for plant growth and agricultural operation.



Fig.3. Human impact on Dibru-Saikhowa

Immediate after the flood people rush out for their basic needs. So interaction during rainy season is easy and in high rate due to the availability of boating route and scarcity of food items for both man and animals. In this way people of Dibru-Saikhowa is trying hard to adjust with their surrounding forests. Regarding housetype (not only in the said area) the Mishing people always construct Chang ghar and Chang bharal (food storage) as their safety measure from low intensity sever flood. Despite these, every family has at least one boat to rescue themselves during flood time and for fishing. Immediately after retreat of flood, the people move to their respective agricultural field more actively and quickly, since the soil become very fertile.

Perception and Responses: The low standard of living, very less opportunity of development, lack of communication, etc. are the main problems in the studied area. Though in the said villagers are facing lots of problems, but their responses and perceptions are still in favour of the National Park area, considering the park most suitable for them. The majority of the people in Laika and Dadhiya are still wanted to stay inside the forest with their own identity of forest villagers. The perception of them reveals this statement clearly (Fig.4).

The study of the 120 households reveals that a majority of the villagers are still want to adjust their lives within the forest area. More than 58% of the total population does not agree to leave the forest village refusing even better facilities for survivals; 22% are agree to change and shift their residence in cost of better opportunity. Remaining 20% (mostly female respondents) are not giving response.

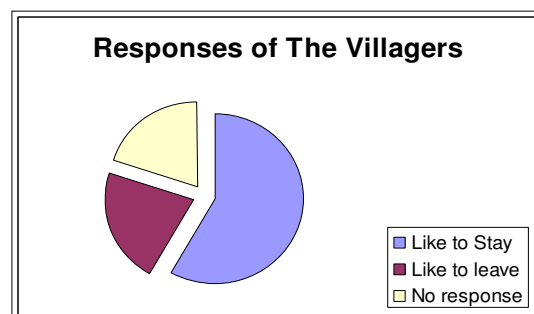


Fig. 4 Responses in favour of forest village life

In response of the question — why they are not agree to leave the forest? Most of the people replied about their fair adjustment to the forest both culturally and economically. But the young age group does not prefer this concept of adjustment. They are not in favour to stay longer in the forest village due to lack of development from all corner and extreme impact of flood hazards every year.

In true sense, human interaction and adjustment in the context of sustainable development is yet to be developing in the forest villages of Dibru-Saikhowa. Felling of trees, clearance of forests to agricultural land, overgrazing load of the domesticated animals, fishing, hunting etc are degrading and damaging the total environment of the young National Park. As the number of people increasing due to the high growth rate, the dependency on the forests is also increasing that crossing the optimum level of exploitation almost one decade earlier. So far future of the park and forest protection/conservation is concerned, 20% of the total population willing to protect the forest by themselves in the form forest department employee/ NGO/semi-govt. organization, while 31% argued that it is the duty of government (it is also mentionable that a number forest guard posts are laying vacant). Among the people, 12% believe in the checking of bank erosion, as one of the significant measures to protect the Park, but still a huge portion of the villagers (37%) believe that nature itself will protect and maintain the forests from the natural disasters.

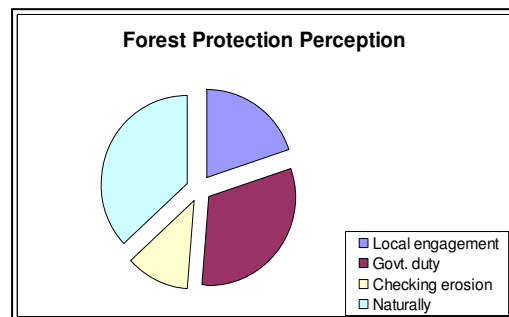


Fig. 4 Perception regarding Forest Protection

Summery & Conclusion

The analysis and perception study from the taken database reveals that:

1. Mostly the people of the study area are wanted to live in their own forest village, though many problems are there with fair adjustment to the forests.
2. Government yet to be finalized the village area within the forest with proper survey work, which may help the forest department to protect the park from the ongoing encroachment.
3. Lack of infrastructure development, proper implementation of Forest Act, lack of rehabilitation and ongoing flood hazards has the direct impact on both forests and human beings (the villagers).
4. Bank erosion and forest clearance both are devastating and dangerous for the park environment.
5. Illiteracy, poverty and government negligence etc. are also playing a vital role to degrade the total forest environment in the newly borne national park.

Regarding better interaction, fair adjustment and proper development of the forest villages it is necessary to do some innovative work in the said area. Government interference, strict maintenance of Forest Act, restrutures and rebuilt of the forest village are necessary. Since both the villages were already being their and government did nothing at the time of declaration of Reserve Forest so alternative way of rehabilitation is very necessary. The alternate policy of rehabilitation or restriction to allegation encroachment or abandonment of unfair and illogical pressure of evacuations of land may ameliorate the condition. The present paper is a part investigative study of the environmental problems and human interaction in the forest village of Dibru-Saikhowa. This is, in turn, helps in understanding the mode of interaction and adjustment of the people living within the forest lands and

consequences problems and their mitigation. Beyond this, Forest Department has no clear cut outline map of the National Park. In comparison to Kaziranga National Park and Manas National Park of the same state, Dibru-Saikhowa facing lots of problems in terms of finance, staff, and infrastructure. The National Park has only 32 staffs for management and protection and operation. For a core area of 425 sq km, this is really a tough job to handle the situation with such a minimum number of staff. So govt. must have to look after such a serious condition with some sound policies. Thus, in summery it can be said that the mode of adjustment of the people living in Laika and Dadhiya Forest village is still very critical. It can be say that the people are trying there best to stay there with a minimum damage of the park environment. But it is going to be a serious problem with the increase of population density in future. Government should take care of the forest as well as people living there.

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