



General awareness and Perceptions about Sacred Groves and Biodiversity Conservation in Urban people of Bankura District, West Bengal, India

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Abstract

This paper describes the results of a survey to find out the general awareness and perception of sacred groves and its role on biodiversity conservation between urban people of Bankura District. The result shows that only 57% of all respondents are familiar with the term biodiversity and 40 % are familiar with the term sacred groves but 56% are familiar with both the terms and 44% are not familiar with both of these terms. In our study a significant difference among different age groups observed in familiarity with the awareness of biodiversity conservation. Similarly perception and awareness increases with the educational level of respondents. When respondents were asked spontaneously to name one environmental problem then, 47% of all respondents mentioned pollution as the major environmental problems but very few were aware about ozone layer depletion, biodiversity degradation or other problems. Similarly television and news paper are the prime medium through which urban people know about the importance of biodiversity conservation and sacred groves. For successful preparation of conservation strategy, community participation is much more needed because local communities in many parts of the world play very important role for protection and conservation of biodiversity. For this reason a holistic understanding of the recent status, regarding general awareness and perceptions about sacred groves and biodiversity conservation among urban people of Bankura district is essential.

Keywords: Sacred groves, Biodiversity conservation, Age groups, Community, Pollution, Urban.

Introduction

Bankura district is situated in the western part of the state of West Bengal. It covers an area of 6,882 km². The District is bounded by 22°38' and 23°38' N latitude and 86°36' E to 87°47' E longitude. It is surrounded by Burdwan in the north, Purulia in the west, Hoogly in the south east and Paschim Medinapure in the south. As per 2011 census Bankura had a population of 3,596,674 individuals of which males were 51.10% and females were 48.90% respectively. 91.67% population of this district lives in rural villages and only 8.33 % lives in urban areas of this districts. Average literacy rate of the District are 70.26% where as in urban area it is 84.42% and in rural area it is 68.93%.

Global climate change, tropical deforestation, and the loss of biodiversity are seen as today's major environmental problems¹. Rapid human growth and activities are reducing biodiversity of natural systems at dramatic rates and these changes are often irreversible. In rural tribal area of Bankura district hunting is one of the major threats to biodiversity loss and decline of wildlife populations. Poaching threatens not only wildlife, but sometimes local fish and plant populations also. For protection of biodiversity many laws have been implemented like "The Biological Diversity Act 2002" enacted by the Govt. of India. Biodiversity conservation practices are as diverse as the world's cultural diversity. Indigenous knowledge of local plants, animals, their habitat preferences, distribution, life histories, and demographic features, is socially transmitted from one

individual to another within and across generations². Besides various laws, local communities in many parts of the world play very important role in protection and conservation of biodiversity. One of such indigenous practice is the protection through sacred groves. These are patches of virgin forest which are left undisturbed and protected by local inhabitants in the name of religious and cultural beliefs and taboos that the local deities or ancestral spirits resides in them³. Every country is putting stress on sustainable development in present scenario. To achieve such sustainable development peoples participation is necessary⁴. Sacred groves provide an important link between present society with the past in terms of religious, culture, and ethnic heritage. It also gives very important role in promoting sustainable use and conservation of flora and fauna of that particular region.

India has the highest concentration of sacred groves is the world: estimated to be over 100,000 sacred groves⁵. Yet these are disappearing due to cultural change and pressure to use the natural resources that they contain. In India most of the sacred groves are reported in the North Eastern India, Western Ghats, and Central India⁶⁻⁸. In Purulia district of West Bengal reported a sacred grove spread over 72,681m² areas and harboring 106 species⁹. Similarly from the Bankura district of West Bengal, 10 important sacred groves of Santhals have been reported¹⁰. The tribes of south-western districts of West Bengal – Bankura, Purulia and Midnapore are known to have sacred groves. The groves among the Santals are called 'Jaher'. The tutelary deities Marang Buru and Marang Buri are believed to reside in the

'Jaher'. From Bishnupur block of Bankura district of West Bengal 132 sacred grove have been reported¹¹. 26 important sacred groves from the Bankura district of West Bengal and also 42 sacred groves of the scheduled tribes of Purulia district during the years 1998-2000 and in 45 sacred groves of the tribes of Bankura district during the years 2006-2010 are also reported¹².

An ideal society means the society which has the environmental awareness¹³. So for successful implementation of conservation strategy, society members' participation is very much required. Because local communities in many parts of the world play an important role for conservation and protection of biodiversity. For this reason an approach was made to understand the levels of general awareness and perception among urban people of Bankura district.

Study Area: The administrative headquarters of the District, and Municipal town of Bankura is located centrally within the district Bankura (figure-1). The geographical location of Bankura town is 87°-3'-36" E Longitude and 23°-14'-24" N Latitude. Total area of the town is 19.06 Sq. km consisting of 23 wards. Climate of this region is Tropical, Dry and Sub-humid. The town is bounded by the rivers, Dwarakeswar and Gandheswari on the northern and southern sides respectively. According to 2011 census Population of the town is 138,036 of which males and females are 70,734 and 67,302 respectively. Average literacy rate of Bankura town is 87.27% of which male and female literacy rate is 92.40 % and 81.88%.

Material and Methods

For proper understanding of general awareness and perceptions of sacred groves and biodiversity conservation in urban people of Bankura district, West Bengal, in depth interviews were

conducted. Randomly selected inhabitants of Bankura town were asked from October 2013 to February 2014 about their perception and attitudes towards sacred groves and biodiversity with the help of a written questionnaire. Only adults of varying age and sex were selected because some of the questions were too difficult to answer for younger people. Before answering all the questions are clearly discussed with the respondents to avoid error. People were approached from different municipal wards of the town and also tried to question people in their leisure time who are not stressed and willing to take their time for answering all the questions. Filling in the questionnaire took between 20 to 30 minutes time each. As in the interviews, questions are asked regarding main environmental problem known by the community. They were again asked if they were familiar with the term sacred groves and biodiversity, if so, and then specify their sources of information. Study participants were additionally asked to define the term biodiversity and sacred groves and to discuss its importance. They were again asked to know about any official and personal measures for protection biodiversity. Finally they were asked is there any human impact on sacred groves and biodiversity. All the collected data were kept in College; statistical analysis of the data was performed using the computer software MS EXCEL 2007.

Results and Discussion

Among total respondents, 67% were male and 33% were female. Only 57% urban peoples of Bankura district were familiar with the term biodiversity and 40 % were familiar with the term sacred groves but 56% were familiar with both the terms and 44% were not familiar with both the terms. Among males 55% known the term biodiversity and 44% known the term sacred groves and in females it was 59% and 32% respectively.

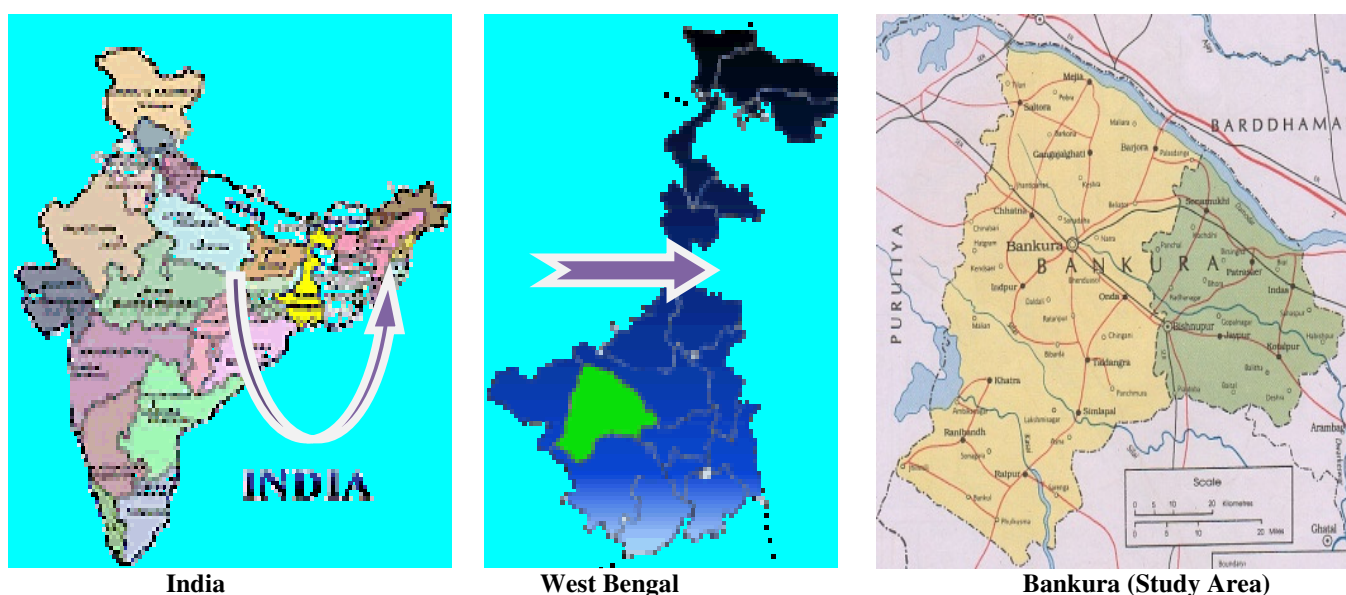


Figure-1

Location of Bankura District (study area) within West Bengal, India (Green shaded area indicating Bankura District, WB)

These results clearly suggest that, despite many governmental, nongovernmental and media initiation most of the general public has a poor awareness about biodiversity and importance of sacred groves. Therefore they are probably unaware about the importance of protecting it. This type of observation among Japanese people also reported¹⁴. If respondents were categorized by different age groups and familiarity then it was observed that highest familiarity observed among 18-25 year-olds age group and it decreases with older age groups (figure-2). We are pleased to know that now a day's younger age group of urban people of Bankura district is much aware about the importance of biodiversity conservation. From our survey it was observed that perception about biodiversity conservation and sacred groves increases with increase of educational levels of respondent (figure-3). Similar type of report has been found from Costa Ricans that a limited awareness of environmental and population-related issues and environmental knowledge tend to vary with level of education¹⁵. Climate change is also a developmental issue of major concern for a developing country like India¹⁶. When respondents were asked spontaneously to name one environmental problems then, 47% respondents mentioned environmental pollution most frequently (figure-4) but very few were aware about ozone layer depletion or biodiversity degradation. Television and news paper are the important medium for generating awareness among urban people about biodiversity conservation and sacred groves but other medium have less impact on creating awareness (figure-5). For studying human impact on sacred groves and biodiversity, 28% respondent believes that change in people's attitude and socio-cultural practices are the main reason for degradation of biodiversity and sacred groves. Rest respondents believe that habitat degradation, forest fragmentation, exploitation of natural resources are other direct human impacts

on biodiversity degradation (figure-6). So due to urbanization and industrialization, disappearance of traditional values and natural resources, peoples attitude and socio-cultural practices rapidly changes which mostly degrade many sacred groves. Sacred groves play an important role in the esthetic life of rural people of Purulia and Midnapore which indirectly helps in biodiversity conservation^{17,18}.

Conclusion

Our prime objective for doing this type of survey was to determine the general awareness and perceptions about sacred groves and biodiversity conservation in urban people of Bankura district, West Bengal. General peoples understanding and participation in environmental issues is critical for the success of conservation efforts¹³. So for better sustainable development and for better conservation effort indigenous knowledge for biodiversity conservation² are very much needed. Environment impact assessment (EIA) is necessary to assess whether a proposed project have any impact on natural environment or not¹⁹. So media, governmental and nongovernmental organization must come forward to engage local people especially young generation so that successful conservation strategy can be made. If local people's awareness and perceptions about sacred groves and biodiversity conservation increases through training and various programmes by the help of government and non-government agencies and indigenous knowledge are properly documented only then local floral and faunal resources may be properly conserved for near future. Change in the human attitude towards environment and biodiversity will help to preserve them and to meet the need for future²⁰.

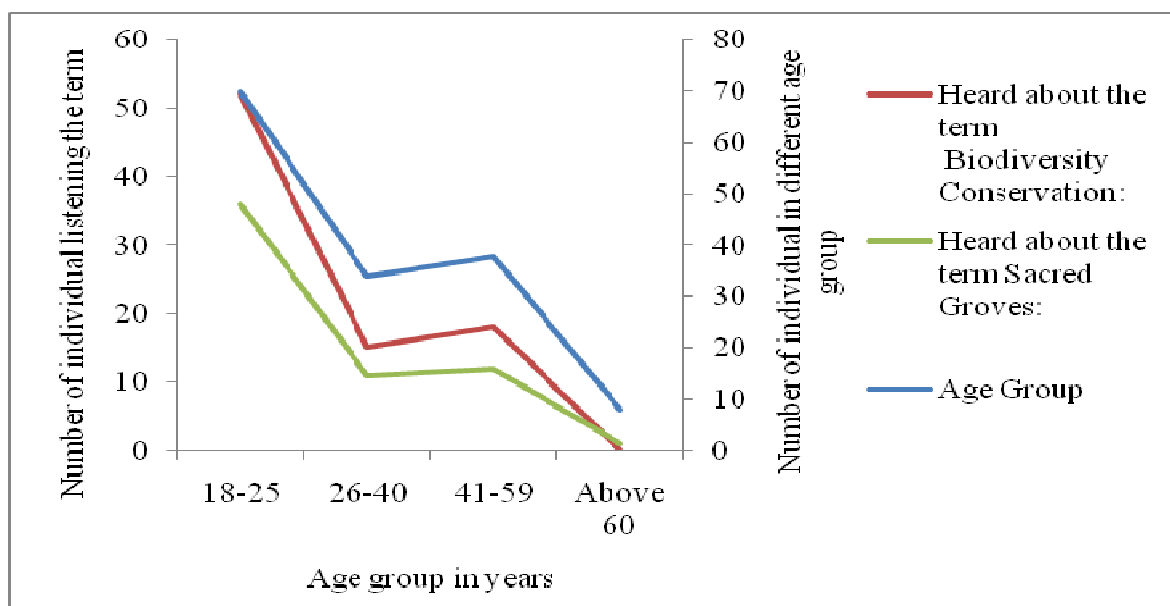


Figure-2
 Comparison of listening the term Biodiversity and Sacred Groves in different age group

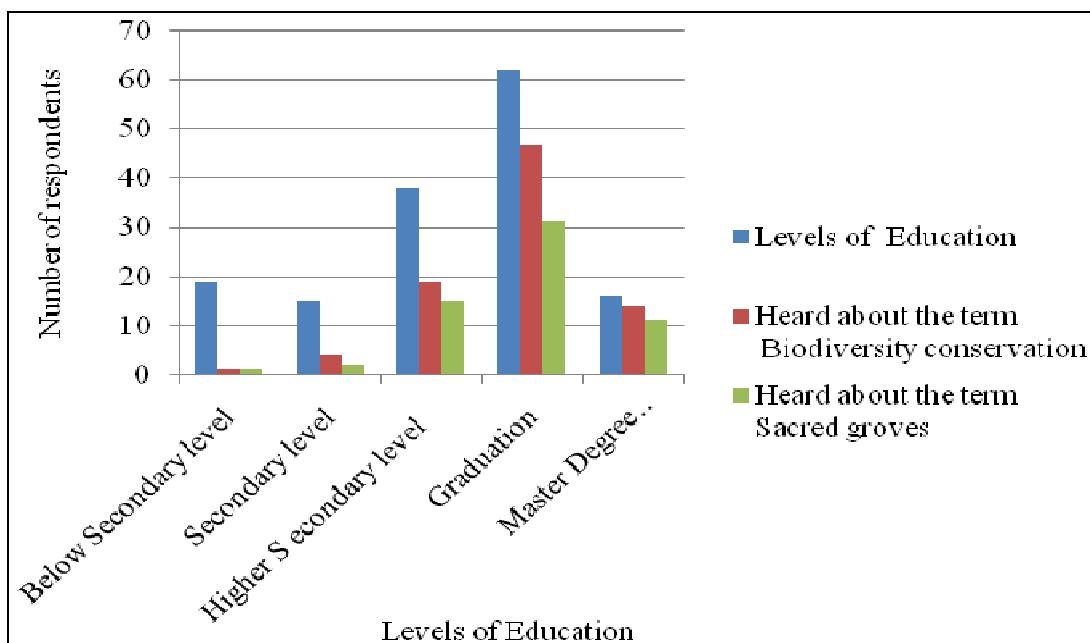


Figure-3
 Comparison with Educational level and General Awareness about Biodiversity and Sacred Groves

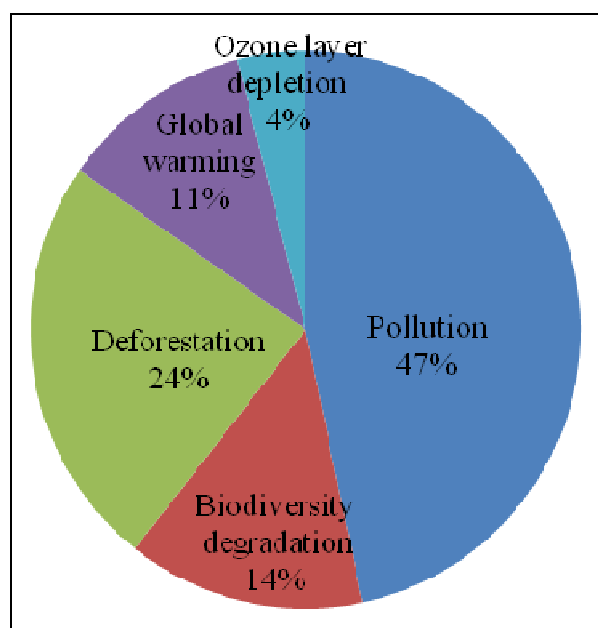


Figure-4
 Major Environmental Problem detect by the Respondents

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References

1. UNEP/CBD/COP/8/14 (2006), Global initiative on communication, education and public awareness, Conference of the Parties to the Convention on Biological Diversity, 8th meeting Curitiba, Brazil, (20-31 March 2006)

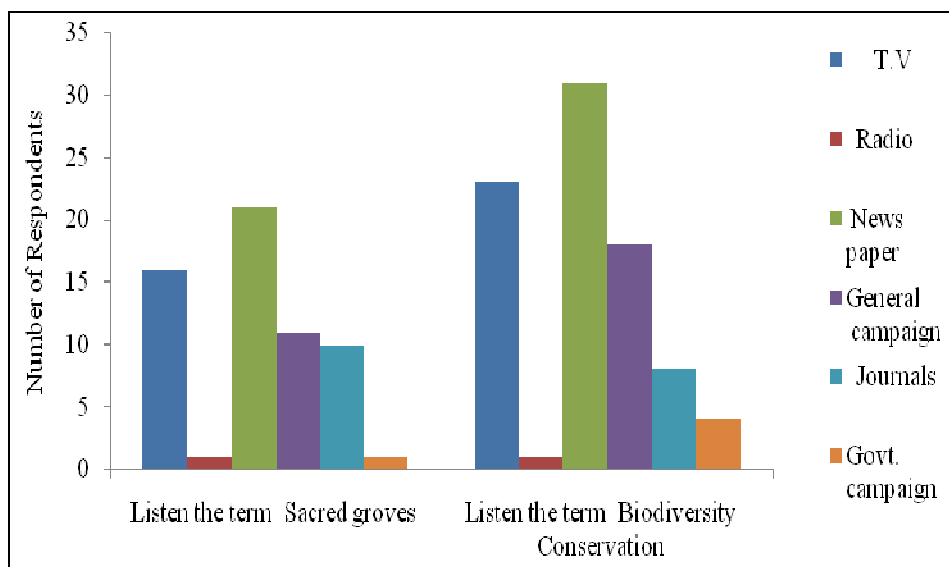


Figure-5
 Different medium creating awareness among urban peoples

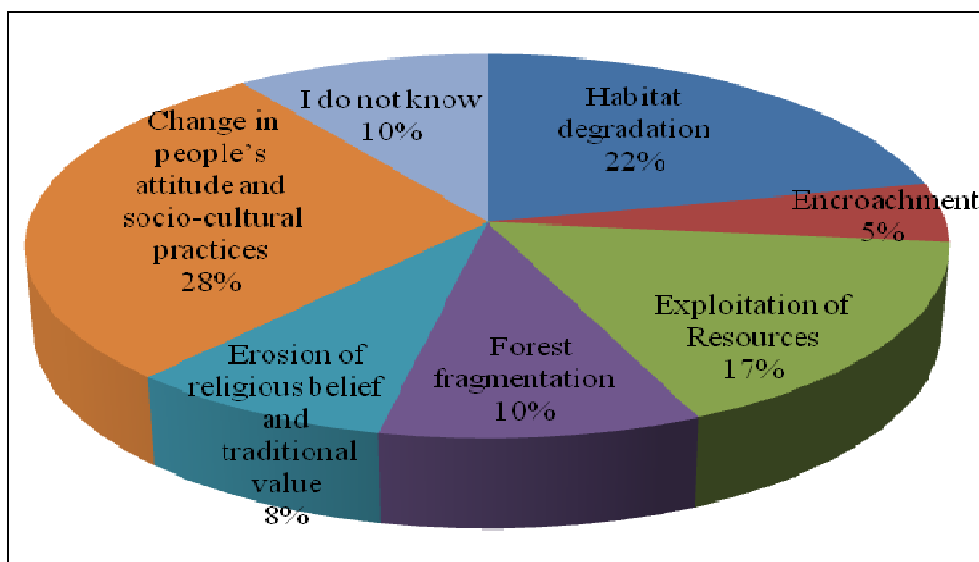


Figure-6
 Human impact on Biodiversity and Sacred groves

2. Gadgil M., Berkes F. and Folke C., Indigenous Knowledge for biodiversity conservation, *Ambio XII*, (2-3), 266-270 (1993)
3. Malhotra K.C., Deb D., History of Deforestation and Regeneration/Plantation in Midnapore District of West Bengal, India, In: Roy, Chatterjee S.B., Yadav M.G., Mukherjee G.R., (Eds), Policy to Practice of Joint Forest Management, Indian Institute of Bio-Social Research and Development (IBRAD), New Delhi, (1998)
4. Sharma R., Aggarwal N. and Kumar S., Ecological Sustainability in India through the Ages, *Int. Res. J. Environment Sci.*, 3(1), 70-73 (2014)
5. Malhotra K.C., Gokhale Y., Chatterjee S. and Srivastava S., Sacred groves in India, New Delhi : Aryan Books International, (2007)
6. Gadgil M. and Vartak V.D., Sacred groves in Western Ghats in India, *Economic Botany*, 30, 152-60 (1976)
7. Roy Burman J.J., The institution of sacred grove, *Journal of Indian Anthropological Society*, 27, 219-238 (1992)
8. Roger A., Ecological change and future of the human species : can physicians make a difference, *Animals of Family Medicine*, 3, 173-176 (2005)

9. Basu R., Studies on sacred groves and taboos in Purulia district of West Bengal, *Indian Forester*, **126(12)**, 1309-1318 (2000)
10. Panda D., Kumar P.P. and Das A.P., Ten important sacred groves of Santhals in the Bankura districts of West Bengal, India, Abstract, XIII Annual Conference of Indian Association for Angiosperm Taxonomy, and International Symposium on Plant Taxonomy : Advances and Relevance (November 14-15), 72 (2003)
11. Deb D., Sacred ecosystems of West Bengal, In : A K Ghosh (ed), Status of Environment in West Bengal : A Citizens' Report, ACB Publications, Kolkata, (2007)
12. Basu R., Biodiversity and ethno botany of sacred groves in Bankura District, West Bengal, *Indian Forester*, **135(6)**, 765-778 (2009)
13. Saheb S.U., Seshaiiah S. and Viswanath B., Environment and Their Legal Issues in India, *Int. Res. J. Environment Sci.*, **1(3)**, 44-51 (2012)
14. Kellert S.R., Japanese Perceptions of Wildlife, *Conservation Biology*, **5(3)**, 297-308 (1991)
15. Holl K.D., Daily G.C. and Ehrlich P.R., Knowledge and Perceptions in Costa Rica Regarding Environment, Population, and Biodiversity Issues, *Conservation Biology*, **9(6)**, 1548-1558 (1995)
16. Sugirtharan M. and Venuthasan T., Farmer's awareness on climate change related issues at some irrigable areas of Batticaloa district, Sri Lanka, *Int. Res. J. Environment Sci*, **1(2)**, 29-32 (2012)
17. Pandit P.K., Role of sacred groves in Environmental Conservation in Purulia District Banabithi (July), 30-31 (2000)
18. Pandit P.K., Bhakat R.K., Conservation of Biodiversity and ethnic culture through sacred groves in Midnapur District, West Bengal, India, *Indian Forester*, **133(3)**, 323-344(2007)
19. Dutta A.B. and Sengupta I., Environmental Impact assessment and construction, *I. Res. J. Environmental Sci.*, **3(1)**, 53-61 (2014)
20. Dutta T K., Sou S.K., and Mondal R P., Current Status and Possible Causes of Reptile's Decline, *I. Res. J. Environmental Sci.*, **3(9)**, 75-79 (2014)