

PROJECT BENEFICIARIES

Local village communities, state/local NGOs, youth and womenfolk are the primary beneficiaries of the project apart from the state Forest/Wildlife Departments. The project will create and build capacities in different domains through networking of knowledge institutions, NGOs engaged in research and conservation of threatened species in the IHR.

OBJECTIVES ENVISAGED UNDER THE STUDY

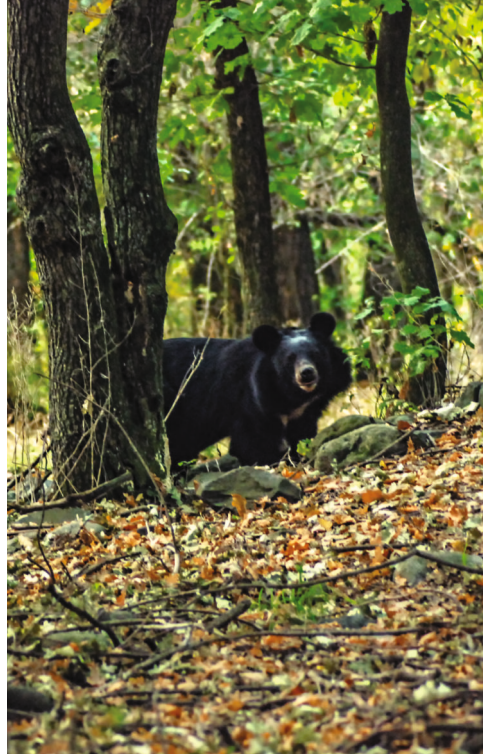
Following are the objectives for which different activities will be conducted during the period of three years 2018–2021.

To assess and monitor threatened vertebrate fauna in the Indian Himalayan Region and developing spatial database.

To study the population viability of selected threatened species in Indian Himalayan Region for developing long-term conservation strategies using population genetics tools.

To set long-term monitoring protocol for threatened vertebrate faunal groups in different parts of Indian Himalayan Region and to develop adaptive management strategies for long-term conservation of those species through community engagement.

To enhance capacities of different stakeholders (including Forest & Wildlife department staff, local Institutions/ colleges, local NGOs and local communities) for monitoring and conserving threatened vertebrate fauna in the Indian Himalayan Region through capacity building programs and use of modern science, technological tools and approaches. Investigating whether ethno-zoological knowledge and practices can be a conservation measure for threatened vertebrate fauna in IHR



EXPECTED IMPACTS OF THE PROJECT

Apart from being relevant to the primary aim of conserving threatened vertebrate species, this project would be relevant to Ministry of Environment, Forest, and Climate Change, Departments and Individuals dealing with Policy / Conservation Action Planners; State Forest /Wildlife Departments of the Himalayan States, State Biodiversity Boards, Wildlife NGOs, particularly those working on biodiversity conservation and capacity building issues. Capacity building and conservation education programmes for wildlife/ forest managers, frontline staff, local communities, NGOs, village youth aid in the preparation and implementation of wildlife management plans.

The Project outcomes will significantly contribute towards global commitments of India such as Convention on Biological Diversity, Sustainable Development Goal and United Nations Framework Convention on Climate Change. Moreover the project will directly addressing the National Biodiversity Targets and Strategic goals under Aichi Biodiversity Targets.



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CONSERVATION OF THREATENED VERTEBRATE FAUNA IN INDIAN HIMALAYAN REGION THROUGH LONG-TERM MONITORING AND CAPACITY BUILDING

A project under the large grant category of National Mission on Himalayan Studies (NMHS)

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The Mountain range of the Himalayas began with geological uplift after the Indian continent collided with the main land of Asia in the early Cenozoic era (Valdiya, 2002). Since then, these mountain ranges have been facing constant change. Collision created mountain ranges to split into five northern states of India i.e., Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Sikkim, Northern part of West Bengal and Arunachal Pradesh. These states are collectively known as Indian Himalayan Region (IHR). Biogeographically, the IHR is divided into three regions i.e. Western Himalayas (Jammu and Kashmir, Himachal Pradesh, Uttarakhand), Central Himalayas (Sikkim, Northern part of West Bengal) and Eastern Himalayas (Arunachal Pradesh). After the continental clash the complex geological processes, together with changed climate and edaphic factors boosted the colonization of the flora and fauna from the nearby regimes (Pandit, 2000). Through constant evolutionary changes in the geology and ecosystems today IHR is one of the most diverse endemic species rich hotspot areas of the world (Chatterjee, 1939; Nayar, 1996; Pandit et al, 2000). But over the last few decades IHR has experienced rapid land use change due to rapid human population growth, agriculture expansion, degradation of forested habitats and unsustainable tourism etc. (Pandit et al, 2006). A number of studies have documented and quantify the faunal richness, endangerment, and threats to the wild animals (Nayar and Sastry, 1987, 1988, 1990; Tikader, 1983; Ghosh, 1994, Roy and Behera, 2005; Pandit et al, 2006; Xu et al, 2009). However, no study has assessed and monitored the faunal groups, especially threatened for their long term conservation.

In the present scenario of erratic climatic variability with increase in frequency of extreme event the faunal groups are facing serious challenges. A number of studies have suggested that increased temperature is affecting the global ecosystems change by way of changing the community composition. A number of evidences are available which indicate that among all ecosystems the Himalayan ecosystem is highly vulnerable to such climatic changes. Furthermore, the extent of change predicted by modeling studies is indicating alarming trends such as populations of a number of species will severely decline and there will be a shift in their distribution ranges. Moreover, the species in transition zones of Himalaya landscape and are ecological specialists are more sensitive and vulnerable to climate change.

PROJECT AREA

The project envisaged to generate information on threatened vertebrate fauna of Himalayas, developing monitoring protocol for conservation of faunal groups and to enhance capacity of different stakeholders (forest department, local NGOs, local villagers) towards better conservation in five Indian States such as Himachal Pradesh, Uttarakhand, Sikkim and West Bengal (northern hill districts) and Arunachal Pradesh. A total of six pilot landscapes representing different biogeographic provinces have been selected in there five states. Six districts namely Lahaul & Spiti (Himachal Pradesh), Uttarkashi (Uttarakhand), East Sikkim (Sikkim), Darjeeling (West Bengal), North Kameng and East Stang (Arunachal Pradesh) will be explored for generating information on vertebrate fauna. The Project activities will be conducted through action research, active participation of the local community, and use of modern science and technological tools and approaches.

The loss of threatened fauna will definitely have a negative impact on the livelihood and survival of millions of people all along of Himalayas and further cascading trans-boundary consequences on all depended communities in the Indo-Gangetic plains. Hence, long term monitoring and scientific approaches for conservation of threatened vertebrate fauna of Himalaya; development of protocol for monitoring them in this fragile ecosystem and proper capacity building involving all stake holders is the need of the hour. Among the vertebrates about 45 mammals, 50 birds, 17 reptiles and 12 amphibians that are globally threatened harbors only the Eastern Himalayan hotspot region (CEPF, 2005).

Currently no proper database is present with all the threatened animal species residing the IHR. No significant monitoring protocol present to sustain their population naturally. In this context, Zoological Survey of India (ZSI), with over a century of years' experience in studying threatened fauna in Himalaya has been entrusted by National Mission on Himalayan Studies to assess the current status of threatened vertebrate fauna in different parts of the Indian Himalayan Region with a view to monitor and conserve them through action research and capacity building. As a pilot study, it has been envisaged to develop a geo-spatial database and standard protocols for long-term monitoring of threatened vertebrate fauna in different parts of IHR. For the long-term sustainability of the proposed monitoring programme it is important to enhance the capacity of the local stakeholders through training programmes and dissemination of knowledge through knowledge products in regional languages.

