Brown Bear Conservation Action Plan in Nepal: Efforts, Challenges and Achievements

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Abstract: Brown bear (Ursus arctos pruinosus) is commonly known as ‘Khairo Bhalu’ in Nepal. Locally, the brown bear is known as “Tingting” or “Deame” in the Gorkha area of Manasalu Conservation Area and “Mithe” in the Upper Mustang area of Annapurna Conservation Area. However, the Himalayan brown bear (U. a. isabellinus), a subspecies that represents an ancient lineage of the brown bear was distributed over the Greater Himalaya region. Conservation efforts have been hindered by the lack of information about its current status. Nepal has prepared conservation action plans for the Tiger (Panthera tigris tigris), One-horned rhinoceros (Rhinoceros unicornis), Snow leopard (Panthera uncia), Elephant (Elephas maximus) and Vultures (Gyps spp). Community-based conservation action plan attempts to garner public support by encouraging local communities to plan and implement the activities for the long-term conservation. The preparation of participatory brown bear conservation action plan is an important and systematic approach to safeguard the survival of this threatened species in Annapurna Conservation Area and its distribution range in Himalayas. Attempts were made to generate knowledge base on the species through various research and monitoring works in Annapurna and Manasalu Conservation Areas. Local communities from Mustang and Gorkha were actively involved in the field and during a workshop to frame these strategies and activities to conserve brown bear in natural habitat and developed a participatory conservation model brown bear conservation, however the paper has been explain the efforts, challenges and achievements in brown bear conservation and research in Nepal.

Key words: Brown bear • Nepal • Annapurna • Habitat overlap • Livestock • Bblue sheep

INTRODUCTION

Three bear species, the sloth bear (Melursus ursinus), Asiatic black bear (Ursus thibetanus) and the Tibetan brown bear (Ursus arctos pruinosus) are found in Nepal [1-2]. Brown bear is commonly known as ‘Khairo Bhalu’ in Nepal. Locally, the brown bear is known as “Tingting” or “Deame” in the Gorkha area of Manasalu Conservation Area and “Mithe” in the Upper Mustang area of Annapurna Conservation Area. The Himalayan brown bear (U. a. isabellinus), a subspecies that represents an ancient lineage of the brown bear was distributed over the Greater Himalaya region [3-4]. Conservation efforts have been hindered by the lack of information about its current status [5].

The bear populations in Nepal and Tibetan Autonomous Region of the People’s Republic of China (TAR) belong to a separate subspecies (U.a. pruinosus) not connected to the bear population in India (U.a. isabellinus) because of a gap in the distribution between western Nepal and India [6], therefore, Tibetan brown bear is distributed throughout the High mountain region of Nepal and into Tibet [7].

The National Park and Wildlife Conservation Act 2029 (Government of Nepal, 1982) prohibits killing endangered flora and fauna, including brown and Asiatic black bears (Ursus thibetanus). Nepal has established National Park, Reserve and Conservation areas for the conservation of endangered flora and fauna, but many species are severely depleted due to over exploitation, pollution, habitat destruction, poaching and human and livestock pressures in the natural habitats [8]. Both bear species are believed to be depleted due to poaching and habitat destruction [8], but information is inadequate to make such a determination.

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Community-based wildlife conservation action plan is bottom-up (or grass root) activities that bring local community, individuals and organizations together to work towards achieving desired local community goals for conservation of wildlife. Such action plan is fueled by a community force that is exerting pressure on government agencies in many parts of the world. So we also felt that local peoples’ voice should be considered in such action plans so that we can implement the plan effectively at local level.

Nepal has prepared conservation action plans for the Tiger (*Panthera tigris tigris*), One-horned rhinoceros (*Rhinoceros unicornis*), Snow leopard (*Panthera uncia*), Elephant (*Elephus maximus*) and Vultures (*Gyps spp*). Community-based conservation action plan attempts to garner public support by encouraging local communities to plan and implement the activities for the long-term conservation. The preparation of participatory Brown bear conservation action plan is an important and systematic approach to safeguard the survival of this threatened species in Annapurna Conservation Area and its distribution range in Nepal Himalayas. Attempts were made to generate knowledge base on the species through various research and monitoring works in Annapurna and Manasalau Conservation Areas. Local communities from Mustang and Gorkha were actively involved in the field and during a workshop to frame these strategies and activities.

**MATERIALS AND METHODS**

The Action plan was mainly focus on in the upper Mustang region of the Annapurna Conservation Area (ACA) and Manasalu Conservation Area (MCA) in Nepal (Figure 1).

Field surveys were conducted on brown bear from 2007-2010 in Manasalu Conservation Area (MCA), Annapurna Conservation Area (ACA), organized two level of Conservation Workshop for Brown bear conservation in Nepal in 2010 and 2011 to finalize the conservation action plan in Nepal (Fig. 2 and 3). This plan was prepared with the facilitation of Biodiversity Research and Training Forum (BRTF) and National Trust for Nature Conservation (NTNC)/Annapurna Conservation Area Project (ACAP) Lomanthang in close coordination with South Asia Brown Bear Expert Team (SABBET) of the IUCN/SSC/Bear specialist Group and close guidance of Department of National Park and Wildlife Conservation (DNPWC)/Government of Nepal.

**RESULTS AND DISCUSSION**

**Efforts and Achievements:** Conservation policies and laws have been framed to conserve endangered species and their habitat. National Conservation Strategy (1988), Master Plan for the Forestry Sector (1989), Nepal Environment Policy and Action Plan (1993 and 1998), Nepal Biodiversity Strategy (2002) are noticeable policies aiming at conservation and sustainable use of natural resources in Nepal. Conservation of rare and threatened species including Brown bear has been always the priority program in these policy documents. There are considerable changes in the policy and legal aspects to
favor species and habitat conservation in Nepal. National Parks and Wildlife Conservation Act, 2029 is the key legal instrument in conserving and managing protected areas and wild animals.

Covering the parts of Kaski, Lamjung, Myagdi, Manang and Mustang with an area of 7,629 km², Annapurna Conservation Area was declared in 1992. It is the largest protected area of Nepal, managed by a national NGO, National Trust for Nature Conservation (NTNC). The NTNC is implementing Integrated Conservation and Development Program (ICDP) to benefit both nature and people. Manasalu Conservation Area (MCA) was declared in 1998 covering 7 VDCs of Gorkha district with an area of 1,663 km². Local people are using their natural resources in harmony with nature.

The Government of Nepal has enacted Conservation Area Management Regulation 2053 specifically to manage Annapurna and Manasalu Conservation Areas. In accordance with the provisions of Regulation, Conservation Area Management Committee (CAMC) are formed and registered in these conservation areas. In ACA/MCA area, there are existing responsible body whose responsibilities are to conserve natural resource in their area through the local participation, that body is called Conservation Area Management Committee (CAMC). The CAMC itself is working for Brown bear conservation through people participation. The CAMCs are authorized to manage the natural resources in their jurisdiction.

The Government of Nepal/Ministry of Forests and Soil Conservation and the State Forestry Administration/The People’s Republic of China has signed a Memorandum of Understanding on cooperation in the field of forestry and biodiversity conservation on 3 June 2010. Both the countries agree to cooperate each other in controlling the illegal wildlife trade.

Management plan of ACA has been prepared in 2007 and the management plan for MCA is under preparation. The Management plan also aims to conserve and manage biodiversity and improve the livelihood of local people. Few researches/studies have been conducted broadly in natural resource sector. However, there is no conservation activities carried out till date in focusing for the conservation of Brown bear in Nepal.

**Challenging of Brown Bear Conservation in Nepal:** The long term survival of Brown bear is threatened due to retaliatory killings to reduce livestock depredation, poaching for bear parts, habitat degradation, anthropogenic pressures in bear habitats and above all the poor economic condition and lack of awareness for the conservation of this species. The crop damage by Himalayan marmot which is the prey of Brown bear is significant at ACA. Degradation of Brown bear habitat is mainly due to high levels of livestock Brown bear is significant at ACA. Degradation of Brown bear habitat is mainly due to high levels of livestock grazing in its habitat. Retaliatory killings are also reported from this area due to conflict. High number of unproductive livestock, degradation of rangeland, low productivity of rangelands, competition between wildlife and livestock for grazing and in some cases inaccessibility of highland pastures are major issues related to livestock. During winters, there is severe shortage of fodder and consequent high livestock mortality. The veterinary service system is quite inadequate.

Poaching and illegal hunting is primarily associated with the trade on Brown bear bile. As the illicit trans-border market exists between northern frontiers of Nepal and the Tibet Autonomous Region of China, poaching has become lucrative business for poachers and illegal traders. Lack of awareness among local people further compounded the problem.

The Upper mustang area that provides prime habitats for several wildlife species is highly vulnerable due to climate change. Since the last 3 years, there has been no regular snow fall in the area which creates more dryness in the area and consequently reduces the grass availability and water sources. It reduces the numbers of prey species and livestock quality and quantity and consequently increased incidences of livestock depredation due to reduction of natural prey. Due to reduce in the water resource, Sammjung village of Upper mustang has planned to shift the whole village (19 household) to another area, an instance of the impacts of climate change. The Government and other organizations are now focusing on climate change strategy for people and have prepared the National Adaptation program and Actions. However, the concerted efforts for wildlife by developing waterhole facility, range land improvement practice, drought adaptive grass cultivation for livestock etc are required.

**ACKNOWLEDGMENTS**

I thank to all participants and local stakeholders and others for their support in research and conservation of brown bear in Nepal. The workshops were organized the the Rufford Small Grant Foundation, UK; Alteris, Netherland; Keidanren Nature Conservation Fund (KNCF), Japan and British Ecological Society (BES, UK).
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