

Reinventing the Challenges and Opportunities in the Fringe Area of Pobitora Wildlife Sanctuary of Assam

A. Borgohain¹, Leema Bora², K.K. Saharia³, P. Hazarika⁴ and M.N. Ray⁵

1,3,4 & 5..Professor 2. Assistant Professor, Deptt. of Extension Education, College of Veterinary Science, Assam Agricultural University, Khanapara, Dist. Kamrup(M), Guwahati, Assam

Corresponding author e-mail: leemabora@gmail.com

ABSTRACT

The study was initiated in the fringe villages of Pobitora Wildlife Sanctuary located in the Morigaon district of Assam to understand the dependence of the fringe area dwellers in the forest resources, the benefits of being near the sanctuary, constraints faced by them in pursuing a livelihood and their expectations from the Govt departments in solving their problems. Majority of the respondents practised agriculture and livestock farming as their primary occupation and had medium level of income per month from livestock as well as other sources like agriculture, working as labourer etc. Though the forest department has imposed a ban, they are habituated in using forest products, more particularly firewood, fodder and house building material for self subsistence and income generation. They agreed that because of their vicinity to the sanctuary transport and communication systems have developed and they have been exposed to environmental and conservation issues. Their society witnessed social changes in terms of hygiene and sanitation, strengthening of the traditional haat or markets, gaining employment under the tourism and forest departments. However, the havoc created by wild animals was observed to be far more destructive than the benefits obtained by residing near the sanctuary. The human animal conflict resulted in many fold loss to the people accounting to human casualty (ranked I in the list of constraints) followed by crop damage by large herbivours (ranked II) and houses damaged by large wild animals (ranked III). They revealed that proper demarcation of the sanctuary boundary, creation of high embankment in flood prone areas and diversification of their income sources could be helpful in reducing the man- animal conflict and their dependency in the forest for survival.

Key words : Pobitora wildlife sanctuary; Fringe dwellers; Man animal conflict; Benefit; Constraints;

Agriculture and allied activities support the livelihood of nearly 70 per cent of India's rural population. In the fringe villages of the Pobitora Wildlife Sanctuary in Morigaon district of Assam, covering an area of 38.8 sq kms, paddy is the principal crop grown and is the staple food. The sanctuary is the home to migratory birds, reptiles, asiatic buffalo, civet cats etc and is also famous for its great Indian one horned Rhinoceros. People in the adjoining area derive several goods, services and amenities from the surrounding forest and water bodies for their own subsistence as well as income generation. While doing so, they often fall victim to unprecedented attacks from wild animals. Sometimes their cultivation and houses gets trampled due to heavy footed herbivours consuming and damaging it, causing great economic loss to them. The shrinking forest cover has not only escalated man- animal conflict in Assam

but has resulted in casualties on both sides and the last three years, 290 people faced the wrath of the animals, mostly Jumbos in different parts of Assam (*The Times of India*, 2013). A report by the National Crime Records Bureau highlighted that the gravity of the problem as the state stood second in the country in the category of killings by animals between 2009-2011. Further 130 leopards were killed in different parts of upper Assam in between 2001-2013, 90 per cent of them killed by people mostly due to killing of domesticated animals and for self protection (*The Sentinel*, 2013). Though the forest department has imposed a ban, the fringe area people are habituated in using forest products, more particularly firewood, fodder and house building material for self subsistence and income generation. They agreed that because of their vicinity to the sanctuary transport and communication systems have

developed and they have been exposed to environmental and conservation issues. Their society witnessed social changes in terms of hygiene and sanitation, strengthening of the traditional haat or markets, gaining employment under the tourism and forest departments. Keeping all these in view the present paper has envisaged to explore the challenges and opportunities of wild life sanctuary fringe people of Assam.

METHODOLOGY

The present study was conducted in the fringe villages of Pobitora Wildlife Sanctuary, located in the Morigaon district of Assam. The study was initiated to understand the dependence of the fringe area dwellers in the forest resources, which help them, survive and accept the vagaries caused by wild life. It also aimed at assessing the benefits by being near the sanctuary, constraints faced by them in pursuing a livelihood and their expectations from the Govt departments in solving their problems. Ten accessible fringe villages were identified and 10 respondents were selected randomly from each of the village, making the total sample size 100. In order to assess the benefits obtained and constraints faced in pursuing a livelihood, a list incorporating all possible benefits and constraints was sorted out with the help of available data and focussed group discussion with purposively selected members. Based on this information an interview schedule was developed. The respondents were asked to indicate whether they agree or disagree with the benefits cited in the schedule and to pinpoint the problems which they consider as not serious (0), serious (1) and very serious (2). Based on the scores assigned to the responses and the mean scores obtained by the respondents the ranking of the constraints were done. Responses to the socio-economic variables were obtained by direct questioning. Open-ended questions were asked to the respondents in order to assess their expectation from the Government in curtaining their problems. The data were collected through personal interview and documentation works were done in the year 2011-12. The collected data were analysed using

Table 1. Socio-economic profile of the villagers of fringe villages of Pobitora wildlife sanctuary

Variable	Category	No.(%)	Range	Mean
Age	Young (≤ 35)	33(33.00)	22-74	43.44
	Middle(36-49)	39(39.00)		
	Elder (≥ 50)	28(28.00)		
Sex	Female	26(26.00)		
	Male	74(74.00)		
Caste	OBC	42(42.00)		
	General	53(53.00)		
	SC	5(05.00)		
Education	Illiterate	28(28.00)		
	Primary	31(31.00)		
	High school	24(24.00)		
	Matriculate	11(11.00)		
	Under graduate	03(03.00)		
	PG and above	03(03.00)		
Herd size	Small (≤ 4)	38(38.00)	1-25	7.27
	Medium (5-10)	40(40.00)		
	Large (≥ 11)	12(12.00)		
Occupation	Agriculture and livestock	62(62.00)		
	Service	14(14.00)		
	Business	06(06.00)		
	Others	18(18.00)		
Income from livestock (Rs.)	Low(≤ 500)	42(42.00)	200-2500	1532
	Medium (501-1500)	38(38.00)		
	High (≥ 1500)	20(20.00)		
Income from other sources (Rs.)	Low(≤ 2500)	30(30.00)	500-13000	6927
	Medium (2501-7800)	57(57.00)		
	High (≤ 7801)	13(13.00)		
Land holdings	Landless	28(28.00)	0-35	9.16
	(0-3 bighas),			
	Marginal (4-8 bighas),	35(35.00)		
	Small (9-15bighas).	20(20.00)		
	Large (>15 bighas)	17(17.00)		

simple statistical methods like frequency, mean, rank analysis etc.

RESULTS AND DISCUSSION

Socio-economic profile : Socio-economic profile of the villagers of fringe villages of Pobitora wildlife sanctuary is presented in Table 1. In the present study majority of the respondents were middle aged male members, belonging to the general caste, who are illiterate or had very low formal education. Majority of them practised agriculture and livestock farming as their

primary occupation and possessed on an average 0-35 bighas of land while maintaining an average animal herd of 1-25 animals. Again majority of them had medium level of income per month from livestock as well as other sources like agriculture, working as labourer etc.

Benefits and constraints faced : Majority of the respondents (82%) expressed that they feel good for being in the fringe villages of a famous Wild life Sanctuary. Though the forest department has imposed a ban they are habituated in using forest resources more particularly firewood, fodder and house building material for self subsistence and income generation as shown in Table 2. A study on forest dwellers by *Singh et. al.* (2010) revealed that the contribution of NTFPs (Non Timber Forest Products) is quite high as it contributes almost 79 per cent of the annual income of the collectors' family, collecting firewood, prawn, fishes, crab, honey, bee wax. The respondents of the present study agreed that because of their vicinity to the sanctuary, transport and communication systems have developed and they have been exposed to environmental and conservation issues. Their society witnessed social changes in terms of hygiene and sanitation, strengthening of the traditional

Table 2. Benefits obtained by the respondents as fringe area dwellers of the sanctuary

Benefits	Agree	Disagree
Allow animals to graze in the nearby forest	85 (85.00)	15 (15.00)
Collect firewood for domestic cooking purposes	92 (92.00)	08 (08.00)
Fishing in the buffer area	49 (49.00)	51 (51.00)
Extra income from sale of forest resources like straw, edible herbs and other house building materials	42 (42.00)	58 (58.00)
Strengthening of traditional haat/Bazaar and weekly market due to more influx of tourists	45 (45.00)	55 (55.00)
Employment under the Forest Department and Tourism Sector	12 (12.00)	88 (88.00)
Development in Transport and communication systems	67 (67.00)	33 (33.00)
Increased environmental and conservation awareness	51 (51.00)	49 (49.00)
Getting exposed to social change in terms of hygiene and sanitation	33 (33.00)	67 (67.00)

Data within parenthesis indicate percentages.

haat or markets due to gradually increasing number of tourists every year and some of them even gaining employment under the tourism and forest departments.

However, majority of them (86%) cited that the havoc created by wild animals is far more destructive than the benefits obtained by residing near the sanctuary. It is a major problem that their cultivated crops, particularly paddy, are often destroyed by rhinos and buffaloes causing great economic loss. When domesticated animals, like goat, cattle and poultry birds, fall prey to the wild animals their economy gets further disturbed. Sometimes their houses are also damaged by wild boars and buffaloes. Situation becomes grave when attack by wild animal results in human casualty. *Wild life Conservation Society (2007)* in a preliminary review about the livelihoods and protected areas in the Ruaha landscape in central Tanzania reported that the costs of living near a protected area include livestock depredation by carnivores, crop raiding by elephant and hippo, and the potential for disease transmission between wildlife/livestock/human interfaces. In order to understand the seriousness of the constraints in the survival strategy and livelihood of the fringe area dwellers of Pobitora Sanctuary, they were ranked. Attack by wild animals resulting in human casualty was adjudged to occupy the topmost rank, followed by crop damaged by large wild animals like rhinoceroses and buffaloes in the second and houses damaged by large animals in the third rank. Thus, the human animal conflict resulted in many fold loss to the people as shown in Table 3.

Table 3. Constraints faced by the respondents as fringe area dwellers of the sanctuary

Constraints	NS	S	VS	MS	Rank
Crop damaged by large wild animals like rhinoceroses and buffaloes	02 (02.0)	24 (24.0)	74 (74.0)	1.84	II
Domesticated animals killed by large carnivores	02 (02.0)	88 (88.0)	10 (10.0)	1.08	IV
Houses damaged by large animals	07 (07.0)	71 (71.0)	23 (23.0)	1.17	III
Human casualty	0 (00.00)	4 (04.0)	96 (96.0)	1.96	I

NS-not serious, S- serious, VS- very serious. Data within parenthesis indicate percentages. MS- Mean score

Regarding their expectations from the forest department and conservation authority, 66% of the respondents expressed that there should be proper demarcation of the sanctuary boundary to prevent entry of villagers into the sanctuary by mistake and construction of concrete wall or electric fencing to prevent wild animals from gaining easy access to the villages. Another 33 per cent opined that creation of high embankments for animals in flood prone parts of the sanctuary is essential in order to safeguard them during floods and preventing them from entering into the villages. Besides this, they expressed that the forest and sanctuary authority should be more prompt in action whenever reported of any vulnerable situations. Since day by day the conservation activists are giving more emphasis on preserving the forest resources with manifold impacts including reduction in human animal conflict, the respondents expressed that alternative livelihood means should be provided to them so that their dependency on the forest for daily necessities reduces. The ways of income diversification was indicated as exposing them to micro-credit facilities specially women, involving the people community forestry, ecotourism and allied activities etc.

CONCLUSION

In the present study it could be concluded that

despite restrictions imposed by the Govt. the people in the fringe villages of Pobitora Wildlife Sanctuary habitually collected fodder, firewood and house building materials from the forest areas and continued grazing their animals and fishing in the buffer zone. The increasing number of man animal conflict in the area is a major concern to the villagers which outweighs the benefits received by them by being near to the Sanctuary. They believed degradation of habitat and overuse of forests to be the major reasons for the rising number of human animal conflicts. Their dependency in the forest areas increases due to natural calamities as well as their poor economic state. High vulnerability of livelihood was observed in all situations. Therefore while taking up issues of protected areas and framing policies; the role of forests in the livelihood of fringe area inhabitants must be taken into consideration so as to protect their basic needs. A budding eagerness could be felt among the respondents for adopting alternative livelihood means so that their dependency on the forest for daily necessities reduces. Development efforts designed in the areas of community forestry and ecotourism involving the local people may prove to be beneficial in providing them alternative sources of income.

Paper received on : December 28, 2013

Accepted on : February 02, 2014

REFERENCES

- Singh, A.; Bhattacharya, P.; Vyas, P. and Roy, S. (2010). Contribution of NTFFPs in the livelihood of Mangrove forest dwellers of Sundarban. *J. of Human Ecology*. **29** (3):191-200
- The Sentinel (2013). Incidents if man – animal conflict rising in Assam. 17th March, 2013. Available at <http://www.sentinelassam.com/mainnews/story.php?sec=1&subsec=0&id=153079&dtP=2013-03-18&ppr=1>.
- The Times of India (2013). Man-animal conflict: Assam 2nd in killings by animals, NCRB report says. 4th March, 2013. Available at http://articles.timesofindia.indiatimes.com/2013-03-04/flora-fauna/37436216_1_man-animal-conflict-elephant-calf-elephant-census.
- Wild life Conservation Society (2007). Protected areas and human livelihoods- Edited by Kent H. Redford and Eva Fearn .Working paper no. 32.

• • • • •