

# Conservation need for Eastern Hoolock Gibbon in Privately owned Landscapes through education and awareness

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Hoolock gibbon is the only ape found in India and is distributed in the northeastern states of India and two distinct species have been identified in the region viz., Eastern Hoolock Gibbon (*Hoolock leuconedys*) and Western Hoolock Gibbon (*Hoolock hoolock*). Eastern Hoolocks are restricted to the south of Dibang-Brahmaputra River System of India (Chetry and Chety, 2010). Gibbon habitat is highly fragmented in India in general and in Arunachal Pradesh in particular. The main threats to Eastern Hoolock in Arunachal Pradesh are habitat destruction and hunting. Moreover, the increasing concern of the species in Lower Dibang Valley district of Arunachal Pradesh is its occurrence in privately owned land. As local livelihood is dependent on agricultural activities in the species distribution range, it is of increasing concern to protect this ape species in the private land in the area (Lego, 2012). Although, various projects have been implemented on awareness and education of gibbon conservation, the pace of the forest area conservation is not ceased. In the last 25 years almost 50% of the forest cover in the unclassified state forest of Lower Dibang Valley district has been converted to other land use categories. Many studies shows that the reduction in forest canopy used for sleeping and feeding has also increases the incidents of exploiting resources near human habitat (Das et al. 2009).

These facts clearly necessitate the conservation education programme in the grass root level. Moreover, such education programme should incorporate all the three major keys viz. knowledge, attitude and behaviour change. In order to achieve more participation from community towards protecting *H. leuconedys* and its habitat, the knowledge level has to enhance. The biggest hurdle would be to make people convinced to conserve the species in their private land without any tangible benefits. Eco-tourism perspective is probably one thought to the process, though such programme has many a time proven to be highly overrated and need long term commitment to deliver. Therefore, there is a need of proper time-bound participatory conservation action plan with involvement of the key stakeholders. Long term socio-economic study has established that local people are not yet ready to invest their own resources to conserve the species. That, on the other hand also dependent on the socio-cultural aspects of the local inhabitants. Killing of Hoolock is forbidden in the *Mishmi* society, as per the oral mythology of *Idu-Mishmi* tribe, where hoolock gibbons are considered as their ancestor (Panor, 2011). Simultaneously, this articulates negative attitude towards conserving a species which they



**Fig 1. A male Eastern Hoolock Gibbon around human habitation in Horupahar area of Lower Dibang Valley district, Arunachal Pradesh. Photo: Kuladip Sarma**



**Fig 2. A ground walking gibbon in non-protected forest of Lower Dibang Valley district, Arunachal Pradesh. Photo: Kuladip Sarma**

believe as ill omen. Thus, the conservation education programme should also target the existing sacred forest patches as model 'Conserved area' and to move to education programme to motivate people to do the same in their own land, including an

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integrated conservation plan and conservation-oriented research in order to ensure the conservation of existing habitat (Fan *et al.* 2011).

Our previous study on the local people's perception particularly of land owners to measure the conservation effectiveness of *H. leuconedys* revealed that forest produce was the major resources that the respondents depends on accounting 38.46% responses (n = 35) followed by agriculture (31.87%, n= 29). The various livelihood options are significantly different among age classes (Kruskal-Wallis ANOVA;  $p < 0.05$ ). Although the dominated local tribe, *Idu Mishmi* do not hunt the species due to some prevailing cultural taboos related to gibbons, other tribe inhabiting the study area, particularly *Adi* community hunt the species for bush meat. The acceptance level of land owners towards this threatened ape is low (42.8%; n=39) as their priority is agricultural production for sustenance. Most of the respondents (63.7%; n=58) liked to call the attention of concern authority to transfer this population of gibbon to the nearest Protected Area for various reasons. The behavioural intentions of the land owners are driven by mainly two factors. Firstly, they believe gibbon encounter as ill omen which in turn may be the probable cause of the species' survival in the area. Secondly, more than half of the respondents (51.6%; n=47) want to switch their agriculture into economically profitable cash crops such as orange orchards, rubber plantation etc. However, as there is no report of crop raiding by this species, people's attitude towards the animal is positive showing maximum percentage of love (91.2%; n=83). People were found to be attracted towards the social behaviour of the species and its family living nature (78.0%; n=71). This study was carried out among 91 respondent of various age groups through semi structured questionnaire survey and key informant survey in 7 villages of Lower Dibang Valley district from 2013 to 2015 to gather information on willingness of the land owners to conserve the species (Unpublished document).

Thus, this result has clearly shown the need for conservation education programme to protect Eastern Hoolock Gibbon in Arunachal Pradesh. The involvement of community in the conservation programme of the species is utmost necessary as a significant portion of the species' population is outside Protected Area (Sarma *et al.* 2015). Moreover, the expansion of agricultural land and switching to cash crops in Lower Dibang Valley district of Arunachal Pradesh are the subjects directly relating to the local inhabitants. The alternative livelihood generation is one recommended strategy to mitigate this habitat conflict. The canopy linkages both in short term and long term can be introduced

in order to reduce the pressure on the *H. leuconedys* in the privately owned lands as majority of the fragmentation was due to the change in land use pattern. Nevertheless, from species ecological point of view, the canopy bridge experiment is yet to be standardized for Gibbons in particular.

#### Acknowledgement

The authors express their sincere thanks to the PCCF-Wildlife & Biodiversity, Dept. of Forest, Itanagar and DFO, Mehao Wildlife Division for giving permission to carry out this work. We are very much thankful to Ms. Cheryl Leonard and Dr. Meenakshi Nagendran of U.S. Fish & Wildlife Services for their generous support & encouragement. We would also like to thank the local villagers who shared the information and their views with us during the study.

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