Proc. Nat .Sem. Biodiversity of North East India and Its Future Concern, February, 2010; pp 187-192

Community participation: A tool for conservation of freshwater turtles in the river Brahmaputra, Assam

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ABSTRACT

At the conjunction of the Himalayan and Indo-Burma biodiversity hotspots, the northeast India has been poorly explored scientifically with regard to conservation and monitoring of turtle fauna. This present study was carried out in the river Brahmaputra to sensitize and educate people about the significance of chelonian presence and their conservation and to start a participatory endangered turtle conservation programme. Under the Turtle Survival Alliance Range Country Programme-India and with financial support from the Rufford Small Grant for Nature Conservation, the turtle conservation programme in Assam has been initiated with Conservation education, local awareness programmes and Community participation around different wetlands and in the riverine chars of Brahmaputra**.** The *in-situ* egg-protection program has been started with the participation of local communities. Field survey is being carried out in different parts of Assam. The riparian communities are being interviewed and a series of group discussions were carried out to note their view point for preparing and implementing conservation strategies. Immediate adoption of conservation measures is essential for the conservation of endangered turtle species. As a part of the conservation of turtle diversity, the paper has emphasized on the participatory conservation initiatives with further research on alternative means of livelihoods of rural communities.

Key word: Awareness; Conservation; *In-situ*; Riparian community

INTRODUCTION

The Northeastern region of India falls within the Indo-Burma Biodiversity Hotspot has been poorly explored scientifically with regard to surveys, conservation and monitoring of turtle fauna. The islands (Chars) of the river Brahmaputra host many species of turtles including endangered *Pangshura sylhetensis, Chitra indica* and *Nilssonia nigricans*, one of the 25 most endangered turtle species of the world. The present project seeks to sensitize and educate people about the significance of chelonian presence and their conservation and to start a participatory endangered turtle species conservation programme. This study will be helpful in initiating efforts for the conservation of the chelonian species in this region.

Under the Turtle Survival Alliance (TSA) Range Country Programme – India and with support from the Rufford Small Grants Foundation, the turtle conservation programme in Assam has been initiated with conservation education, local awareness programmes and community participation in wetland and river areas including in-situ egg protection**.** The entire field activities are beginning in Assam, as outlined in the *Conservation Action Plan for Endangered Turtles and Tortoises of India* drafted in 2006 during a meeting in Lucknow supported by TSA and Conservation International (CFH/MCBT 2006), and are being attempted for most of the endangered turtle species.

MATERIALS AND METHODS:

Survey: The surveys for turtle habitats were conducted by the team members on trails guided by knowledgeable local guides, and using questionnaires and photo sheets. Observations were recorded in a data sheet and all relevant information was recorded. For identification of the species, Das (1995) was followed. Poachers, traders and collectors were interviewed to learn more about their distribution, habitat and extent of exploitation.

Community Awareness: Awareness campaigns are being carried out among the riparian communities, school childrens in different places of Assam. Oral and poster/brochure presentations are also conducted among the communities of the. A series of group discussions were carried out with local people and their acceptable view point has been taken into consideration for preparing and implementing future conservation strategies.

Participatory In situ conservation & egg protection: Various sections of the Brahmaputra River in Assam were rapidly surveyed during April 2006 to December 2009, to select locations for evidence of turtle such as tracks, holes, nests, predated eggs, and the presence of turtles. The nest searching was conducted between 0600 to 0900 hr and 1600 to 1800 hr each day. Fishing nets and a thorn brush barrier were used to fence and

to protect the eggs for successful hatching. Local people are being motivated towards the protection of turtles and their nesting habitats.

OBSERVATIONS:

The study shows that every year during the period from the 1st week of October to the 1st week of February, a huge number of turtle eggs are collected by the inhabitants of the islands (Chars) of the river Brahmaputra and sold in the local market. The killing of adult female freshwater turtles and incidental catch of breeding adults has created pressure on the freshwater turtle populations.

ONGOING TURTLE CONSERVATION EFFORTS

A. Fieldwork

The field survey is being carried out in different parts of Assam. A study has been conducted on the present status and distribution of *Pangshura sylhetensis* in the wetlands and rivers of Darrang, Sonitpur and Udalguri districts of Assam.

B. Awareness Programme

Awareness campaigns are being conducted among the riparian communities in different parts of Assam. More than 5 workshops have been organized.

World Environment Day Celebration 5th June 2009

A series of events were organized to mark the World Environment Day under the auspices of Centre for Wildlife Research and Conservation Action (CWRCA), Zoology Department, Gauhati University, Assam with the support of Rufford Small Grants Foundation in collaboration with Turtle Survival Alliance India Programme, BIOiLLUMINA and Assam Forest Department. The activities included a popular talk series on conservation biology among the predominate tribal populations of the Chandubi Beel area, and an environmental awareness programme targeting students and fishing communities (300+) in the Rajapara M.V. School of Assam (Kamrup District). Also, a popular talk on turtles and their importance in the environment and a painting competition with the school children (34) were organized. The main objective of the programme was to create awareness regarding the role of turtles and other aquatic diversity of Assam with special reference to the Chandubi Beel ecosystem. An attempt has also been made to sensitize the participants to various threats to the health of those ecosystems. The chief guest delivered a valuable speech on water resources and their role in biodiversity. The news appeared in the regional esteemed daily, the *Telegraph* on 9th June 2009.

C. Database and awareness materials developed

We have developed software for exploring the turtle and tortoise diversity of north-east India. A scientific communication was published in the *Turtle and Tortoise Newsletter* (Baruah and Sharma, 2009). This new software is designed to further the understanding of status, distribution patterns, molecular information etc., and will be of great value in determining taxonomic relationships among these turtle species and to fulfill the need for a better identification system to enforce the protection regimes for turtle biodiversity. A poster and brochure are being designed to educate communities. We are in the process of motivating the local community against this practice of sacrificing turtles due to superstitious beliefs (Baruah and Borah, 2009).

D. ***Rescue and Release of Endangered Freshwater Turtles***

We have also rescued *Chitra indica* and *Pangshura sylhetensis* from the local markets and released all of them into the Brahmaputra River.

E. In-situ egg protection program

The in-situ egg protection programme has started with the participation of local communities. The nests of *Nilssonia nigricans*, along with the nests of three species of Pangshura, containing a total of 321 eggs have been protected and are being incubated in their natural habitat. A large number of poachers are collecting turtle eggs and trying to sell in the local markets. Fortunately, we have already rescued some of the eggs and transferred them to the natural riverine char (island) habitat. The egg protection programme is gradually getting a good response from the local communities. To protect the eggs, we are preparing the net fencing as well as employing local field assistants. Suggestions are being accepted from the experts for successful hatching of all the eggs in the natural habitat.

F. ***community participation program***

Awareness raising and capacity building programs are initiated among the riparian community in and around the *in-situ* egg-protection sites. The acceptable suggestions of the local people are being taken into consideration for egg protection and conservation network development.

CONCLUSION

This turtle conservation efforts made under the present study will help in the evaluation of habitat patterns, and current threats facing *Pangshura sylhetensis, Nilssonia nigricans and Chitra indica* along with other turtle species in the Char areas of river Brahmaputra in Assam which will be helpful in initiating efforts for

the conservation of the chelonian species in this region. The conservation education programmes highlighting the possible conservation aspects will be helpful to plan for sustainable improvement of livelihoods without disturbing the species. Awareness creation among the public will help to save the turtle populations from overexploitation and habitat loss. The community participatory programme also aim increase the level of awareness among the youth for the conservation of biodiversity resources in our country. Further information to be generated under these ongoing efforts may be used not only to formulate conservation strategies but also to provide information on their distribution range and boundaries. More information on the present study is available at http://www.ruffordsmallgrants.org/ .

ACKNOWLEDGEMENTS:

The authors are thankful to the Rufford Small Grant's Foundation for financial assistance. The first author is thankful to the Assam Forest Department, for providing necessary permission; Dr. Shailendra Singh, Director-TSA India program and Dr. Kartik Shanker, Centre for Ecological Sciences, IISc Bangalore, for technical supports.

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