Wildlife Conservation Education and Community Outreach in the North-Western Himalayan Region, India

A

Final Project Report

for

The 2nd Rufford Small Grant Project (Ref. No 11.12.05)

Awarded to Dr. Santosh Kumar Sahoo, India

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Photographs

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P R E F A C E

The north-western Himalayas falling in the north Indian states of Himachal Pradesh (30° 22'- 33° 12' North Latitude and 75° 47'– 79° 04' East Longitude) and Uttarakhand (77° 34' 27"East to 81° 02' 22" E - 28° 53' 24" North to 31° 27' 50" N) is an important ecosystem in the Himalayas supporting a diverse form of wildlife population particularly in its higher slopes beyond 1500m.a s.l. This northwestern Himalayan stretch spreading in a geographical area of about 55, 673 Km² in Himachal Pradesh and 51,125 Km² in Uttarakhand is characterized by three different ecological zones: Lesser Himalayas (foothills), Shivalik Himalayas (mid hills) and greater Himalayas (Alpine hills). The wildlife diversity and the habitat types are distinct in each of these ecological zones. The growing human population habitation is also another visibly distinct characteristic feature mainly in the Lesser Himalayas and Shivalik Himalayas except in the greater Himalayas where the human population is sparsely distributed and concentrates in some selected high-altitude pockets. Many of the high altitude pockets known for some of the endangered species of wild animals, such as Himalayan musk deer (*Moschus chrysogaster*), Himalayan brown bear (*Ursus arctos),* Snow leopard (*Panthera uncia*), Himalayan Ibex (*Capra sibirica hemalayanus*), Blue sheep (*Pseudois nayaur*), Serow (*Cervus unicolar*), Western tragopan (*Tragopan melanocephalus*), Himalayan monal (*Lophophorous impejanus*), Satyre tragopan (*Tragopan satyra*). In the Shivalik and Lesser Himalayan ranges, in contrary, there is a fairly thick human habitation pockets with a population density of 109 per Km² in Himachal Pradesh and 165 per Km² in Uttarakhand. More than 40% of the geographical areas in both the states are characterized by forest vegetation dominated by Sal (*Shorea robusta*) and Sisham (*Dalbergia Latifilia*) in the lesser foot hill Himalayas; Khair (*Acacia catechu*) and Chir pine (*Pinus roxburghii) and oak* (*Quercus incana*) in the Shivalik hills, and Spruce (*Picea smithiana*) and Deodar (*Cedrus deodara*) in the greater Himalayas.

As the human population grows in the northwestern part of the Himalayas, increasing demand by the farmers for more cleared forest land for extensive agriculture and horticultural practice in both the states gradually create an environment of apathy among a wide section of the local farmers, horticulturists, and villagers towards the wild animals and their habitats. This trend of farming practice coupled with the ceaseless local demand for the expansion of the farming land, although important for the livelihood improvement of the local people, is somehow believed to have a gradual adverse effect on the local natural resources. This is apparently visible in many zoo-geographical areas in the region by the increase in the number of fragmented forests, depredation in the quality of

the natural forest habitat, loss of forest lands, disappearance of many species of wildlife, growth in the population of rhesus macaques (*Macaca mulatta*) and hanuman langur (*Semnopithecus entellus*) particularly in their agricultural habitats and growing human-wildlife conflicts.

In the greater Himalayan alpine divisions where the human population is sparse and the villages are widely distributed, the nature of threats to the high altitude animals, such as Himalayan musk deer (*Moschus chrysogaster*), Snow leopard (*Panthera uncia*), Himalayan Ibex (*Capra sibirica hemalayanus*), Blue sheep (*Pseudois nayaur*), Serow (*Cervus unicolar*), Western tragopan (*Tragopan melanocephalus*), Himalayan monal (*Lophophorous impejanus*), is much serious as the illegal poaching of some of these wild animal species occurs ceaselessly and the body parts particularly, musk pod of the Himalayan musk deer, skin and bones of the Snow leopard, and biles and bones of the of the Himalayan black bear are routed to Tibet, China and Nepal for body part business trade. This is not uncommon particularly in the Kumaon division of the Uttarakhand state where the poachers from the plains along with their local associates move to the high altitude wildlife habitats during winter months and sometimes during summer in disguise either as shepherds or as a business man for a deal for Yar Tsa Gumba, (*Cordyceps sinensis)* in the high altitude alpine pasture lands beyond tree lines. During their stay in the higher reaches in the alpine villages and or temporary camps, they often hunt precious musk deer and snow leopard (*this information is based on our musk deer conservation education camp in the musk deer sanctuary at Tawa Ghat, Pithoragarh, Uttarakhand*) with the help of some local body part traders. Similar situation is also not uncommon in some high-altitude sanctuary areas in the Himachal Himalayas, particularly in Kullu and Lahaul & Spiti districts.

Despite the fact that there is a strict prohibitory law on the poaching activities and wildlife body part trade, incidences of illegal poaching of wild animals continue to occur in many wildlife habitats pockets and most of occurrences remain unnoticed. Since this behind-the-scene activities, as I believe, can damage the ecologically balanced biodiversity zones in the northwestern Himalayas and its adjoining ranges, it is important to understand the gravity of the threats to the wildlife in the region from the point of view of the community-based conservation programme and educate a wide section of the community groups about the value of the conservation of the Himalayan wildlife and also about the significant role of the wildlife in maintaining ecological balance in the Himalayan forests and how the natural process of ecological balance ultimately helps the human beings.

It was with this concern and mission, I developed an idea that through effective conservation education among the students, teachers and communities in the wildlife crime sensitive areas in the northwestern Himalayas, much can be achieved through coordinated conservation education programmes for the communities about the importance of wildlife conservation, and through developing a community-based wild protection action group networking to save many wild animal species and their habitats in the Himalayas from the threats of poaching and habitat loss.

To achieve this goal my first priority was to identify target group of communities living in and around the wildlife habitat areas in the northwestern Himalayan region for whom I planned outreach education about the local wild animals, their living habits, habitat types, feeding habits, food chain interdependence in an ecosystem, benefits from wildlife to our environment, what we can do for the wild animals when their life is threatened from human-induced activities, understanding the human-wildlife conflict issue in the backdrop of its origin, causes, nature and a balanced conflict mitigation strategy.

The 1st Rufford Small Grant (April 2004-July 2005) opened for me first opportunity to work with my planned objectives to conduct wildlife conservation awareness outreach in some selected sites in Himachal Pradesh and Uttarakhand. The project under 1st RSG mostly concentrated in the Himachal Himalayas, while a pilot wildlife conservation outreach education camp was conducted in Nainital of the Kumaon division in Uttarakhand. During this work in Uttarakhand, it was felt that the there is an urgent need for conservation education in Uttarakhand since in most of the Wildlife Sanctuary and National Park areas, the issues of poaching, body part trade and human-wildlife conflict are common, and it was believed that before Uttarakhand received a statehood status of the Indian republic, it was an ideal place for several groups of wildlife body part trading mafias who used to move freely in some of the key wildlife areas mainly in Kumaon division and Central and Eastern Terai belts and do their body part trade business through some of the sensitive wildlife trade routes, such as i) Pithoragarh-Nepal-Taklakot (Tibet); ii) Dharchula-Didihat-Almora-Haldwani-Ramnagar-Delhi; iii) Dharchula-Jauljivi-Darchula(Nepal)-Khandeswari (Nepal)-Lipulekh Pass-Taklakot (Tibet); iv) Dharchula-Didihat-Hardwar-Jammu & Kashmir.

Although the recent formation of the new Uttarakhand state brought some administrative policy reformation to reduce the level of wildlife crimes in the state, the body part trade and illegal poaching still continue to occur in such areas. Under the *Panchayati Raj* system of administration, the *Van Panchayats* (local forest protection committees) in each forest division in Uttarakhand, the

forest department coordinates with the local *Van Panchayats* for the protection and preservation of the natural resources, and in this process the communities are given wildlife and forest protection appraisal trainings so that their collective coordination and participation help the conservation agencies develop community-based conservation strategies in favour of both the wildlife and communities. My mission under the RSG-sponsored project broadly aims at creating a strong platform at the *Van Panchayat* level with a focus on community conservation education outreach and conservation action of the community for the protection of the wildlife and their wild places that they rely on to survive.

After the completion of the 1st RSG, my goal was to reach those wildlife crime sensitive areas with wildlife conservation message to educate a wider section of the population- communities, foresters and forest guards, students, teachers and identified local poachers and their families primarily in Uttarakhand's Kumaon wildlife ranges and in selected forest divisions of Himachal Himalayas. Under the 2nd RSG project (June 2006-July 2007), efforts were made to coordinate with the local forest / wildlife wings of the Uttarakhand and Himachal Government, identify target community groups in the wildlife sensitive areas and organise wildlife conservation awareness camps for the target audience groups with a view to bring a certain level of positive change in their attitude, perception, and thoughts toward the conservation of the Himalayan natural resources in general and endangered and threatened wildlife, in particular. The main goal in my wild education programmes is to inculcate in the mind of the communities the spirit of love, concern and action to give protection to the wildlife through a sustainable habitat management programme.

The 2nd RSG award gave me better opportunity to practically put into action some of my plans to promote community-based wildlife conservation education in some of the wildlife crime sensitive areas in the Uttarakhand and Himachal Himalayas in India. This final report of my 2nd RSG project gives details of my RSG project areas, activities undertaken during the project period, project achievements and follow-up conservation action plans of the project.

Dr. Santosh Kumar Sahoo (2nd RSG recipient)
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Acknowledgement

The implementation of my Himalayan wildlife conservation awareness campaign mission project entitled *"Wildlife Conservation Education and Community Outreach in the North-Western Himalayan Region, India"* was only possible with the assistance grant from the Rufford Foundation, London, in the form of a Rufford Small Grant (RSG) awarded second time to Dr. Santosh Kumar Sahoo for the year 2006-07. I am thankful to the Rufford Foundation, London for supporting my Himalayan nature conservation mission through its 2nd RSG grant, and this grant made it possible for me to extend my conservation education awareness campaign network into some of the wildlife poaching sensitive areas in the remote Himalayan village sites in Himachal and Uttarakhand and conduct successfully wild education camps for the community and school children.

Best thanks go to Prof. S. M. Mohnot, Emeritus Professor of Primatology & Director of Primate Research Centre at Jodhpur, India; Mr. Dave Ferguson, Retired Project Officer, U.S. Fish & Wildlife Service, Washington D.C.; Dr. Meenakshi Nagendran, Programme Officer, Asian Elephant Programme, USFWS; Prof. C.H. Southwick, Professor of Emeritus, University of Colorado, USA; Dr. Carola Borries, Department of Anthropology, Stony Brook University, New York for their keen interest in my nature conservation work and for recognizing my work for the Himalayan nature conservation. My special thanks to for Dr. S. Chandola, the Chief Conservator of Forest (Wildlife), Uttarakhand Govt. for giving permission to work under this 2nd RSG project in Uttarkhand.

I am specially thankful to Prof. Irwin S. Bernstein, Professor, Department of Psychology, The University of Georgia, Athens, Georgia, USA; Dr. L.S. Rajpurohit, Associate Professor, Department of Zoology, J.N.V. University, Jodhpur, India; and Prof. S.P. Bhardwaj, Senior Professor, Dr. Y.S. Parmar University of Horticulture and Forestry at Solan, Himachal Pradesh, India for recommending my 2nd Rufford Small Grant application to the Rufford Foundation and also for encouraging me to implement this much needed project in the Himalayan region. I am grateful to the ZOO Outreach Organisation, Coimbatore for providing a good number of wildlife educational materials for my outreach conservation education awareness programme.

The kind support and collaborative help from a number of persons in Himachal Pradesh and Uttarakhand region were of much help to me to complete this 2nd RSG project successfully. I gratefully acknowledge the kind cooperation I received from Mr. Ram Gopal, DFO, Pithoragarh Forest Division; Mr. C.C. Joshi, ADO, Munakote Block Office, Pithoragarh; Mr. Ghanshyam Roy, DFO, Ramnagar, Nainital, UA; B.S. Sahi, SDO, the Forest Division (Civil) at Almora, Uttarakhand ; Mr. S.S. Vaish, SDO, the Forest Division at Pithoragarh; Mr. Himalaya Singh Tolia, Range Officer at Dharchula; Mr. Jagat Singh, Askot Van Panchayat President; Mr. Vinay Chand, Prof. of English, Canadian Institute of International Studies at Mohali, Chandigarh; Pr. Anup S. Gill, Director, Haryana Region SDA Church at Chandigarh; Prof. P.K. Vaid, Department of Public Administration, Himachal Pradesh University, Shimla; Dr. Anand Sagar, Asst. Professor, Department of Biosciences, H.P. University; Mr. Hira Singh of Chandigarh; Mr. D. S. Martolia, Range Officer, Haldwani, Nainital, Uttaranchal; Ms. Usha K. Malik, Principal, HAPS, Almora; and Dr. A. R. Sinha Director, Forestry Training Academy, Haldwani, Nainital; and Sister Sneh Singh of Shimla.

I am especially thankful to Aruna Kumari, Wild Education Officer, Conservation Himalayas, for working voluntarily in this project as a field programme coordinator. My special thanks go to Mr. Sushil Halifax Dean, General Secretary, Conservation Himalayas, for his moral support and interest in this project.

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Best thanks go to Prof. S. M. Mohnot, Emeritus Professor of Primatology & Director of Primate Research Centre at Jodhpur, India; Mr. Dave Ferguson, Retired Project Officer, U.S. Fish & Wildlife Service, Washington D.C.; Dr. Meenakshi Nagendran, Programme Officer, Asian Elephant Programme, USFWS; Prof. C.H. Southwick, Professor of Emeritus, University of Colorado, USA; Dr. Carola Borries, Department of Anthropology, Stony Brook University, New York for their keen interest in my nature conservation work and for recognizing my work for the Himalayan nature conservation. My special thanks to for Dr. S. Chandola, the Chief Conservator of Forest (Wildlife), Uttarakhand Govt. for giving permission to work under this 2nd RSG project in Uttarkhand.

I am specially thankful to Prof. Irwin S. Bernstein, Professor, Department of Psychology, The University of Georgia, Athens, Georgia, USA; Dr. L.S. Rajpurohit, Associate Professor, Department of Zoology, J.N.V. University, Jodhpur, India; and Prof. S.P. Bhardwaj, Senior Professor, Dr. Y.S. Parmar University of Horticulture and Forestry at Solan, Himachal Pradesh, India for recommending my 2nd Rufford Small Grant application to the Rufford Foundation and also for encouraging me to implement this much needed project in the Himalayan region. I am grateful to the ZOO Outreach Organisation, Coimbatore for providing a good number of wildlife educational materials for my outreach conservation education awareness programme.

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Introduction

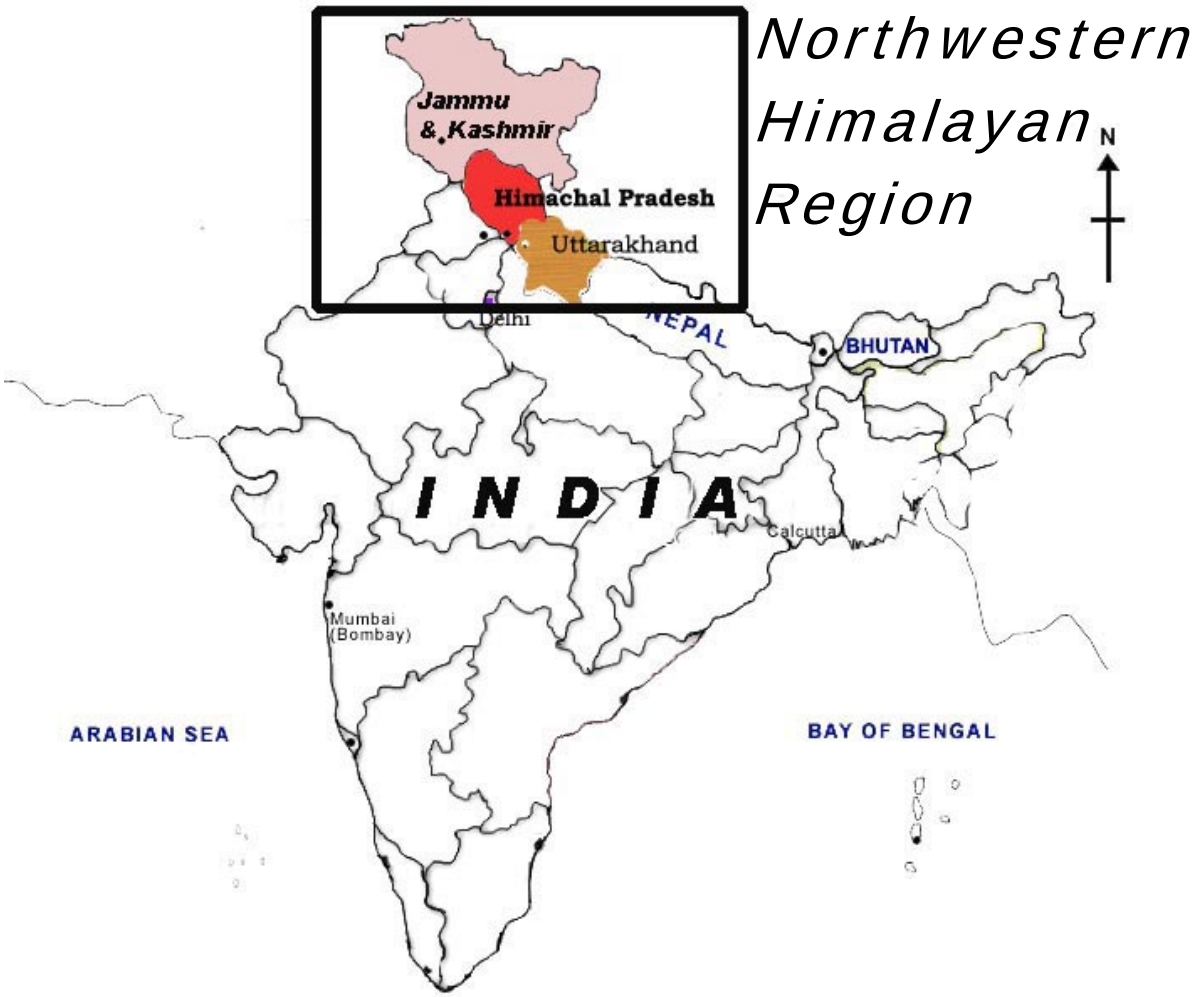
The northwestern Himalayan region spreading in three north Indian states (see Figure 1) forms an important zoogeographical region in the Himalayas. The entire stretch of the northwestern Himalayas having its border with Pakistan along its northwestern side, Tibet (China) and Nepal along its northeastern side is characterized by a varied eco-climatic condition and rich diversity of biological resource distribution in its varied ecoregions.

Both Himachal and Uttarakhand segment of the northwestern Himalaya is the home of a wide variety of plant species and wildlife taxa, including two endangered species of big cats-Snow Leopard (*Panthera uncia*) in its great or higher Himalayan landscapes, Bengal Tiger (*Panthera tigris tigris*) of Rajaji and Corbett National Parks in its outer or sub-Himalayan foot hill habitat; one endangered deer species- Himalayan musk deer (*Moschus chrysogaster*) and two high altitude pheasant species - Himalayan monal (*Lophophorous impejanus*), Western tragopan (*Tragopan melanocephalus*) in the sub alpine western Himalayan forests. The sub alpine coniferous forest in the northwestern Himalayas is an important ecological zone as it plays a critical ecological role as part of the Himalayan ecosystem. This sub-alpine ecoregion is known for its distinct climate and ecological set up giving harbour to a diverse form of wild animal taxa and medicinal plant species. This ecoregion also operates as a connecting link between the outer Himalayas from Terai arc region and the high alpine meadows and also between the sub alpine forests and upper Shivalik ranges. This interconnectivity of the distinct ecoregions of the northwestern Himalayas provides suitable conditions for several Himalayan birds and mammals to migrate up and down the steep mountain slopes and depend on contiguous habitat for these movements. Any loss and / or degradation to these habitats and human-induced threats to the wild animal can adversely disrupt the mountain ecological balance that may further lead to human-wildlife conflict in many areas.

Although several high-altitude ecoregions in the Himachal and Uttarakhand region is less populated than some of the other Himalayan ecoregions, (especially those in the lower elevations), a considerable segment of this region shows signs of habitat degradation and wildlife population loss. Nevertheless, the high-altitude ecoregions in the western Himalayas still maintains a rich treasure of forest resources with least human interference. But as human population grows in these mountain ranges, there is growing human pressure of intensive cultivation on the steep slopes of some of the high mountains resulting in deforestation and depredation to the biodiversity in the region.

Figure 1

Northwestern Himalayan region in India falling in three states, Jammu & Kashmir, Himachal Pradesh and Uttarakhand. The 2nd Rufford Small Grant (RSG) project covered only parts of Himachal Pradesh and Uttarakhand states.



In some higher reaches in Himachal Pradesh and Kumaon hills of Uttarakhand, the time of large-scale collection of the morel mushroom (*Morchella esculenta*) and Yar Tsa Gumba (*Cordyceps sinensis*) by the local people coincides with the breeding season of several pheasants and high-altitude mammals. During this period of time, wild animals are often killed intentionally by some professional hunters. In the Uttarakhand, the musk deers and snow leopards sometimes fall victims in the hands of the poachers who move to the higher reaches for the collection of Yar Tsa Gumba. In the lesser Himalayas, in contrary, greater threats to the wildlife and to the forest resources come from the intensive practice of firewood collection by the local people for their own use and commercial selling. Poaching and body part trade in the lesser Himalayan ecoregion are also two major causes of substantial threat to the wildlife, mainly common leopard (*Panthera pardus*), tiger (*Panthera tigris tigris*), Himalayan black bear (*Ursus thibetanus*) and Asian elephant (*Elephas maximus*). Moreover, a large section of the mountain people in the major section of the northewestern Himalayan segments of Himachal Pradesh and Uttarakhand depend on forest resources and it is this traditional dependency that has led to loss of the forest covers in many regions.

Lack of basic education and in many places' complete ignorance among the communities about the value of the wildlife and forest resources are believed to have adverse effect on the local natural resources. Direct wildlife crimes by a section of the mafia communities occur in the region and in certain wildlife sanctuary areas (for example, Askot Wildlife Sanctuary in Pithoragarh district of Uttarakhand). Such crimes are committed by the communities who are not only ignorant about what benefits they get from a healthy ecosystem where wild animals face no threats from human beings and move in a completely natural condition but also they remain unconcerned toward the welfare of the wildlife and preservation of its natural habitat. The various conservation programmes in the region, although made it mandatory to make it a community-based joint effort, yielded no significant positive change in the attitude and mind-set of the traditional communities toward the Himalayan nature conservation.

In the 2nd RSG project, my efforts was to make it possible to educate a majority of the communities living close to the wildlife sanctuaries and National Parks in Uttarakhand and Himachal Pradesh through interactive role play learning method, making exposure of the conservation outreach resource materials to the communities and practically preparing them with conservation stewardship

training to be pragmatic and action-oriented to participate in the conservation programmes by the local forest department, NGOs and local *Van Panchayats.*

Community Education as an Outreach Tool for Conservation

The success of nature conservation depends upon the development of community understanding of the relationships between species, the environment and people's own actions. Even all other conservation strategies, such as, conservation management of captive populations, reintroduction and habitat protection, depend in the long term upon education initiatives that change behaviour of the communities.

Conservation education enables people to develop a sense of appreciation, wonder, respect, understanding, care and concern for nature. This can be achieved globally through the network of conservation agencies working locally with the grassroots communities, nationally, regionally and internationally, and via direct involvement in *in situ* projects.

Conservation education in the zoo environment provides an excellent opportunity for the zoo visitors, zoo staff and a wider community to develop a holistic state of mind towards the wild animals in captivity. It promotes an understanding of and concern and respect for wildlife biodiversity and the natural world at large. And it also encourages action for a sustainable future.

Conservation educators should be involved in *in situ* projects by taking the conservation message to local communities where people are living in, or close to habitat and areas where field conservation projects are under way.

Education is a critical part of building local community support for and understanding of *in situ* conservation projects supported by zoos and other conservation organizations. Indeed, *in situ* projects are doomed to failure in the long term if local people are not involved and if the underlying causes of habitat loss and species endangerment are not addressed properly to the community. The *in-situ* conservation projects, whether local to zoo, or in another area, must include education activities as a priority area of conservation. An *in-situ* conservation project may focus on several areas, e.g., research, habitat management, reintroduction or education. However, it may also focus entirely on education.

The *in situ* projects are also an excellent opportunity for relevant *ex situ* education activities to encourage public understanding and appropriate action to support the specific project focus, e.g., projects can encourage people to save their local natural resources by planting trees, reducing dependency on firewood from the forests, giving up body part trade business, or by participating in the joint forest management programmes at the local level.

Education, particularly, nature conservation education, is a lifelong process, and its learning is affected by a multitude of experiences. It is therefore difficult to establish precisely the long-term effect of individual activities. However, it is essential that through a variety of methods, evaluation of the conservation education program can be possible. This will inform planning for future and help to establish a body of evidence illustrating educator's effectiveness as agent(s) of change in affecting human behaviour through collective pledge to work for the benefit of wildlife and society.

Need for the Conservation Education Awareness in the Northwestern Himalayan Region

The flora and fauna resource within the varied landscapes of the Himalayas are magnificently diverse and remain as the most precious natural property of its ecosystem. The Himalayan biodiversity structure is visibly open throughout its stretch from foothill broadleaf forest landscape to alpine terrain to as high as the snowline cold desert. A wide range of mammalian species, mainly, leopard (*Panthera pardus*), Snow leopard (*Panthera uncia*), Himalayan black bear (*Ursus thibetanus*), Musk deer (*Moschus chrysogaster)*: State Animal of Himachal Pradesh and Uttarakhand), Jungle cat (*Felis chaus*), Barking deer (*Muntiacus muntjak*), Leopard cat (*Prionailurus bengalensis*), a variety of pheasants, mainly Koklass pheasant (*Pucrasia macrolopha*), Himalayan monal (*Lophophorus impeyanus)*: State Bird of both Himachal Pradesh and Uttarakhand states of India), Western tragopan (*Tragopan melanocephalus*), Cheer pheasant (*Catreus wallichii*) and Kalij pheasant (*Lophura leucomelana hamiltoni*).

Once considered as the safe heaven for a variety of wild animals, the Himalayan forests are loosing its virgin glory in recent times with the human settlement spreading all along its landscapes and developmental activities, like hydel projects and road networking, making a headway progress across many precious wildlife habitat areas. Although strict prohibition of wild animal poaching has

been enforced through the Indian Wildlife Protection Act of 1971, illegal poaching of wild animals in many parts of the Himalayan region in Himachal Pradesh and Uttarakhand states is believed to be a major factor for the gradual and/or complete loss of wildlife in many wild habitat areas. Loss of many natural forest areas, mainly due to illegal tree felling to meet the ceaseless demand for more agricultural and horticultural lands, timber commercialization, building timber houses, and for other selfish interest, is becoming the most pertinent cause for the habitat loss and depredation in the population size of many wild animal species, mainly Snow leopard, Musk deer, Barking deer, Himalayan monal, Western tragopan and Himalayan black bear. Despite the fact that a number of government-sponsored action plans are in force to save wild lands and the wild animal species in the protected reserves in Uttarakhand and Himachal Pradesh, human-induced pressure on the ecology of the reserves, however, increasingly poses threats to the wildlife and to their habitats.

Unfortunately, the local people are relatively ignorant about the significance of habitat and wildlife conservation, and their negative response to the joint participatory habitat and wildlife conservation programme creates almost an environment of conflict between the conservation agency and the stakeholders. In many habitat areas, the communities strongly oppose the current wildlife protection act with a resentful attitude towards government policy on forest management and towards the agencies working for the nature conservation at the grassroots level. Growing human-animal conflict at several habitat areas in Kumaon Himalayan range of Uttarakhand state becomes a pressing issue of concern that acts as a major barrier for the success of the *ex situ* wildlife conservation.

Conservation Himalayas (a Shimla/Chandigarh-based NGO under the leadership of Dr. Santosh Kumar Sahoo) took up issues of conservation targeting wildlife, habitat management and community education in the north western region of the Himalayas on a priority basis. The first RSG-sponsored project, awarded to Dr. Santosh Kumar Sahoo for the year 2004-05, provided an opportunity to understand issues and problems of conservation within the key wild habitat areas in Himachal Pradesh and Uttarakhand State during its Outreach Conservation Education Programme (OCED) and Wild Protection Leadership Programme, (WPLP) activities. My first experience through the OCEP activities helped me understand the problems of Himalayan nature conservation from the point of view of community concern for the wildlife welfare and community participation in the conservation of natural resources. With this experience at hand, I developed a project on *Himalayan Nature Conservation and People's Participatory Role* and launched Wild Protection Awareness Campaign

(WPAC) and Tree Plantation Mission (TPM) in areas sensitive in respect of habitat exploitation, wildlife poaching and human-wildlife conflict.

2nd Rufford Small Grant (RSG) Project Area

The 2nd RSG project entitled "*Wildlife Conservation Education and Community Outreach in the North-Western Himalayan Region, India"*, was undertaken by Dr. Santosh Kumar Sahoo mainly in the Kumaon Hills of the Uttarakhand. The areas covered in Uttarakhand under this project include Pithoragarh, Almora and Nainital districts, while in Himachal Pradesh, the project activities were conducted in Kullu, Lahaul & Spiti and Solan districts (see Figure 2).

In the first phase of the project, the activities in Himachal Pradesh mostly concentrated at Manali in Kullu district (see Figure 7), and at Kaza, Keylong, Sagnam (Pin Valley National Park) in Lahaul & Spiti (see Figure 8). Some activities were also conducted at Pithoragarh and Almora districts in Uttarakhand state. The activity report of the first phase was submitted to the Rufford Foundation in the form of an Interim Report dated 28th September 2006. In Annexure 1 and 2, the activity profiles of the first phase activities were briefed in tabular form for the project areas in Himachal Pradesh and Uttarakhand states, respectively.

In the second phase of the 2nd RSG project, most of the activities were conducted in Nainital (see Figure 3), Almora (see Figure 4) and Pithoragarh (see Figure 5) districts in Uttarakhand state, while one programme was conducted at Dharampur in Solan district in Himachal Pradesh (see Figure 2). The programme sites in Uttarakhand were selected in poaching, forest fire and body part trade sensitive areas with special conservation education framework for the local communities and for this exercise the help of the local forest department was taken at each project location. A list of programme sites, date of the programmes and number of participants in each project district was given in a separate table (see Annexure 3).

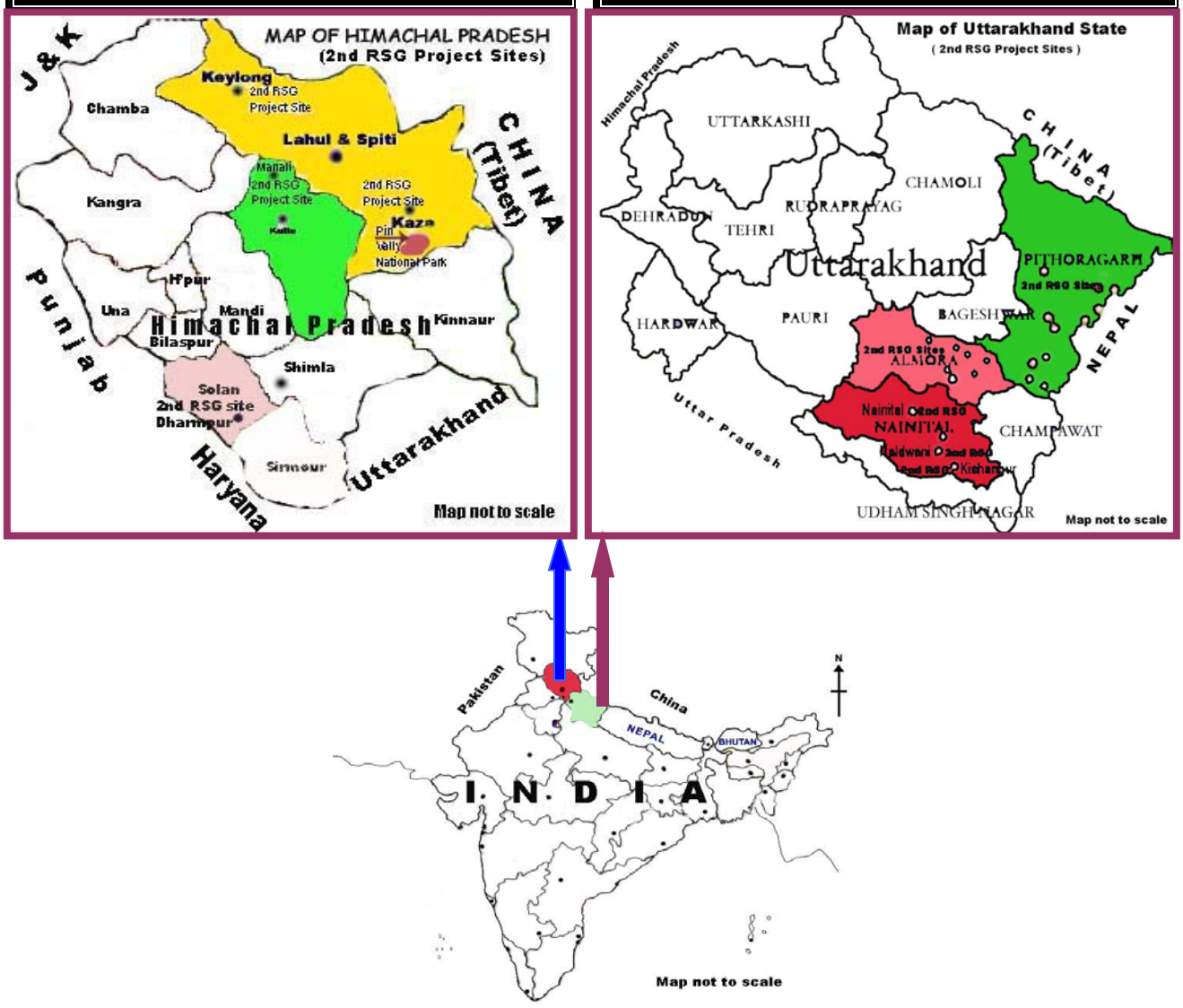
Since all the project sites both in Uttarakhand and Himachal Himalayan region were located either in the wildlife sanctuary and National Park areas, most programmes were conducted outdoor except a few indoor programmes which were meant for the power point presentation. In each programme, the participant audience groups were from the local villages. In some of the programmes which were jointly conducted in collaboration of the local forest department, the forest department assisted in inviting the communities from adjoining interior *Van Panchayat* villages to take part in the wildlife conservation campaign programmes under the 2nd RSG project.

Figure 2

Map showing 2nd Rufford Small Grant (RSG) project areas in the northwestern Himalayan states of Himachal Pradesh and Uttarakhand in India.

2nd RSG Project Areas in Lahaul & Spiti, Kullu and Solan Districts in Himachal Pradesh, India

2nd RSG Project Areas in Almora, Pithoragarh and Nainital Districts in Uttarakhand, India



Objectives

The 2nd RSG project during the period June 2006-June 2007 was implemented keeping in mind the following objectives. These objectives are based on the result of my 1st RSG project. Since in the northwestern Himalayas, particularly in the segments of Himachal and Uttarakhand region, the human population continues to grow with the expansion of extensive developmental activities wide across its length and breadth, a tremendous human pressure is building up on the natural forest habitat and the wild animals living in it. This trend of human pressure on the wildlife and wild habitats is worse in many places in the Uttarakhand and Himachal region where illegal poaching and trade of wildlife body parts still occur as behind-the-scene phenomenon. The objectives as framed for the 2nd RSG project took on priority basis the issue of wildlife poaching, habitat loss and ignorance / poor concern for nature conservation among the communities.

The **objectives** for the 2nd RSG project are as follows:

- To initiate a comprehensive community awareness education programme about the Himalayan wildlife and nature conservation through Wild Protection and Participatory Training activities in poaching, forest fire and body part trade sensitive areas around the Wildlife Sanctuaries and National Parks in Uttarakhand and Himachal Himalayan region;

- To sensitise among the K-12 students and village communities about the issues of conservation targeting wildlife and natural habitat through interactive educational programmes on wildlife facts (threats and population decline), wildlife habitat, habitat management, wildlife conservation, wildlife education, community participation;

- To provide a range of experiences for the diversity of zoo visitors, to enable them to make informed choices in their daily lives which benefit the environment and wildlife;

- To mobilize village communities towards understanding the ecological and cultural value of trees in the natural ecosystem and provide them training which would effect a change in attitude and actions relating to natural resource utilization, tree plantation and survival of the wildlife;

- To initiate a process of adopting an inclusive approach of community participation, outreach conservation education and capacity building in the poaching sensitive Askot Wildlife Sanctuary in Uttarakhand Himalayas.

2nd RSG Project Activities in Uttarakhand Himalayan Region, India

The north-western Himalayan state of Uttarakhand is the 'Land of Celestial Beauty' with its glory as a land of wildlife and wild habitat along its varied topography spreading from its southern plains, through Shivalik ranges at the centre up to northern mountain ranges of greater Himalayas This hilly state comprises of two regions-*Garhwal* in the west and *Kumaon* in the east. Both the *Garhwal* and *Kumaon* region are endowed with wonderful natural beauty and calm serenity of the majestic Himalayas. The northern extremes of the state are studded with stunning snow-covered peaks, glaciers, alpine meadows, crystal clear lakes, rivers and exotic flora and fauna.

The state is also a treasure house of exotic flora and fauna and is an ideal location for eco-tourism, as well as wildlife tourism. The world-famous Corbett National Park is the pride of Uttarakhand. Other important sanctuaries are, Rajaji National Park, Gobind Wildlife Sanctuary, and Nanda Devi National Park. These sanctuaries are well known biodiversity zones in the western Himalayas and harbour the population of the snow leopard, musk deer, blue sheep and Himalayan black bear.

The 2nd RSG project in Uttarakhand was implemented in selected areas Nainital, Almora, and Pithoragarh district in its first phase during June–September 2006. In the second phase of this project, some of the key wildlife crime sensitive areas in Nainital, Pithoragarh and Almora districts of Uttarakhand were selected for the wildlife education campaign for the K-12 students, communities, foresters and forest guards.

Based on my experience during the 1st RSG project activity in Nainital division of Uttarakhand, it came to my notice that some forest ranges in Almora and Pithoragarh districts, poaching of many wildlife species usually occur despite that fact that the poachers are well aware of the anti-poaching laws of the Indian Wildlife Protection Act, 1971 and state forest department's strict surveillance measures to protect the wildlife and their habitats. The second RSG project therefore concentrated its most of the outreach conservation education campaign activities in the Kumaon hills of Uttarakhand, mainly within the forest divisions of Nainital (see Figure 3), Almora (see Figure 4) and Pithoragarh (see Figure 5) districts.

Figure 3

Map showing 2nd Rufford Small Grant (RSG) project sites in Nainital district of Uttarakhand, India.

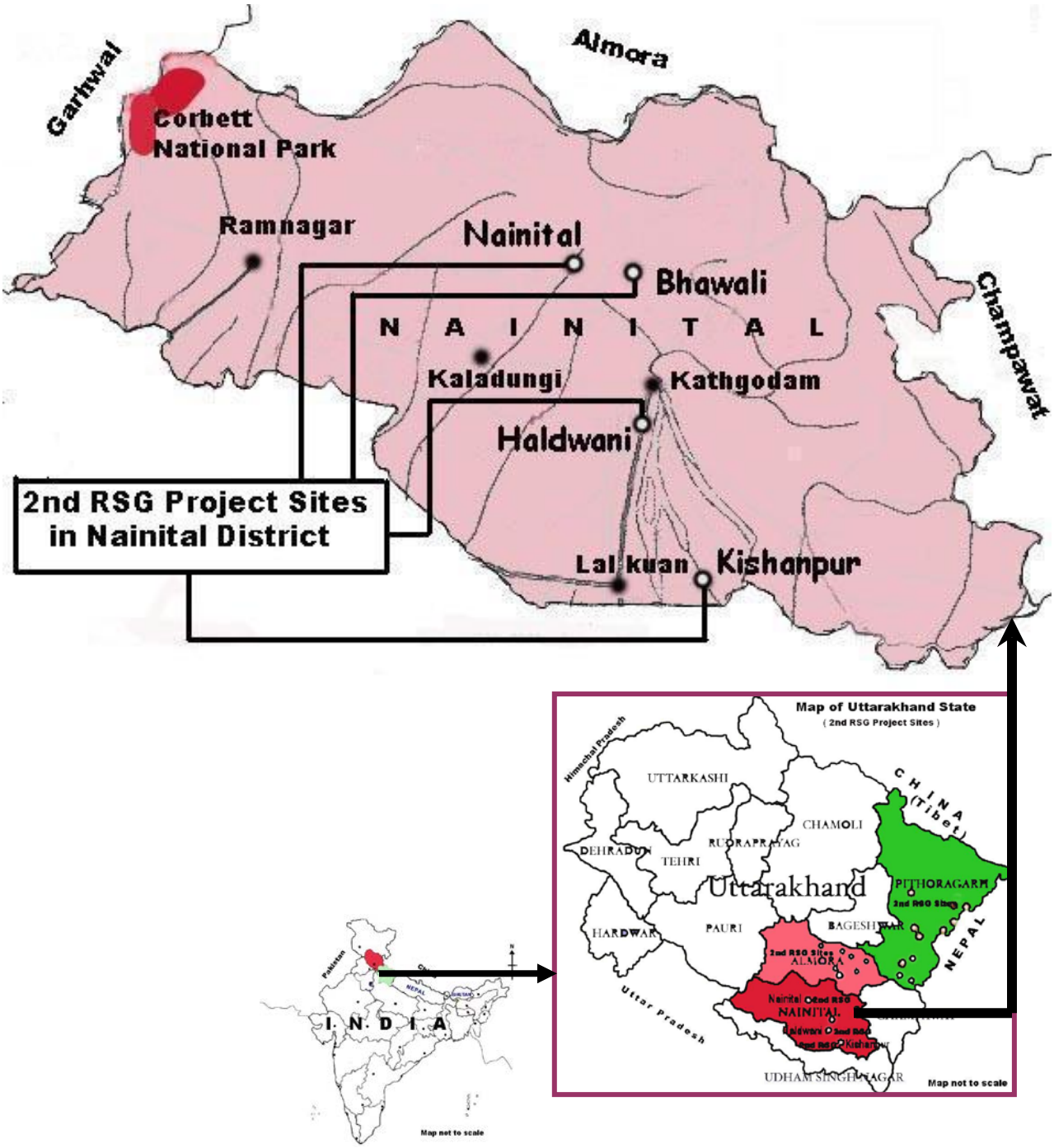


Figure 4

Map showing 2nd Rufford Small Grant (RSG) project sites in Almora district of Uttarakhand, India.

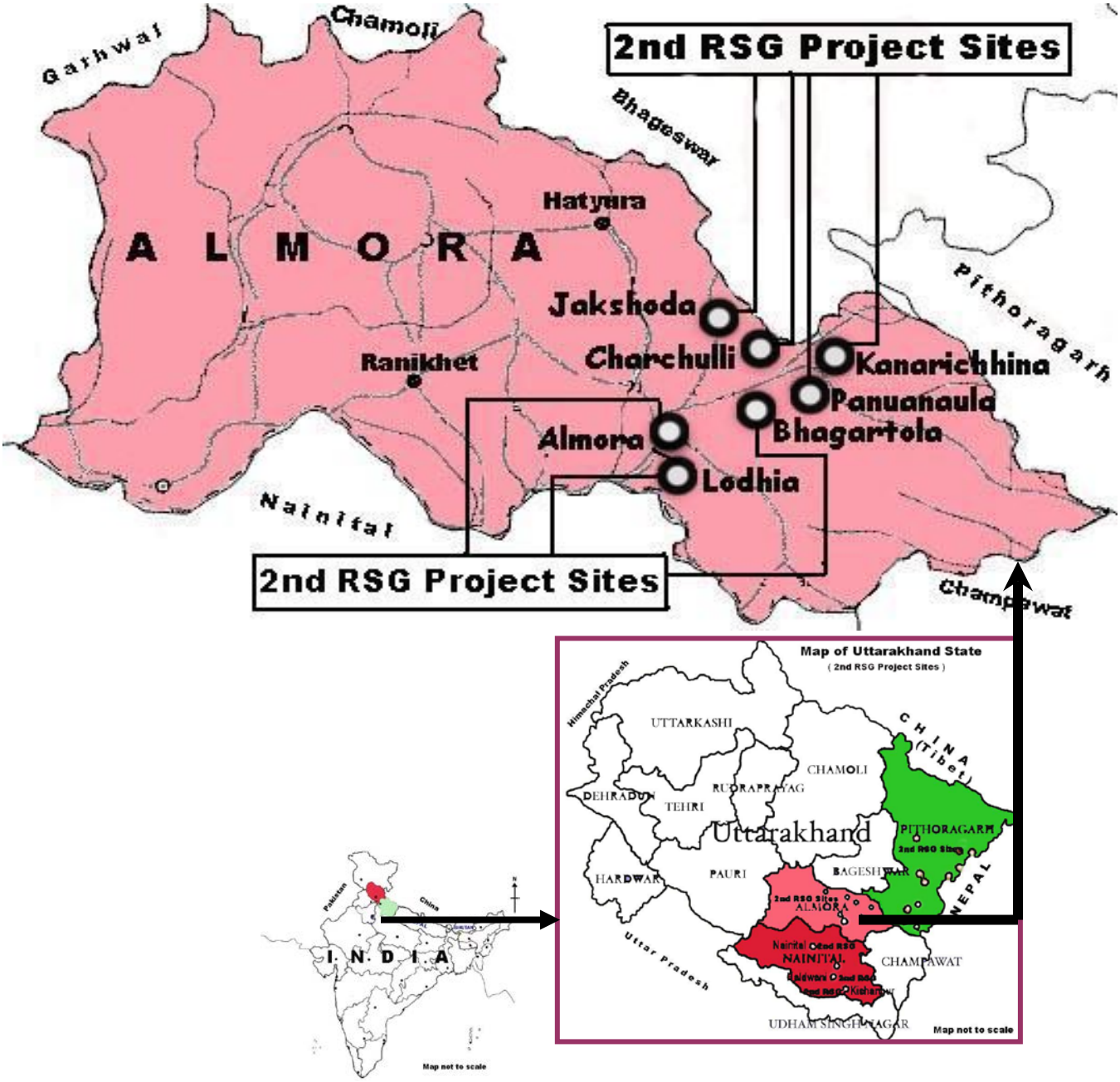
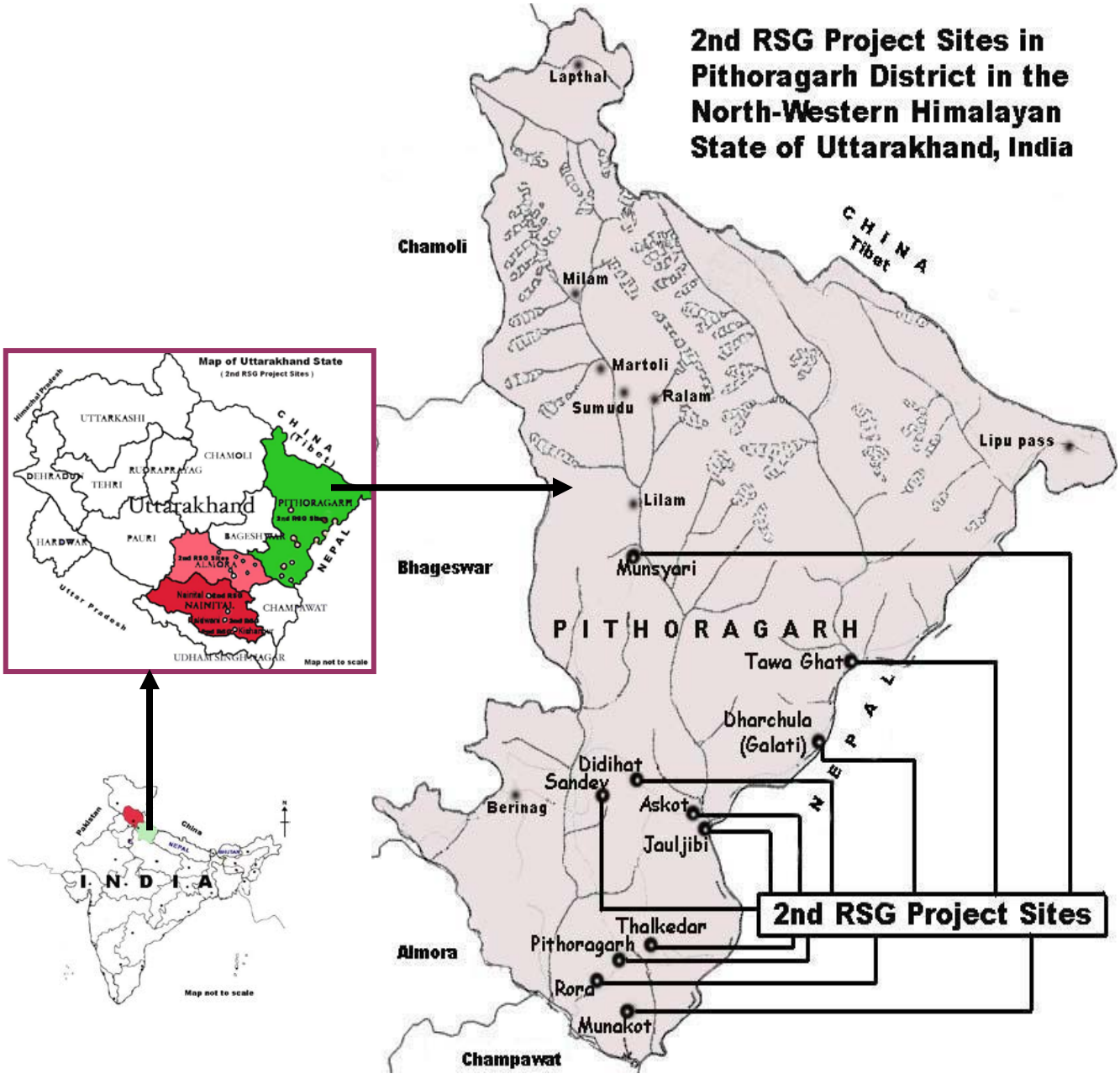


Figure 5

Map showing 2nd Rufford Small Grant (RSG) project sites in Pithoragarh district of Uttarakhand, India.



Wild Protection Awareness Outreach: Saving Wildlife and Natural Habitat

Under the 2nd RSG project, wild protection awareness programmes were conducted for the students at three locations in Uttarakhand: one programme at Panua Naula in Almora district, two programmes at Talital in Nainital district. Panua Naula (see Figure 4) is one of the poaching sensitive areas in Almora district of Uttarakhand. The area has northern border with the Binsar Sanctuary which is known for the dense forest and wildlife habitat. One wild protection outreach camp was organised by Dr. Santosh Kumar Sahoo for the for the girl and boy students of Gandhi Inter College (GIC) at Panua Naula, Almora, Uttarakhand. The programme was a collaborative programme with the Almora Forest Division (Civil) to celebrate the World Animal Day on 4th October 2006 during Wildlife Week-06. Nearly 350 students, both boys and girls and 10 teachers participated in the programme which was also attended by 20 local villagers, local forest range officer and 15 forest guards. The Block Development Officer of Panua Naula was the chief guest on the occasion. The theme of the programme was "SAVING HIMALAYAN WILDLIFE AND NATURAL HABITAT."

The programme was divided into three parts: i) declamation contest for students, ii) Know Daily life Wildlife programme, and iii) "Save Wildlife and Habitat" game activity. The topic for the declamation contest was "Why Wildlife Conservation is needed". Eight students participated in the declamation contest. The best speaker received ZOO's "Daily Life Wildlife" educational kit along with a ZOO vulture poster as a prize.

In the second part, Dr. Santosh Kumar Sahoo conducted an interactive session with the students in which the students were told about the wildlife diversity in the ecosystem with an emphasis on the diversity at the local forests and in our immediate environment. They were told about many wild species of animals seen in our surrounding environment, and how they play an important role in the local ecosystem and maintain balance in regulating the prey-predator relationship within the ecosystem. They were also informed how in our immediate ecosystem, several species of daily life wildlife become victims of our cruelty and ignorance and what we must do to protect the daily life wildlife from being perished.

The third part of the programme was interesting for the students because in this session 15 students volunteered to play different roles for a "Save Wildlife and Habitat" game activity. Some participants wore animal masks while others wore flex sheets with printed animal pictures / role characters hanged around their neck. The theme of the game activity was on "Impact of Habitat Loss on Wildlife Population". Dr. Santosh Kumar Sahoo conducted the game activity following the ZOO guidelines for wildlife educational games and activities.

The focus was on habitat loss due to developmental activities and encroachment. The news paper sheet used in this activity represented a habitat. In the game activity, the hunting of the prey animals was also shown as another factor forcing wild carnivorous animals to enter into human habitation and damage domesticated cattle and sometimes human beings.

The hunter's role touched the attention of the audience as he dramatized role of a hunter killing four prey animals. For the whole audience, this game activity brought clear message that habitat loss and poaching threats cause severe damage to the ecosystem. The role of wildlife protectors (forest officer, forest guard and police officer) was interesting as they gave a vivid action-packed reaction to the hunting and poaching events shown in a dramatized manner.

The game activity was indeed a memorable event particularly for those who participated in it. The conservation message "HABITAT LOSS and POACHING ARE CONSIDERED AS THE TWO MAJOR THREATS TO THE WILD ANIMALS" was given clearly to the audience. The school authority and the local community groups appreciated this game activity and encouraged the students to help conserve wildlife and its natural habitats.

The second Wild Protection Awareness programme was conducted in the Govt. Girls Inter College, GGIC at Talital in Nainital district. Nearly 250 girls and five teachers participated in this programme. Dr. Santosh Sahoo talked about the need for wildlife education as an effective tool to protect the natural resources. The girl students participated in the interactive session during which Dr. Sahoo apprised the participants about the increasing trend of threats to all forms of wildlife in their natural habitats. During his talk, he especially focused on the Bengal Tigers.

Although some of the students knew little about the Project Tiger, most of them were ignorant about the tiger problems in the country. Dr. Sahoo gave information about the tiger facts, poaching threats, habitat loss and body part trade problems associated with tigers, elephants and musk deers. Students were informed about the tiger population in India and various threats they face in different ecoregions in India.

The interactive session was exciting as some students volunteered to come to the front and expressed their concern over the growing incidences of cruelty by human beings to the natural habitats and the wildlife. The students attributed this to lack of proper planning at the local, state and central level and poor community participation and lack of awareness on the importance of nature conservation on human beings. Dr. Sahoo answered to the questions put by some students regarding the wildlife conservation and management issues. There was little discussion on daily-life wildlife and its significance in the ecology.

In the end of this programme, Dr. Sahoo administered a group pledge to the students who vowed to do their part to safeguard and protect the natural resources at the local level and love to see that any daily life wildlife in distress does not loose its life and gets back safe to its home. The group also pledged that they would tell others about the value of protecting natural habitats for the survival of the wildlife.

Another wild protection awareness education programme was conducted for the junior graders in the Govt. primary school at Talital, Nainital. In this programme, 45 junior primary grade students and two women teachers participated. Dr. Sahoo mixed with the kids friendly and enquired from them what they know about the wild animals. The kid participated in the interaction without hesitation. Dr. Sahoo showed paper masks of different animals and asked the kid to say the common names of the animal face on the mask. The kids wore the masks and other kids from the audience desks were asked to identify the animals on the mask. Through these masks the kids were made aware of the diversity of wildlife in an ecosystem and how this diversity is interrelated for survival.

Kids found it interesting as Dr. Sahoo explained about how the animals in their living environment are interdependent on each other. He gave examples of different food chains in the ecosystem: **like Sun-Plant-Langur-Leopard; Sun-Grass-Grass Hopper-Frog-Snake-Owl.** The kids

enthusiastically participated in this short programme and wished to learn more about the wildlife in similar programmes.

Himalayan Wildlife Anti-Poaching Awareness Camps for the Communities

The Kishanpur Wildlife Sanctuary (see Figure 3) lies on the south eastern part of the Nainital district of Uttarakhand falling within the Terai region and this range is having a good coverage of deciduous forest that supports two flagship species like tigers (*Panthera tigris tigris*), and Asian elephants (*Elephas maximus*), common leopard (*Panthera pardus*) and a number of deer species like, barking deer or kakad (*Muntiacus muntjak*), spotted deer or chital (*Axis axis*), sambhar (*Cervus unicolour*), barasingha or swamp deer (*Cervus duvaucelii*) within its long east-west stretch having route connectivity with the adjoining Corbett National Park in the west and Terai East region bordering with Nepal in the eastern boundary of Champawat district, Uttarakhand.

The Kishanpur forest range is considered as one of the wildlife crime sensitive areas in the Terai Arc Landscape. The major threats to the wildlife in this range come from the poachers who are either migrants from neighbouring states or from within the communities living inside or along the fringe villages of this range. The big cats, tiger and leopard are the most vulnerable animals in the region as the poachers target mostly these two species. Recently one poacher from the Udam Singh Nagar very close to the Kishanpur range, was caught with a number of leopard skins. As per the forest department report, this poacher might have killed as many as 20 leopards during the last few years of his wildlife body part trade business (***see photograph below***).

With this backdrop of the Kishanpur range, it is pertinent that the communities living in this range need to be given opportunity to learn about the value of protecting the forest resources and wildlife through specially designed community outreach programmes for the local communities. It was in this context one full day Anti-Poaching awareness outreach programme was organised by Dr. Santosh Kumar Sahoo in association with the Haldwani Forest Division. As many as 35 community members including two women and five children participated in the programme which was organised during the Wildlife Week on 2nd October 2006. The theme for the programme was on "No More Poaching for a Healthy Community Life."

Dr. Santosh Sahoo and Aruna Kumari, Wild Education Officer, Conservation Himalayas conducted three different sessions. The first session focused on "Knowing wildlife diversity of the Terai belt and their ecological value", the second session concentrated on two Anti-Poaching game activities

by the young kids, and the third activity was exclusively interactive with the community members on the topic **"Role of the villagers in protecting the wildlife for a healthy forest."**

In the first session, Dr. Santosh Sahoo and Aruna Kumari presented basics of forest ecology and the role played by the wildlife in it. Through photo images on the flex posters, the communities were made aware about different types of endangered & threatened species of wild animals in different ecoregions of the Uttarakhand Himalayas and about growing threats to the wildlife in their natural habitat. Aruna Kumari briefed about the Indian Wildlife Protection Laws and about how the wildlife criminals are subjected to legal punishment if these laws are disobeyed and crimes are committed against the wildlife and natural forests.

The second session was organised with an objective to teach the communities about the interdependence between habitat and wildlife survival through game activities. The village kids participated in the game activities as directed by Dr. Sahoo. 'Habitat Protection' was the theme of the first game. The kids played role models of different wild species living in one habitat, and on the other side the habitat loss was depicted through the role model of some villagers who clear forest lands for agriculture and how this practice results in the loss of many wild animals. Some educational materials of the ZOO organisation, Coimbatore, India were used by the kids during the game activities.

The second game activity was on the effect of the loss of prey animals on the predators and the human communities living in the fringe villages. Villagers understood the concept of Human-wildlife conflict through this simple game activity by the kids. Dr. Sahoo gave wildlife educational kits to the kids and to all other participants.

In the third session of this Anti-Poaching Camp, the focus was on the "Role of Villagers in Protecting the Wildlife", and there was an interactive session in which the villagers shared their experiences in regard to poaching or any wildlife crime. The aim was to understand the root cause of poaching, its past trend and future perspectives. The villagers participated freely and shared their personal experiences with Dr. Sahoo and Aruna Kumari who conducted the session in the presence of the forest officials. Interestingly, this session brought many facts into light as some of the villagers confessed their past involvement in some type of wildlife crime and attributed it to their illeteracy, poverty and ignorance about the value of nature of conservation.

At the end of this Anti-Poaching camp, the villagers and forest officials took a joint pledge to work collectively to keep the Kishanpur forest range free from any type of crime against the wildlife and other forest resources. They also pledged to educate their neighbours, friends and relatives about the beneficial effects of protecting wild resources in the forest and to coordinate with the local forest department in controlling the incidences of poaching and boby part trades in their areas. Finally the Kishanpur forest range officer gave a brief remark about the conservation staus of the wildlife in the Kishanpur range and pleaded the communities to adopt eco-friendly life style for the development of the communities and the wildlife of the region.

Outreach Anti-Poaching Awareness Programme for School Children

Didihat is a small town in Pithoragarh district of Uttarakhand. The town of Didihat (see Figure 5) is one of the wildlife body part trade routs in Pithoragarh as its location is less than 75 kilometers from Nepal border. This location is also considered strategic from the point of view of wildlife body part smuggling to Tibet from the Askot Wildlife Sanctuary and other WLS ans National Park areas in Uttarakhand.

As one of the objectives of the 2nd RSG project aimed at propagating anti-poaching message to the student communities, one special anti-poaching programme was organised on 9th October 2006 for the Government high school students at Didihat.

As many as 200 students, 5 teachers and Didihat Range Officer, Mr. Anil Srivasthav, participated in this 3-hour anti-poaching awareness. The theme of this programme was **"Protecting Wildlife through Awareness and Community Participation."** Dr. Santosh Kumar Sahoo and Aruna Kumari coordinated the programme activities. In the first session of the programme, Dr. Sahoo took one interactive session on Himalayan Biodiversity Conservation and the role of student communities on the Himalayan biodiversity conservation.. The school principal and the range officer gave their short remarks on the issue of habitat degradation and wildllife conservation need in the Himalayan region. The main attraction of the programme was the anti-poaching game activity by the students through wild animal role model play to show the structure of biodiversity in the forest ecosystem, adverse imact of poaching on the wildlife population and forest ecosystem, and strategies needed to control the menace of wildlife crime and protect the wild habitats that supports the wildlife.

Through role model actions, the students were made to realise the exact situation how different species of wildlife taxa, like tiger, leopard, elephant, Himalayan black bear, and musk deer, are targetted by the poachers for commercial benefits leading to a state of food chain imbalance in the forest ecosystem. The special role model of a hunter by a student appealed the audience. The hunter role model performed the role of a hunter in managing a professional buisiness of the wildlife body part trade. But when he was caught he would accept his mistake and adopt another socially acceptable profession to earn his livelihood. Through this role bodel action, the message to protect wildlife by not killing any wild animal in its natural habitat was cllearly given to the audience.

The students who participated in the game activity received wildlife posters and ZOO educational kits on Tigers and Daily Llife Wildlife. The programme was concluded with a joint pledge by all the participant teachers, forest official, and students to protect and preserve the wild animals at any cost in their local forest divisions adjoining to the Askot Wildlife Sanctuary. They also pledged that in the future they will make all efforts to see that the local conservation agencies get their cooperation and support.

Bear Anti-Poaching Outreach Camp for Communities at Thalkedar, Pithoragarh

Thalkedar (see Figure 5) is a small village located 20 kms away from the Pithoragarh town at an altitude of 2100m.a.s.l. The area is surrounded by a dense forest cover and is one of the key wildlife poaching sensitive areas in Pithoragarh. The area has a rich species diversity with a good population of leopard (*Panthera pardus*), Himalayan black bear (*Ursus thibetanus*), barking deer (*Muntiacus muntjak*), and other mammalian species. Himalayan black bear is the poachers main target animal inthis area for its bile and flesh. Poachers from the neighbouring states often come to this area and do illegal poaching of wild animals with the help of some local wildlife body part mafia groups.

One special programme on *Bear Anti-Poaching Awareness Outreach* was conducted on 17th January 2007 during the Animal Welfare Forntight by Dr. Santosh Sahoo in collaboration with the Pithoragarh Forest Division, Uttarakhand. The programme was attended by 30 villagers from the Thalkedar *Van Panchayats*, two forest guards and Thakledar forest ranger. The theme of the programme was on *"Protecting Himalayan Black Bears and their Natural Habitat"*

Two different sessions were conducted during this 3-hour programme. In the first session, the focus was on a lesson study on "Indian Bears and Conservation Issues of Bears in India", while in the second session, the programme focused on the "Poaching Threats to the Himalayan Black Bears and Anti-Poaching Measures." The participant communities interacted with Dr. Santosh Sahoo by giving some important information about the black bear poaching trends in the Thalkedar Forest Range in the last five years. As estimated by the villagers, there were at least 30 black bears in the Thalkedar forest range areas 10 years ago as against the currest estmation of nearly 10 black bears in the same range. Poaching was believed to the major cause of this population loss of the Himalayan Black Bear species in Thalkedar forest range. The effort in this programme was to sensitise among the participants with this poaching trend of the bears and educate them about how they can play a major role in saving the remaining number of bears in their local forests. Dr. Santosh Sahoo stressed on the role of community partipation in a successful conservation of the black bears and other threatened wildlife in the region. In the second session, the participants tied rakhis on bears and pledged to act collectively to protect their local forests and wild animals.

Community Conservation Awareness Programme on Human-Wildlife Conflict

The human-wildlife conflict has been a newly emerging issue if concern in many parts of the northwestern Himalayas. Its effect is more particularly in areas close to the wildlife sanctuaries and national Parks. In the Kumaon hills of Uttarakhand, the human-wildlife conflict is becoming a growing menace with more and more *Van Panchayats* complaining of the crop raiding by wild animals. In most cases, villagers primarily accuse elephants (in the Terai belt), wild boars and rhesus monkeys (in the Shivalik hills) as the main crop raiders. However, in some places in the Shivalik Himalaya ranges, this conflict is mainly due to frequent leopard attack on the villagers and cattle. From the point of wildlife conservation and development of the community's agro-based economy, the issue of conflict with wildlife by the communities needs to be understood at its root. With the conservationist's focus on conservation of wildlife and habitat management on one side and rising community antagonism toward wildlife on the other side, there is, indeed, a third front conflict between the conservationists and communities. Communities need a lasting solution to their conflict with wildlife, while conservationists stress on balanced solution of the human-wildlife conflict. conservation education is one such balancing mode through which much can be achieved on the

front of human-wildlife conflict as it can give a right perspective in the mind of the communities to understand the roots of this problem and find an eco-friendly solution to the problem.

In this 2nd RSG project, one of my activities was on the issue of the human-wildlife conflict in Almora district. Two outreach conservation educational programmes were conducted on this issue: the first programme was organised at Jakshoda (see Figure 4) for the communities, forest guards and school children in collaboration with the Almora Forest Division, while the second programme was conducted in Bhagartola Van Panchayat near Almora.

At Jakshoda, Almora, one programme was organised in association with the Almora Forest Division, Almora on the issue of human-wildlife conflict with the participation of 30 students, 8 community members, 10 forest guards, two range officers and two teachers. The programme was organised on 6th October 2006. Dr. Sahoo conducted the programme by giving a short talk about the concept of human-wildlife conflict. To make this concept clearer to the community members, one human-leopard conflict game activity was played by the students of the local primary school under the direction of Dr. Sahoo.

The game activity was on the issue of human-leopard conflict in Uttarakhand. The students played role models of both carnivorous and herbivorous animals. The negative effects of illegal hunting and habitat loss were presented in the role model plays and explanation was given to the audience about the reason why the leopards enter into the villages and attack on cattle and villagers particularly children. During the game activity, Dr. Sahoo explained to the participants how excessive tree felling for converting forest lands into agricultural land and poaching activities lead to loss of wild habitat and prey animals in the natural forests which as a result force the wild animals to enter in human habitation areas and create a type of conflicting situation villagers. The Director of the Binsar Wildlife Sanctuary, Almora division gave prizes to the students who participated in the role play game activity.

The programme at Bhagartola, Almora (see Figure 4) was for a selected number of village *Van Panchayat Sarpanchas* who complain of the cases of human-wildlife conflict over the incidences of wild boar related crop damages and leopard related loss of human life in their respective *Van Panchayat* areas. The programme was attended by the local area forest range officer and three forest

guards. Dr. Santosh Sahoo allowed the villagers to narrate the stories of how the villagers in their Van Panchayats suffer from economic loss due to frequent raiding of the standing crops by the rhesus monkeys during day and wild boar during nighttime. The participants were openly arrogant towards this problem of human-wildlife conflict and appealed for a lasting solution for their interest.

Dr. Sahoo focused on the root causes of this problem and suggested some remedial preventive measures suitable to the local condition. Dr. Sahoo also clearly explained how the human-wildlife conflict is a two-way conflict: ***villagers facing a conflicting situation with the wildlife and wildlife facing a conflicting situation with the villagers.*** Through a simple game activity, Dr. Sahoo tried to explain the participants the reasons why many species of wildlife face extreme situation to move from their natural home toward the human habitation areas. The villagers accepted the explanation that the more we disturb the natural habitats of the wildlife; the greater will be the chance for the wildlife-related damage to us in one or other way. So, the message here was that we all need to take concrete steps not to disturb the wild habitats any more, and if every body realizes it and accepts it, there will be a significant reduction of the human-wildlife conflict. The participants accepted the idea and showed interest to have regular meetings on this topic so that the villagers will be able to understand the issue of this conflict and get helpful solutions for the greater interest of both wildlife and villagers.

SAVE BEAR Awareness Campaign

On June 5th 2007, World Environment Day, Dr. Santosh Kumar Sahoo conducted one special wild education programme for the village women, youths and school children on the theme Saving the Bears and their Habitats in the Community Hall at Munakot village of the Munakot block (see Figure 5) in Pithoragarh district, Uttarakhand. It was a collaborative programme with the Munakot Block Office, Pithoragarh to increase awareness of various environmental issues among the village level women's groups, youth groups and school children and to educate the participants about the Himalayan black bears and sloth bears and the threats the sloth bears face.

The programme was also chaired by the Munakot Block Development Officer, Munakot Agriculture Development Officer and other local officials from the *Van Panchayats* and Environment NGOs. The programme was divided into two sessions of two hours each: in the first session, Dr. Santosh Sahoo presented its programme on the theme PEOPLE's ROLE TO PROTECT THREATENED SLOTH

BEARS AND HIMALAYAN BLACK BEARS. Dr. Santosh Kumar Sahoo, Chairman, Conservation Himalayas, conducted the entire session of the programme with an introductory interactive talk on **"Understanding Biodiversity through Food Chain and Food Web System in the Ecology"** Some of the women participants and youths participated in this interactive talk and shared their understanding of the issue of wildlife depredation. Through pictorial examples and schematic diagrams, Dr. Sahoo explained to the audience the concept of food chain, food web and chain reaction and made the talk lively as some of the young participants volunteered to show to the audience how in the ecosystem, the food chain system operates and how the loss of one food energy source in the food chain (for example, frogs) breaks the food chain leading to the creation of an imbalance in the ecosystem.

Small kids made this demonstration under the direction of Dr. Sahoo. This was followed by a question answer session during which the audience asked questions on food chain and also on how a balanced food chain helps the villagers. Dr. Sahoo gladly appreciated such questions even from the women and clarified the answers through lucid examples and illustrations from the daily life wildlife ecology in the courtyard of each villager.

In the second part of the programme, Dr. Sahoo gave a talk about Four types of Indian Bears (Himalayan Black Bear, *Ursus thibetanus*; Sun Bear, *Helarctos malayanus*; Sloth Bear, *Melursus ursinus* and Himalayan Brown Bear, *Ursus arctos*). The focus of this session was to apprise the audience with the information about the *Plights of the Sloth Bears on the Highway Road by the Bear Dance Shows*. A game activity on *"Rescuing the Sloth Bears and Protecting Bear Habitats"* was played by the young students.

At the end of the programme, the students participating in the game activities received ZOO bear kits and bear posters. All the participants took group pledge along with Dr. Sahoo to remain alert about any sorts of wildlife crime against bears and other wild animals in their local forests and elsewhere in the country. The group also pledged not to watch any bear dance show anywhere and to discourage their friend, relatives and neighbours not to go to watch any bear dance show.

Outreach Campaign on Plights of Dancing Bears-on-the-Road and Protecting Himalayan Bears

The plights of sloth bears in the hands of the "*Kal-ander"* community give an emotional touching experience to many bear lovers and naturalists. It is hard to believe that these bears in their tender age are deprived of their natural home and forced to remain in captivity by "*Kal-anders"* who use to torture them physically and psychologically for their interest to earn money conducting bear dance in the public places in Indian villages, town, and cities. The people take fun of the bear shows and give their token offerings to the "*Kal-anders"*. This way two major developments occurred over the years: on one side the sloth bears faced tortures, both physical and psychological, in the hands of the "*Kal-anders*", while on another side their population in wild depreciated gradually. Besides the bear rescue operation, what was most needed was the need for educating all section of our society about plights of the dancing bears.

On the occasion of the Wildlife Week 2006, Dr. Santosh Sahoo organized a number of programmes in Kumaon region of the Uttarakhand State under the Rufford Small Grants. The focus was on "SAVING BEARS AND NO MORE BEAR DANCE." The first programme was organized on 1st October 2006 in Forestry Training Academy (FTA), Haldwani (see Figure 3) exclusively for the Forest officer trainees at FTA. The programme was conducted in the FTA conference hall with the participation of 25 forest officers, 10 foresters, and 15 rangers. The chief guest was Mr. A. R. Sinha, Dy. Director of the FTA. The programme started with an introduction on sloth bears by the Director of the FTA. This was followed by a full session by Dr. Santosh Kumar Sahoo who first gave a brief introduction about the Asian bears, their population status, threats to the bears and conservation and management efforts to save bears. This introductory session was interactive as the trainees shared their field experiences with bears and other wildlife.

After the interactive session which lasted for one hour, the trainees were shown a special Power Point slide show on **"The Last Dance of Pain" and "Sloth Bear Conservation Effort in India."** Dr. Sahoo explained each slide one by one with emotional narration of the sloth bear stories as was presented in the slides. Aruna Negi, Wild Education Officer, Conservation Himalayas, showed to the trainees a beautiful ZOO poster of sloth bear and narrated stories of the rescued sloth bears at Agra Bear Centre. There was question-answer sharing session during the slide show. Some of the trainees

shared their practical experience with the sloth bear both in wild and in dance show on the road. They expressed their concern for the tortures and pain sloth bears face in the hands of the "*Kal-anders"*.

In the last part of the programme, the trainees came to the front one by one and shared their feelings after what they learnt from the slide show. It was surprising that except two trainees, non others had known about the sloth bear conservation efforts in India. At the end of the programme, the FTA trainees pledged to work collectively to protect bear habitats and to save bears in their natural home in the forest. They also pledged to educate others not to go to see any show that uses bears and other wild animals for money.

On 5th October 2006 (World Habitat Day), Dr. Sahoo organized Wildlife Week programme for senior grade students in the Koormanchal Academy at Almora, Uttarakhand. As many as 150 students, both boys and girls, 5 teachers and participated in this programme. Mr. B.S. Sahi, Almora Forest Sub-Divisional Officer was the chief guest for the programme. The theme of the programme was "NO MORE BEAR DANCE and NO MORE PAIN TO THE DANCING BEAR". It was a 3-hours programme conducted by Dr. Santosh Kumar Sahoo and Aruna Negi. The vice-Principal of the school introduced Dr. Sahoo, Aruna Negi and Mr. Sahi with the students and also told about the purpose of this programme. Mr. Sahi gave a short talk on the role of natural habitat for the welfare of the wildlife and human beings keeping his focus on the habitat conservation and management through community participation.

Dr. Sahoo conducted the entire programme with single focus on Sloth Bear. In the first 45 minutes there was an interactive session in which the students actively interacted with Dr. Sahoo on several questions on Asian bears, particularly sloth bear dancing on the hot tar road in India. It was an interesting session as most of the students were taking keen interest on the theme of the programme and actively coming forward with queries and answers. Since the day of the programme was being celebrated as the World Habitat Day, students were briefed about the major causes of the threats to the natural habitats, particularly in the developing countries including India, how this growing trends of habitat loss pose imminent threats to various wild species or leads to extinction of many wild animal species, and what we all have to bear to face challenge from the natural habitat depletion and loss of wild animals.

In order to raise concern among the participants, the issue of habitat and wildlife depletion was related to the issue of sloth bear population loss due to "*Kal-ander*" communities who usually kill mother sloth bears in the forests and take the baby sloth bears into their captivity for cruel treatment, training and use for their livelihood. Dr. Sahoo gave a clear explanation on how in India sloth bear conservation efforts by the government and nongovernmental agencies are creating good environment for the rescued sloth bears in different Indian zoos and bear rescue centres. Dr. Sahoo gave examples of Bear Rescue Centre at Agra where a number of rescued sloth bears live a healthy life without their dance of agony. He also gave examples how in the M.C. Zoological Park at Chhatbir near Chandigarh, two rescued sloth bears are enjoying their new life after being rescued from the clutch of "*Kal-ander*" communities. This information moved the students who seemed thoughtful and serious over the dancing sloth bear issue in India.

This interactive session was followed by a role play activity by three students on "Rescuing a Dancing Sloth Bear". In this play, one student played the role of a "*Kal-andar*", one played the role of a Dancing Sloth Bear and another played the role of a Bear Rescuer. In the dramatized play, the role plays of the "*Kal-andar*" with a dancing sloth bear was to show to the audience how a person feels if he is forced to dance with a rope inserted into his nose. In the role play the "*Kal-ander*", who used a sloth bear for money for several years, repented for this profession when he was counseled about the welfare of the sloth bears and handed over the bear to the bear rescuer who then sent the bear to the bear rescue centre for rehabilitation. Through this dramatized role play, the students were made aware about the problems with the dancing bears and about the bear conservation efforts to stop horrible tortures to the bears.

The participants for the *Dancing Bear Show* role play received sloth bear poster as token gifts from Dr. Sahoo. At the end of this emotion-packed programme, all the students pledged that they would do their best efforts to help the sloth bears by reporting to the police and forest officials about the people who are conducting bear shows or buying or selling bear parts. They also promised to make effort to educate others about bear welfare.

As a part of the Wildlife Week-06 programme on Dancing Sloth Bears, another programme was organized on 12th October 2006 for nearly 100 tribal students in the Ashram Padhati higher school at Munsyari, Uttarakhand (see Figure 5). The students were shown slide pictures on Dancing Bear plights and bear rescue through Power Point presentation. It was a short 30-mnts bear slide show

programme during a full 3-hour programme on "Saving Daily Life Wildlife". Dr. Sahoo explained the students on bear tragedies in the hands of the "*Kal-anders*". The Power Point presentation stunned the students who later pledged to help bears by not going to see any bear dance anywhere and also by educating others about bear plights in the hands of the "*Kal-ander*" communities in India.

Forest Fire Control Training Camp for the Van Panchayat Communities

In many parts of Uttarakhand state, forest fire mainly duuing summer months is one major cause of damage to the wildlife and its natural habitat. During summer months when most of the pin forests are laden with dried pine leaves, the risk for forest fire is immenent due to carelessness of many local people who use to throw burning cigarretts / *bidis* on to the dry pine leaves resulting in devastating fire in the forest in many locations. In the Kumaon hills, most of the forests in the Almora and Pithoragarh districts are fire prone because the pine trees (mainly dominated by chir pine, *Pinus roxburghii*) are the dominat tree species in this region and the chance for forest fire is more.

Charchulli (see Figure 4) is one of the high risk forest fire sensitive areas in Almora district. Located at an elevation of 1900m a.s.l. the Charchhuli *Van Panchayat* has a dense coverage of forests and wildlife wealth connecting the area with the southeastern boundary of the Nandadevi Bio-Reserve. Forest fire and poaching remains as two major threats to the population of the many species of wildlife.

One collaborative programme on Forest Fire Control was organised for 25 *Van Panchayat Sarpanchas,* and six forest guards. The Almora Forest (Civil) Division collaborated in this programme. Mr. B.S. Sahi, SDO, Almora Forest (civil) Division participated as the resource person to coordinate the programme with Dr. Santosh Sahoo and Aruna Negi.

The programme was connducted in two different sessions. In the first session, Mr. B.S. Sahi gave details of Uttarakhand Govt.'s working plans toward the forest fire control management and related issues like protection to the forests and wildlife. He used Govt manual on Forest Fire Control Measures to make the participants aware of this issue and encouraged them to join hand in protecting the local forests from human-induced fire.

In the second half, Dr. Sahoo and Aruna Negi talked about the adverse effects of forest fire on the forest living creatures and environment at large. Dr. Sahoo related forest fire with the green house effect and climate change and gave examples of the effects of green house effect and climate change on the environment at large and Himalayan wildlife in particular. The participants were given simple illustrations of Forest Fire and how the carbon dioxide from the forest fire bring changes in the carbon dioxide level which leads to the gradual increase in the temperature level on the earth's atmosphere. Dr. Sahoo explained how increasing bio-fuel burning is one major factor causing global warming in different parts of the world with growing threats to the glaciers, wildlife and human beings. The session was interactive with the active participation by the forest guards and villagers who not only expressed their serious concern over the impact of forest fire on the local forest resources, community livilihood and village level micro environment, but also they appealed to the NGOs and forest authority to relate innovative biodiversity conservation effort with community livelihood improvement plan for the Van Panchayats. The also pledged to assist the govt department in its Forest Fire Control and Management efforts.

Anti-Poaching Appraisal Programme for the Van Panchayat Sarpanchas at Kanrichhina, Almora

One of the activities under the 2nd RSG project was to give special training to the villagers in the poaching sensitive *Van Panchayats* in Almora district of Uttarakhand state. The Kanarichhina (see Figure 4) *Van Panchayat* is one of the sensitive panchayats in the Almora district from wildlife poaching standpoint. On 20th January 2007, one anti-poaching and wild habitat management training camp was oprganised under the 2nd RSG project in association with the Almora Forest (Civil) Division. The *Van Panchayat Sarpanchas* numbering 60 from the Kanarichhina *Van Panchayats* participated in this half day camp. The Almora Forest division sub divisional forest officer, Mr. B.S. Sahi chaired this camp and gave dtails of govt. planning to protects *Van Panchayat* forests and wild resources. He also stressed on the community participation programme to have control over the poaching activities in the forest areas in Kanarichhina and its adjoining forest ranges.

Dr. Santosh Kumar Sahoo took one session with a theme on "Saving Himalayan Wildlife through Community Cooperation". Anti-Poaching was the topic of interactive discussion among the participants. Dr. Sahoo and Ms. Aruna Negi information to the participants about the biodiversity concept and how the growing demand for natural resources and illegal poaching of wildlife is causing resious threats to different wild taxa in many parts of the northwestern Himalayan rgion. The forest guards and *Van Panchayat* S*arpanchas* were were given information about the certain cases of poaching in the local forested areas by the outside poachers and local mafia wild body part traders. The objective of this meeting was to motivate the participants to act proactively with the local forest department authorities and conservation NGOs in protecting the threatened and endangered wild animals. Dr. Sahoo gave illustrations of different potential human-induced threates that cause damage the biological resources in the protected and reserve forests. Ms. Aruna Negi stressed on the value of concern and commitment on the part of the fringe villagers who can do a lot to make difference in the conservation of wildlife and hantural habitats.

The participants took serious note of the conservation, habitat management and anti poaching campaign campaign issues raised diuring the interactive process of this programme and pledged with each other that they will join hands to fight against the wildlife poaching, forest fire and habitat degradation. The participants tied rakhis of pledge on each other's wrist as a sign of their mutual committtment and concern to save wildlife from the hands of poachers and from other threats.

At the end of the programme, all the participants were given special booklet (Hindi Version) on *Community Role in the Himalayan Wildlife Protection*. The booklet was about different roles communities can play to protect their *Van Panchayat* forests and the wildlife resources.

Himalayan Musk Deer Awareness Campaign for the Community

The Himalayan Musk Deer (*Moschus chrysogaster*) is one of the endangered wildlife species in the northwestern Himalayan mountain ranges. The population distribution of the Musk Deer is limited in the higher reaches between 2500m and 4000m.a.s.l. in Himachal Pradesh and Uttarakhand Himalayas. In the high mountains of Uttarakhand, particularly in the Pithoragarh district, the population of the musk deer species occurs in the high altitude snow bound areas in the Askot Wildlife Sanctuary, and because of its frequent sighting in the north facing alpine pastures in areas bordering Tibet and Nepal, this area got the status of musk deer sanctuary by the the Government of India. Another fact regarding this santuary is that before this area was declared as the Musk Deer sanctaury, this area was poacher's safe heaven, and through certain routs across this area (**see Figure 6**), the body part of the musk deer was being smuggled to China, Tibet and Nepal. Even today, there are two sensitive wildlife body part trading routs in this region: **i) Dharchula-Jauljivi-Darchula (Nepal)-Khalanga-Khandeswari (Nepal)-Lipulekh Pass-Taklakot (Tibet) and ii) Dharchula-Tawaghat-Pangu-Sirka-Gala-Malapa-Gunji-Nabhidang-Lipulekh pass-Taklakot (Tibet).** Although the local govt authority is well aware of the body part trade scinario in this area and efforts are made to control it, behind-the-scene poaching activities continue to occur illegally in the musk deer range areas of the Askot Wildlife Sanctauary. During summer season, musk deer poaching activities are more likely to occur as the the local communities move into the remote alpine terrains in large numbers in search of Yar Tsa Gumba (*Cordyceps sinensis*) and put tents for months together.. People here are not so much concerned about wildlife protection and nature conservation. All they want is how they could exploit different natural resources including wildlife for their economic beneifits. Conservation educatiopn is an imminent need for the local communities for a successful *in situ* conservation of the endangered Musk deer (*Moschus chrysogaster*) and Snow leopard (*Panthera uncia*) in this region.

With this concern, I organised one special "Save Himalayan Musk Deer Conservation Awareness Camp" at Galati in Dharchula, Pithoragarh district, Uttarakhand (see Figure 5). The Musk Deer Awareness campaign for the local communities, particularly among the *Bhotia* communities was

coordinated in two different activities: i) Musk Deer Campaign Education for the community members living in and along the fringes of the Musk Deer Sanctuary in the Askot Wildlife Sanctuary in Pithoragarh district of Uttarakhand, and ii) and putting in place four wildlife hoardings with printed images of wildlife of the Askot Wildlife Sanctaury including Musk Deer (*Moshus chrysogaster*), Snow Leopard (*Panthera uncia*) Himalayan Monal (*Lophophorus impeyanus*) and Serow (*Naemorhaedus sumatrensis*).

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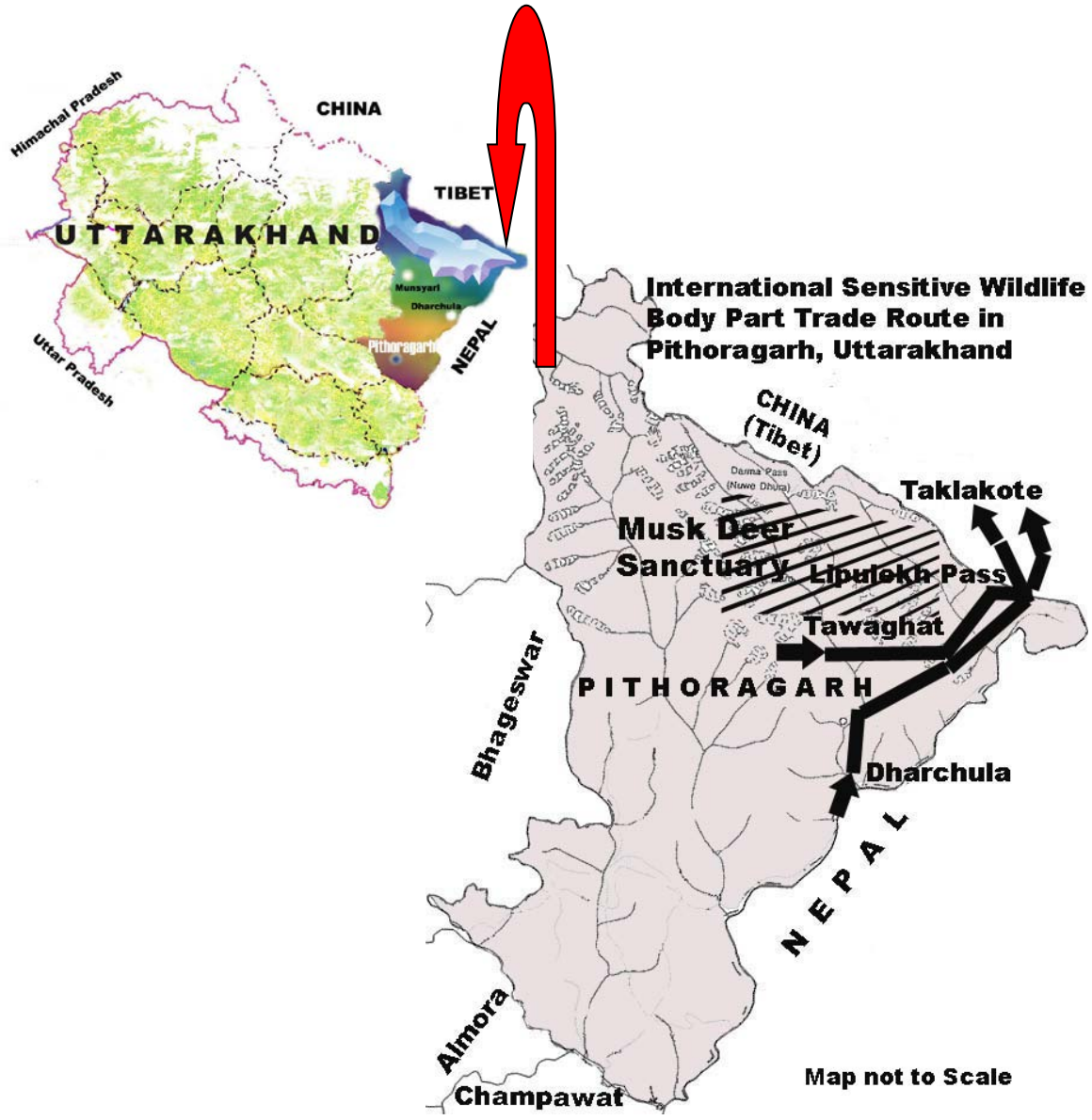
The main objective of the Musk Deer Awareness Campaign programme was to reach to the communities who are known for their hunting practice in the areas close to their high altitude alpine village sites in Pithoragarh district and involve them in our Himalayan Wildlife Protection Awareness Campaign as participants. Although the rate of wildlife poaching practice by this community people has come down considerably under the effect of the implemention of the Indian Wildlife Protection Act 1972 (1991), there is, however, a need to educate this community about ecological significance of the musk deer in the high altitude Himalayan mountains.

One Musk Deer awareness campaign group meeting was conducted at Galati in Dharchula on 26 community members belonging to the Bhotia community participated in this group meet, and the theme for the programme was about the significance value of Musk Deer in the Himalayan Alpine ecosystem and about the threats to the Musk Deer and the need for Musk Deer conservation in order to protect the ecological balance of the high mountain ecology. In this programme, 25 community members including men, women, and children belonging to the Bhotia community participated. Dr. Santosh Kumar Sahoo and Aruna Kumari coordinated the programme with three activities: interactive session on Musk Deer basics; Wild Protection Game Activities; and Group Pledge for the Himalayan Musk Deer protection. In the first session Dr. Sahoo and Aruna Kumari took an interactive session with the participants. Musk Deer basics, *such as musk deer types, population distribution, habitat types, feeding ecology, behaviour, threats and conservation status*, were taught to the participants through illustrtaions, facts, and schematic diagrammes. Participants

Figure 6

Map showing two international wildlife body Part trade routes in Pithoragarh district of Uttarakhand Himalayas.



interacted with Dr. Sahoo with their queries about the ecological significance of Musk Deer and Why there is a need for the conservation of this species. Dr. Sahoo answered all these queries and pleaded the community to cooperate in the conservation efforts by different agencies in order to protect this species and its habitat.

In the second session, youth participants played the game on Food Chain system while the kids played the Musk Deer Population Loss and Habitat Protection Game Activity. The objective of this session here was to teach the audience about the population and habitat loss of Musk Deer through role model play activities.

The kids participated in a game activity on **NO MORE MUSK DEER BODY PART TRADE** Dr. Sahoo teaches the kids about the effects of poaching on the wild ecology when poachers target wild animals of an ecoregion. Dr. Sahoo also expressed concern over the musk deer poaching and suggested that the poachers must realise the adverse effect of poaching on the ecology as well as on the human inhabitants living in and around that ecosystem. The kids and youths who participated in the game activity were given wildlife posters as a token prize. The other community members participated directly in the question hour session to understand the meaning of these games and how their role could be of help in saving musk deers and their habitats.

At the end of the programme, all the participant members took a pledge with Dr. Sahoo that they would not let any member of their community kill any wild animal and that they will make efforts to educate others about the wild protection value of the wild animals in the Himalayan ecology.. Dr. Sahoo distributed musk deer posters to each participant.

The second programme of this Musk Deer awareness campaign was the installation of four 12ft X 8ft size flex hoardings on Askot Wildlife Profile at four different location in the Askot Wildlife Sanctuary Areas in Pithoragarh district as public resource material. The Pithoragarh Forest Division collaborated with Dr. Sahoo in making these hoardings and installing them at Galati, Dharchula; Tawaghat, Dharchula; Ogla, Askot; and Jauljivi.

Another special hoarding was prepared by Dr. Santosh Kumar Sahoo on Common guiidelines for the Forest Fire Control in collaboration with the Pithoragarh Forest Division. The hoarding text is exclusively an appeal to the local people to protect thr forests from fire with some Forest Fire Control Methods in Hindi language. The hoarding was placed in Ogla, a small village situatd in the down fire sensitive area of the Askot Wildlife Sanctauary.

SAVE VULTURE Awareness Outreach Programme

Munsyari (see Figure 5) is a countryside small hill station situated at a height of 2140 m.a.s.l. in the northwestern side of the Pithoragarh district in Uttarakhand state. The topography of Munsyari is characterized by stiff rocky cliffs and good vegetation of mixed oak and pine forest. The high mountain cliffs around this mini hill station provide an ideal home to vultures and other wildlife. However, some of the human–induced activities, like mountain blasting for mining, roads, and tree felling in and around Munsyari are causing grievous threats to many species of wildlife including vultures. There is as such not much concern among the local people for the growing scale of degradation to the local forests and rocky landscapes because of which sightings of the wildlife in this region is gradually becoming rare.

As reported by the local people, vultures were found in Munsyari area quite in large number few years ago, but recently they are rarely seen flying in very small number. Although the local people realize this trend of vulture disappearance, they are however nor aware why vultures continue to disappear over the years in recent times.

Conservation Himalayas organized one vulture awareness camp for the tribal students of the Ashram Padhati Higher School in Munsyari in association with the local forest department on 12th of October to celebrate wildlife week 2006. The theme of this programme was "*Know Vulture Species through Colour Painting.*" The programme was conducted on the top of a hill overlooking the Munsyari town with the participation of 24 students, 2 teachers, 2 foresters, and 1 Deputy Range Officer.

The programme lasted for two hours and was conducted in two parts. In the first part, the participants were briefed about different types of vultures found in India, their role in the ecology and the major threats they face. The participants openly participated in the interactive learning on vultures. The students believe that vultures disappear because of the disturbance to their natural nests caused by the developmental activities, encroachment of habitats, massive mining, and diminishing cliffs and rocks. They were told about other threat factors, like diclofenac, disease, increased waste and carcass disposal techniques, forest fires, etc.

In the second part of the programme, 24 Students participated in the vulture colouring competition. Sketch draw pictures of 9 types of vultures were used as the colouring materials. Each student was

given one type of vulture sketch. Students sat in six different groups and each student painted one vulture sketch. Different colour codes for the vulture painting were given to each student.

Interestingly, as the vulture colouring competition was in progress on the open ground of the top of the hill, a group of vultures appeared in the sky just above the programme site. It was an additional excitement for the participants to see live vultures in the sky. Dr. Sahoo explained the students how to distinguish vultures from other birds, such as kite, eagle and crow.

In the end of the programme, vulture posters were distributed as token prizes followed by a pledge by all the participants to educate others about vulture threats and save the vultures and their habitats.

KNOW PRIMATES - SAVE PRIMATES Awareness Education Programme

On 9th of October 2006, one primate education programme for the girl students of the Government Girls Inter College (GGIC) at Didihat (see Figure 5) in Pithoragarh of Uttarakhand State was organised by Dr. Santosh Sahoo. One hundred five students, two lady teachers of the GGIC and three forest officials of the Didihat forest division participated in this 3-hour programme which was conducted in the open forest land behind the GGIC at Didihat. The programme was conducted in two parts. In the first part, there was a brief teaching session about South Asian Primates – Macaque, Langur, Loris, and Gibbon. It was for the first time that the participants heard about the primate diversity in South Asia although some of them had little knowledge on the macaque and langur monkeys. The primate kits of the ZOO Organisation were used as the primary resource material for the students who not only appreciated the specially designed South Asian Primate Posters of the ZOO Organization, but also showed their curiosity to get involved in the conservation efforts for the endangered primate species.

In the interactive primate learning session, the students were given information about different species and sub-species of non-human primates found in India and in the Indian subcontinent, their population status, habitat ecology, behaviour, threats and conservation issues. Many students shared their knowledge about primates, rhesus and langurs of their local area with stress on the crop damage by the rhesus in the area. Although they believe that the monkey crop damage issue has not yet been a major issue in the area, it can however become an issue of concern in the near future like the wild boar crop damage issue if people are not adequately educated about the population dynamics,

behaviour and habitat ecology of this commensal primate species. Students stressfully emphasized the need for conservation education for the communities.

The second part of the programme focused on the primate drawing in which the objective was to make the students familiar with the common and scientific names of different types of South Asian non-human primate species and their body colours with the help of the specially designed South Asian Primate Posters of ZOO Organisation.

The participants were divided in six groups each with 5 students. Each student was given one sketch drawing of one species and for each group one South Asian Primate Poster was given for colour reference and species identification. One colour pencil set was provided free to each group to use on share basis. Students did colouring work with patience and lots of interest.

This primate colouring exercise, according to the participants was very interesting because they could easily learn to identify a primate species from their outer body colour. The primate poster is so attractive that it caught the interest of one teacher who remarked that the primate poster of the ZOO organization was a masterpiece to know at a glance the South Asian primate species from their body colours.

The students were given 20 minutes to complete the primate colouring exercise. After they finish, the teachers selected the best coloured primate species from each group on the basis of the colour contrast, colour pitch, and colour matching with the original colour of the corresponding primate species in the poster. The best selected coloured primate species from each group was given one big primate poster as a token of gift, while all the participants received small posters. In the end, participants tied primate rakhies on each other's right wrist matching their own species group (for example, Hoolock gibbon with Hoolock gibbon, Lion-tailed macaque with Lion–tailed macaque).

SAVE TIGER Training Workshop for Forest Department Staff

Community outreach education on the issues of Tiger conservation is a vital tool for the school children and community not only to learn about the conservation problems Tigers face in their shrinking habitats but also it acts as a medium through which the issues of tiger conservation can be

well addressed to the communities and the role of the community participation in tiger conservation can be strengthened.

At the Forestry Training Academy, Haldwani (see Figure 3), Nainital, one half–day workshop session was organised on 30th September 2006, and the programme session was on the topic entitled **"Know Tigers and Save Tigers."** The participants included 25 foresters, 20 rangers from Uttarakhand Govt. Forest Divisions and one forest official from the FTA. The programme session was conducted in two parts. In the first part of the programme, Dr. Santosh Sahoo gave a power point presentation on ***Tigers in Peril*** in which information like 'Types of Tiger sub-Species

Found in the World', 'Tiger sub-Species Already Extinct', 'Tiger sub-Species Currently Found in Wild', 'Historic and Current Distribution of Tiger Sub-species', 'Historic and Current Population Distribution of Bengal Tigers in India', 'Wild Population Status of the Existing Tiger sub-Species', 'Threats to the Wild Population of Tigers', 'Tiger Body Part Trade', 'Conservation Status of the Tigers in India' and 'Role of Communities in Saving Tigers'.

During this presentation, the participants interacted with Dr. Santosh Sahoo and asked several questions pertaining to the Tiger Conservation issues in India and how foresters and forest guards can play any role in the tiger conservation in the tiger range areas in Uttarakhand. It was a good platform as there were 6 foresters and 4 forest guards from different forest divisions in Terai's tiger range areas. These participants took keen interest to know about tiger facts and participated in the interactive session with Dr. Sahoo and Aruna Negi.

Through a specially made flex banner presentation, information regarding the tiger body part trade was exposed to the participants. As the interactive session proceeded, it came to the notice that even none of the participants was aware of the basic facts about tigers like expected tiger population size in Uttarakhand and in India. The programme, according to the Director of the FTA, was very useful for the foresters and forest guards as they got interesting information about how tiger trade is causing serious concern over the loss of tiger population not only in India but also in other tiger range areas in the world.

The second part of the programme was on the theme "Tiger Population Census". The participants were taught about how the scientists use different census techniques to ascertain the population size

of tigers in the tiger range areas. Dr. Sahoo explained the methods used in traditional pug mark census technique and scientific camera trap technique. Aruna Negi gave a brief information about the success story of tiger conservation in India under **Project Tiger** programme.

The participants were given special tiger kits of the ZOO organisation and Tiger poster by Dr. Santosh Kumar Sahoo. The participants pledged that they will actively participate in the tiger conservation programmes in Uttarakhand and educate others about the tiger conservation issues.

Wild Protection Awareness Education for the Students

One half-day open field camp on the tiger education was organised by Dr. Santosh Kumar Sahoo and Aruna Negi for the students of the Govt. High School at Lodhia, Almora (see Figure 4) on 4th October 2006 (World Animal Day). Both boys and girls from the senior grade classes participated in this programme. The main theme of this programme was on tiger awareness through understanding prey-predator relationship in the habitat ecology. Dr. Sahoo explained with simple examples how tigers survive in the natural habitat and how the threats of poaching and tiger body part trade is causing serious concern over the significant loss of wild living tigers particular in India.

Since the participant students were shy and had very little interest in wildlife, attempt was made to teach the students through a play method of learning the tiger facts and prey-predator relationship. At least ten students volunteered to play two role model games: one on Prey-predator relationship and another on **"Saving Tigers: No More Poaching and No More Body Part Trade"** The role play game played by five students focused its meaning on how in the wildlife habitat, an ecological harmony is maintained through a balanced prey-predator relationship. Dr. Sahoo also explained about the adverse impact on the ecology when an imbalance is created in the prey-predator relationship following sudden depredation in the population size of the predators. The role play game activity was an easy way for the participants to learn this concept of prey-predator relationship.

The second role play game was played focusing on the topic entitled **"No More Poaching and No More Body Part Trade."** Ten students participated in this role model game activity. Through a simple poaching role, the students could understand the severity of the poaching pressure on certain wildlife species, like tigers, elephants, musk deers and Himalayan black bears. The role play also made a emotion touching action of the hunter who would confess his wildlife crime and pledged that

he would first love to learn about the significance of the existence of wildlife in the ecosystems and the beneficial role wild animals play for a healthy environment which is must for a healthy living of the human beings. The programme ended with a group pledge to save the wildlife through learning about the wildlife and the wild habitat.

One programme with a theme on the "Saving the Big Cats and their Wild Habitats" was organised by Dr. Sahoo for the 7th graders of the Govt. High School at Bhawali, Nainital (see Figure 3). The programme was conducted in the classroom setting with participation of 35 students and two class teachers. Dr. Sahoo and Aruna Negi conducted the programme in sessions. In the first session Aruna Negi introduced the students with a number of pictorial images of the wildlife from one eco system and made the class interactive to understand the concept of interdependence for the survival of these animals in that ecosystem. The participants volunteered to tell about what they understand by this concept and also gave examples in the context of the local forest ecology.

Since most of the student participants were from the leopard range areas, and the problem with the leopard is common in their villages, the students were taught about the problems faced by different wild animals including common leopards due to poaching and loss of natural food resources and habitat. Dr. Sahoo briefed the students about the plights of Bengal Tigers in India due to habitat loss and tiger body part trades. Some students were emotionally shocked when they heard from Dr. Sahoo that the current wild tiger population in India has come down to as low as around 3000 from nearly 1 lakh population a century ago. Dr. Sahoo gave this information from the Tiger Booklet of the Wildlife Conservation Society, WCS.

A game activity on the theme "Habitat Loss and Poaching Effect" was played by the students with the guidelines from Dr. Sahoo. For the students it was an exciting moment when they could learn the concept of conservation through game activities. The teachers applauded the programme and pleaded that such programmes are a must for the new generation students who can not only get chance to elevate their awareness about wildlife and nature but also it will help them develop creative ideas for wildlife conservation and vision for participate in the conservation of natural resources.

2nd RSG Project Activities in Himachal Himalayan Region, India

Himachal Pradesh is one of the captivating regions of the northwestern Himalayas in India. It is often referred to as the "Magical Showcase of Nature's Splendor". Its topography is characterized by diverse mountainous landscape, flora, fauna, abundant green grassland and wide valleys set against imposing snow-clad mountains, lakes, flowing rivers and spurting streams. The wildlife in Himachal is distributed through its territory with some of the species like snow leopard, musk deer, western tragopan, Himalayan monal and Himalayan black bear, ibex and blue sheep, having their population distribution in high altitude areas between 1800m.a.s.l. and 4500m.a.s.l. The Himachal Himalayan region was earlier known as the poacher's safe heaven particularly in its high-altitude areas at the time when there were no stringent Indian laws for the protection of the wildlife before the imposition of the Indian Wildlife Protection Act, WPA, in 1972. This imposition of WPA brought the wildlife related crime to certain limit in the Himachal Himalayan region, however such cases continue to grow without the knowledge of the state administration resulting in the gradual loss of some of the precious wildlife species, mainly musk deer, Himalayan black bear, Western tragopan and Himalayan monal. The status of musk deer in the state is quite uncertain as most of the musk deer habitats are either cleared of this species by the poachers during the last several years or these habitats are being degraded to the level unsuitable for the Himalayan musk deers to survive. Two beautiful Himalayan pheasant species, Western tragopan and Himalayan monal face similar fate due to habitat degradation and poaching in this part of the western Himalayas.

Conservation Himalayas, a Shimla-based nongovernmental organisation under the leadership of Dr. Santosh Kumar Sahoo, takes this issue of human-related threats to the wildlife in the Himachal Himalayan region as a serious concern and with a commitment to campaign across the state for the interest of the wildlife and wild habitat protection. It was with this mission, Dr. Sahoo undertook a SAVE HIMALAYAN WILDLIFE campaign in different parts of the Himachal Pradesh with a Small Grant from the Rufford Foundation, London. During the 1st Rufford Small Grant project, the aim was to understand the level of wildlife conservation education from the point of view of the community participation and wildlife crime trend in the state. A majority of the programmes were of outreach by nature with focus on KNOWING BASICS OF HIMALAYAN WILDLIFE, ECOLOGY, and AND CONSERVATION ISSUES through wildlife conservation awareness campaign and tree plantation programmes.

The major objective in the 2nd RSG project (awarded to Dr. Santosh Sahoo in June 2006) was in line with the objectives for the 1st RSG project but with a follow up action to propagate the SAVE HIMALAYAN WILDLIFE awareness campaign to include a wider range of communities particularly those who live in areas closer to the Wildlife sanctuaries and national parks in the state. Other types of audience groups targeted in the 2nd RSG project include students, national park visitors and school.

Wild Protection Leadership Training Camp at Manali, Himachal Pradesh

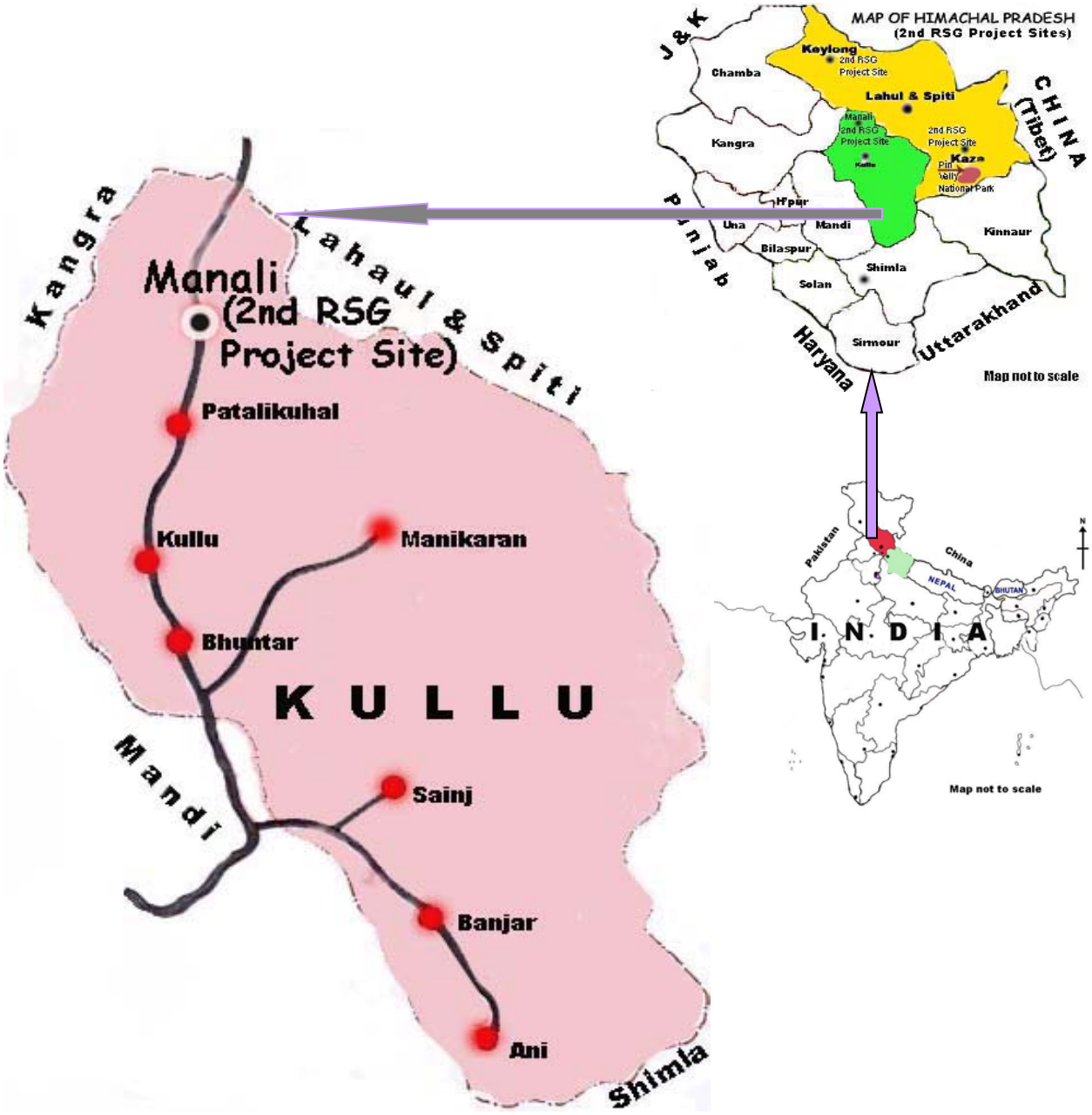
The hill town of Manali in Kullu district of Himachal Pradesh (see Figure 7) is well known for its natural beauty which surrounds the town from all sides with alpine vegetation dominating its northern slopes. Cedrus vegetation mainly dominated by *Cedrus deodara* and *Pinus wallichiana* species adorn most part of Manali and beyond up to alpine snow line limits touching the border with Lahaul & Spiti. In recent years, human-induced developmental activities, like road net working, forest felling, poaching of wild animals, and extensive clearance of forest land for agricultural and horticultural purpose, have become a major cause of habitat depredation and wildlife loss across the Manali forest division area. Conservation Himalayas took initiative in conducting a series of nature conservation awareness camps at Manali.

The main purpose of such camps is to disseminate information among the students, teachers, and community members living along the fringe areas, about various forms of wildlife, their status in the wild and about the conservation need to protect the wildlife and their habitat in the Shiwalik mountain ranges of the Himachal Himalayas. Two Wild Protection Leadership Camps were organized for the K-12 students of St. Lady Willingdon public school and government primary school at Manali and one such camp at Kaza in the Lahaul & Spiti district of Himachal Pradesh.

Dr. Santosh Kumar Sahoo, the second RSG recipient and Ms. Aruna Kumari Negi, Wild Education Volunteer, Conservation Himalayas, Shimla organized and conducted these three training camps. The theme in the first training camp at St Lady Wiilingdon Public School Manali was about the role of the community in the protection and preservation of the wild habitat of Leopard, Tiger and Himalayan Black Bear. A total of 75 students and two teachers participated enthusiastically. The training components include education about '*Tiger Facts'* and '*Threats to Black Bears*'. It was a new type of experience for the students who were shocked at this factual information that out of

Figure 7

Map showing 2nd Rufford Small Grant (RSG) project sites in Kullu district of Himachal Pradesh, India.



the eight subspecies of tigers, three (Caspian Tiger, Javan Tiger and Balinese Tiger) tiger subspecies are extinct and only around 4500 tigers are alive in their natural habitat range. Students were given RSG-sponsored leaflets on *Tiger Facts* printed by Conservation Himalayas.

Many students expressed their emotional feeling by expressing their concern for the growing threats to the remaining tigers. They also pledged that they wouldn't use any product made from tiger body parts and from any wild animal body parts. In another session of this programme, the theme was on '*Threats to Black Bear*'.

Participating students excitingly heard about the plights of bear in natural habitat and captive condition. Six students participated in one *Save the Bears* game activity in which they displayed i) how poachers kill bears and sell their gall bladder for earning more money, ii) how the poacher is caught and punished under the Indian Wildlife Act and iii) how bear population has become more vulnerable to poaching and illegal body part trade and the actions needed to be taken to save the bears in their natural habitat. Bear Educational materials of the ZOO organization, Coimbatore were distributed to the students. The school authority appreciated this type of interactive action-based wild educational programme and wished that similar types of programmes be conducted for the whole school in future on different occasions.

The second Wild Protection Leadership Training Camp was organized for the junior class students of the government middle school at Manali. The theme of this programme was "*Daily Life Wildlife Welfare*".

Nearly 80 students and 3 lady teachers participated in this programme. Dr. Santosh Kumar Sahoo and Aruna Kumari Negi conducted this programme in two sessions. In the first session, students learnt about various types of animals that live close to us that we all take for granted.

It was an interactive session through which students were made to feel that it is as much important to care for the daily-life wildlife as it is for the welfare of the *in situ* wildlife in their natural environment. Through animal sound, animal walk, animal feeding action and animal mask identification method, students keenly interacted with each other like the animals showing interdependence upon each other in their living environment. A brief information was shared about the cruelty to the daily-life wildlife, daily-life mistakes and about our positive attitudes towards

many harmless daily life wildlife, such as frogs, garden lizards, house lizards' insects, birds, butterflies, shrews, etc. Children were shown some photo pictures (shown below) of daily life wildlife, through this visual display method they were explained about the role every living wild animal play in maintaining an ecological balance in their living habitat both in urban green and natural forest corridors. ZOO educational materials on "Daily Life Wildlife: Conservation and Welfare" were distributed to the Students and teachers.

Participating teachers were advised to encourage their students to prepare small eco projects out of their experience with the wildlife they see every day in their immediate surrounding or elsewhere in their locality and share it with teachers and other students in the school. A sub theme on tree plantation was related with the wildlife conservation message which effectively motivated many students who in action promised to plant at least one plant every month in their home yard.

In the second session, the students and teachers took a pledge that they would not tease or kill any wild animal, small or big, they come across in their immediate environment and that they will be kind to all animals. Students also promised that they will love all forms of wildlife, make all efforts to learn more about wildlife and will never kill any animal and plant as many new saplings as they find it possible. Altogether it was an exciting programme which taught us a lesson that young curious mind must be fed with right information about our natural resources and about the conservation needs. They must also be encouraged to keep a vigil eye on the changes in their surrounding ecosystem and inform to the local wildlife conservation authority directly or through the school eco-club management.

Wild Outreach Education Programme at Keylong in Lahaul & Spiti, Himachal Pradesh

The district of Lahaul & Spiti in the north-western Himalayan state of Himachal Pradesh (see Figure 8) is a cold desert mountainous area that is located between Ladakh and Tibet in the north and the Kullu valley in the south. Lahaul valley begins 51 kms north of Manali, right after crossing the Rohtang Pass. Spiti Valley is bounded by Ladakh in the north, Kullu in the south, Tibet in the east and Kinnaur in the west. This snow land can be divided into three main valleys, the Spiti, Pin and Lingti valleys drained by Spiti, Pin and Lingti Rivers (see Photographs below). The elevation of the Lahaul & Spiti valley varies from 2800 m.a.s.l in its valley side plates to as high as 6500 m.a.s.l. on

its northern and southern high slopes falling within the range of the Pin Valley National Park. The PVNP is the only national park in Lahaul & Spiti district which is the home for the Himalayan Ibex and Snow Leopards.

Keylong, the district headquarters of Lahaul & Spiti, one WILD education programme was organized for the middle and senior grade students (8-12th class) of the Govt. Senior Secondary School. Ten teachers and nearly 100 students, both boys and girls, participated in this programme. Dr. Santosh Kumar Sahoo conducted this programme in two sessions. During the first session students were given a brief talk about the meaning of wildlife, habitat, habitat management, conservation, conservation education, and other related information.

Through interactive method, attempt was made to make the students familiar with the real facts associated with the loss of habitat and its impact on the population status of the wildlife in particular and with the ecology as a whole. Students were also apprised of the ever-emerging threats to many Himalayan cold desert wild animal species in Lahaul and Spiti, such as snow leopard, musk deer Ibex, etc. A short game was played by the students to understand how certain animals prefer a particular type of habitat and how their habitat preference behaviour is related to their survival in that particular habitat.

In the second session, the theme was on the *Himalayan Black Bear Anti-poaching* and *Dare to Care Bear Education*. The participants showed excitingly keen interest to know about bear facts, like kinds of bears, threats to bears, through interactive play and bear anti-poaching game activities.

Student participants were shocked when they heard stories about *Bear Dancing on the Road* and *how the trapped bears are cruelly tortured by their owners*. Students for the first time realized that bears in India are facing cruelty in the hand of men and that urgent steps should be taken to rescue the road dancing bears from the hand of their owners and kept them under proper care in the bear rehabilitation centres. Both the teachers and students participated in the pledge ceremony in which they pledged that they will work together to save wildlife and protect their habitat and that they will not attend any bear show any where in the country and inform local forest and wildlife offices or the police when they see any bear dance show.

Wild Outreach Education Programme at Kaza in Lahul & Spiti, HP

Kaza is the second most important place in Lahaul & Spiti and is known as the capital of Spiti region. Bounded by high barren mountains on its northern range, and Pin Valley National Park on its southern sides, Kaza has been a place of tourist attraction and keeps immense importance in terms of its location as an entry point to the famous Pin Valley National Park. The major wildlife of this region includes Tibetan Wolf, Snow Leopard and Tibetan antelopes (best known as Ibex). Due to heavy snow fall during winter months, this region remains cut off from the neighbouring districts of Himachal for about five months. Poaching of Ibex and musk deer is not uncommon in this region. This habit of poaching has significantly brought down the population of antelopes resulting in an adverse impact on the feeding behaviour of the larger carnivorous, Snow Leopards and Tibetan Wolfs who often intrude into the human habitation areas during winter snow months and cause damage to the livestock, mainly goats, cows, yaks and domesticated dogs.

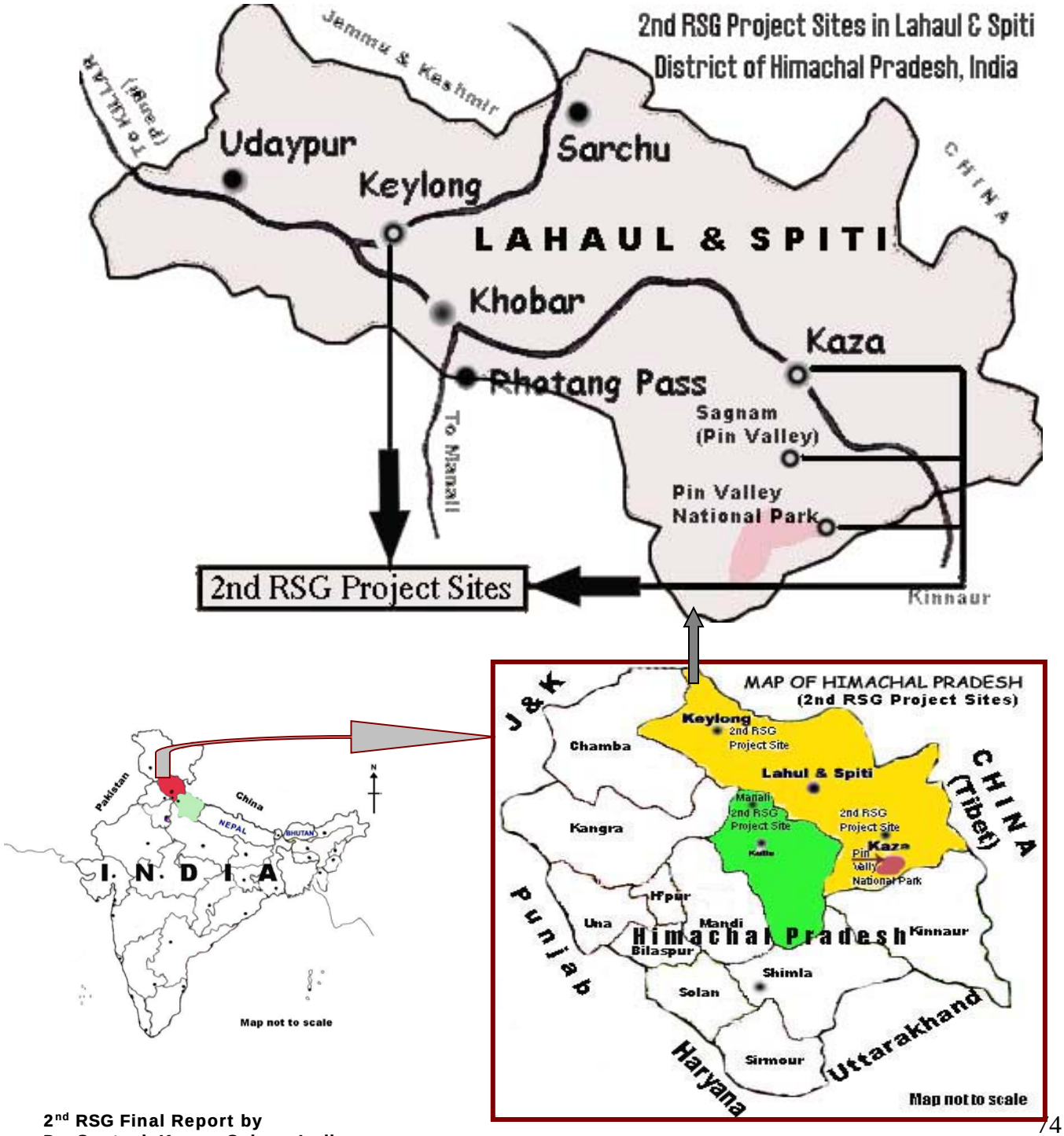
Under the auspices of the 2nd RSG project, two WILD Educational programmes for school children were organized at Kaza: one at Jawahar Navodaya Vidyalaya (JNV), Kaza and one at Government Primary School (GPS) at Kaza (see Figure 8).

The first programme was organized at the JNV, Kaza where the theme for the participating K-12 students was “Understanding Wildlife for the Welfare of Wildlife”. Ten teachers and 160 students willingly participated in a three-hour programme. The approach was to give a concise illustration of the present-day degrading condition of the wild habitats particularly in the context of the Himalayan high-altitude ecology. Students learnt about the animal species diversity and their survival relationship with the habitat they live in. The purpose here was to make the students understand the impact of growing exploitation to the natural resources upon the living ecology of the wild animals and subsequent impact of the habitat depredation upon wild animals and human beings.

The programme was conducted in three different sessions: i) Displaying Animal Expression (vocalisation, Feeding and locomotion); ii) Poaching and Habitat Loss Impact Game Activity; and iii) session on ‘What Can I Do for the Welfare of Wildlife?’

Figure 8

Map showing 2nd Rufford Small Grant (RSG) project sites in Lahaul & Spiti district of Himachal Pradesh, India.



In the first session, 15 students formed three groups of equal size with the first group representing Carnivorous animals, second group herbivorous animals, and third group birds. Each students from each group displayed action of one wild animal narrating how the action displayed is related with the habitat the animal lives in. The message here was to instill an attitude of love and concern for the wildlife in the mind of the young students. Students and teachers expressed their concern over the rapid loss of natural habitats of many wild animal species in the Himalayas. Even the cold desert wildlife habitats in Lahaul & Spiti are gradually coming under pressure from human activities resulting in disappearance of many wildlife species which were once believed to have greater living range.

Ten students came forward to participate enthusiastically in the *poaching* and *habitat loss impact* game activity. Although these students were unaware about what is habitat and why it is important to protect natural habitat, they took interest to learn about this theme through an interactive game activity which gave them a message that habitat loss and habitat fragmentation create major problems, such as loss of wildlife and human-wildlife conflict.

The participating students received wildlife educational materials on vulture, bear and daily life wildlife. The third session of the programme was to encourage the students what they can do for the welfare of the Himalayan natural ecology. The they were given three tips to follow if they in a real sense have a concerned eco-friendly attitude to protect the natural habitat: Tip 1- Support Himalayan habitat protection and conservation programmes or ask parents, relatives and friends to do so; Tip 2- Vote for Forest friendly legislators or ask parents, relatives and friends to do so; and Tip 3- Do not support commercial projects which destroy forests and wild habitat.

Finally, Students along with their schoolteachers took a pledge to follow these tips and do what they can for the preservation and protection of the local wild habitat.

The second WILD education programme at Kaza was conducted with the students of Government primary school with the theme on **'Know and Save Your Natural Environment'**. As many as 90 students and three teachers of the GPS Kaza participated in this programme. Students were made familiar with different forms of wildlife-pheasants, Mammals, insects and birds through masks and picture images. The programme was conducted in an open classroom type environment in the ground. The young participants expressed animal actions wearing animal masks and played a game activity on 'Saving Natural Wildlife Habitat' through an interactive role-play action method.

The game activity was exciting and thrilling for the participants when they played a role for hunter, animals, forest officer and police officers in the game activity. Through this game activity students got a clear message that as the area for wild habitat shrinks and the poaching pressure on wildlife increases, the wildlife population dramatically shows deceasing trend creating imbalance in the ecosystem which as result adversely affects human beings.

Wild Educational Programme at Pin Valley National Park, Spiti Valley, Himachal Pradesh

Pin Valley National Valley (PVNP) in Himachal Pradesh is a land of Snow Leopard and Ibex species. This area is spread in about 900 square kilometer falling in the eastern slopes of barren and treacherous mountains. The PVNP habitat is almost rocky and stiff and provides a safe shelter mainly to the snow leopard, Ibex, Musk deer, vulture, and other wild animals. In the southern slop touching Kinnaur mountains, the habitat is having a good cover of coniferous forest giving shelter to Himalayan Black Bear, Monal pheasant, Barking deer, Western tragopan and a host of other wild taxa.

Under the 2nd RSG project, one Wild Awareness Education Camp was organised at Sagnam (see Figure 8) village inside the PVNP. The participants for this program were 55 tribal students, 2 teachers and 5 foreign nationals from Israel. On the first day the activity included was on Snow Leopard and vulture. The students were taught in a simple language about the habitat preference by different wildlife, snow leopard and vulture habitat and the threats these animals face in their habitat

Twelve participants including three foreign nationals voluntarily participated in one **'Knowing Ecosystem and Anti-Poaching'** game activity. The activity included a short display of Snow Leopard Locomotion activity inside its Natural Habitat, Food Chain, Wild Hunting and Wildlife Conservation.

In a brief learning session, these tribal young students were told about commonly known wildlife, such as tiger, leopard, black bear, wolf, musk deer, ibex, etc., and why today it is pertinent to save them and their habitat. Students keenly played action of some of the local wildlife species and played a game activity on NO WILDLIFE WITHOUT NATURAL HABITAT. The students were

encouraged to plant more and more trees to make the cold desert habitat look green so that it can attract to many wild species of birds and other wildlife as well.

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As a part of this programme, five foreign nationals, Dr. Santosh Kumar Sahoo and Aruna Negi entered into the Pin Valley National Park with an objective to learn about the cold desert habitat and the wildlife of the region.

We visited northern division of the PVNP and the foreign nationals were taught deep inside the park about the living ecology of the Ibex and snow leopard in the region. This activity was undertaken on trial basis so that in future attempt will be made to organize *Nature Education Camps* inside the park with the students and communities so that they will realize how wild animals loose their ranging territory and what needs to be done to protect their natural habitat.

Monkey Menace Awareness Camp for students at Dharampur, Himachal Pradesh

Rhesus monkey (*Macaca mulatta*) menace is one fast growing issue of man-monkey problem in Himachal Himalayan region. The Shivalik Himalayan region is worst affected as the population of this macaque species shows signs of steady growth particularly in its urban free ranging niches. Cases of monkey biting, monkey crop damage, monkey related damage to the public property in the residential areas and other nuisance are on rise and people's movement is fast growing in many rhesus-infested areas resulting in a serious man-monkey conflict. Dr. Sahoo considers this conflict as a very sensitive issue which needs to be understood from a scientific angle and with a community-oriented management approach. Awareness about this man-monkey conflict is as importantly needed as there is an urgent need to find a tangible solution to this problem.

During the 1st RSG project period, a process was initiated by Dr. Sahoo to bring the grassroots villagers from the monkey-infested areas to one platform through a monkey menace awareness mission. After a number of monkey appraisal meetings with the communities and students in different parts of Himachal Pradesh during the 1st RSG project, it was observed that there is a strong need for awareness campaign on the issue of man-monkey conflict and that proper *Monkey Manner* awareness campaign materials should be published for the communities. In this direction, Dr. Sahoo conducted one KNOW PRIMATE AND SAVE PRIMATE education programme with a focus on Monkey Manner Awareness on 28th July 2007 at Dharampur in Solan district (see Figure 2), a place with a serious problem of monkey menace. The programme was organised in the Divine public school for the senior graders of the same school. Thirty-five students and one lady teacher participated in the programme. Dr. Sahoo took the whole session of the programme by giving two types of primate information: All primate species found in India and population and behaviour of commensal rhesus monkeys in their changing habitats in Himachal Pradesh.

Talking about the man-monkey problem in Himachal region, Dr. Sahoo apprised the students about different types of the myths associated with the rhesus and about how because of this myth associated community attitude, the rhesus monkeys find ample scope to get adapted to the areas of human habitation as well as to the artificial food. ZOO posters of South Asian Primates were given to all the student participants and teachers.

The students also participated in one Monkey Manner Evaluation questionnaire of the ZOO organisation. The questionnaire was all about the human behaviour toward the free ranging monkeys and what the students feel about certain types of recommended human manners towards the monkeys. A majority of the students were in favour of NOT FEEDING monkeys and AVOIDING MONKEYS INSTEAD OF TEASING THEM.

The programme ended with a pledge by the participants that they will neither tease nor feed monkeys any where. The group also pledged that they would teach others in their neighbourhood about the monkey manners and not to feed monkeys. Dr. Sahoo distributed to the students and teachers ZOO's special *Monkey Manner* kits and some colourful primate posters of the Conservation Himalayas.

Zoo Education Patrol under 2nd RSG Project

Dr. Santosh Kumar Sahoo organized one Zoo Education Patrol in the M.C. Zoological Park at Chhatbir, Chandigarh on 3rd November 2006 under the 2nd RSG Project.

The objective of this programme was to offer an opportunity to the young kids to know about some of the Himalayan wildlife and watch other zoo animals inside the zoo, learn about them and experience the thrill and joy of seeing live wild animals in the zoo enclosures. Another objective of this programme was to organize one on-the-spot tiger education programme for the zoo visitors, especially school children.

The zoo patrol team consisted of fifty young kids of LKG and UKG grades and six teachers of SDA elementary school, Chandigarh; three zoo officials from the M.C. Zoological Park led by Mr. Harpal Singh, Zoo Animal Management Officer. The whole patrol team was led by Dr. Santosh Kumar Sahoo. Mr. Harpal Singh introduced the patrol team with the zoo animals particularly, tigers, elephants, sloth bears, hyena, and Himalayan black bears and educated the patrol team, particularly teachers about the role of the zoos in the conservation of these animals in their *in-situ* habitats.

The zoo patrol team was taken especially near to the tiger and elephant enclosures where they were educated about the threats to the tiger and elephant population in their natural habitat and how the zoo plays an important role in their population conservation and management. The kids were excited to see a number of wild species, particularly tigers, elephants, hippopotamus, hyenas, jackals, and bears in the zoo enclosures. During the zoo patrolling, the kids were asked simple quiz questions like which animals in the zoo has strips on their body, which animal is black in colour, what does elephant eat, what is the main difference between a male and a female elephant, etc. The patrolling kids enthusiastically replied with low pitch voice to the questions showing signs of care not to disturb the zoo animals.

Dr. Santosh Kumar Sahoo led the patrol team to the Sloth Bear enclosure site where the team was told about the plights of the sloth bears in the hands of the *"Kal-anders"* who use them as a source of their income by bear dance show on the roads. The participating zoo patrol team took a pledge not to

attend any bear show anywhere and to inform the forest officers / police if they happen to see any *"Kal-ander"* with bears for bear dance show.

In the second half of this zoo patrol, the kids came to the centre of the zoo near lion safari gate. At this point where most of the zoo visitors come for refreshment, the kids moved in a silent rally carrying zoo patrol placards with the message "**Do Not Harass Zoo Animals**". This was the message for the zoo visitors.

Some of the zoo visitors appreciated this move by the young zoo patrol kids and took interest to join us in the zoo patrol team inside the zoo. One group of zoo visitors, about 75 school children and 10 teachers from Karnal, Haryana, happily came forward to join our zoo patrol team with a desire to learn about wildlife education. An On-the-Spot Wildlife Education Programme was arranged immediately keeping in view the time permit from the visitor group. The theme was on **'Tigers in Peril'**. Mr. Harpal Singh introduced the visitor group with the zoo patrol team and briefed about the M.C. Zoological Park. Dr. Santosh Kumar Sahoo conducted one 30-mnts interactive session with the group telling about tigers-historical and current range, current population, major threats and conservation measures.

The participating group took keen interest in the interactive session and actively participated in it. Zoo educational materials were given as a token prize to the participants who answered correctly to some of the questions about tigers. Although the zoo visitors had a very short time for participation in this programme, they however enjoyed it and pledged to do their best to protect wildlife and their habitat. They also pledged not to harass the zoo animals.

At the final part of this quick on-the-spot zoo education programme, the participating zoo visitors were given Zoo Patrol Kits.

After this zoo education programme for the zoo visitors, the zoo patrol team was taken to the zoo lake site to show them some of the beautiful migratory birds from Siberia. Since it was the time of early winter, three species of migratory birds were sighted, and this sighting amused the young kids and teachers in the zoo patrol team. Mr. Harpal Singh gave an introduction about the migratory birds in the lake. The kids enjoyed at seeing hundreds of migratory birds at the lake site. Some of the kids were so much happy that they seemed reluctant to leave the zoo when asked to get ready to return

back to Chandigarh. It was indeed amazing that the SDA young kids proved to be the worth encouraging zoo patrol team for others.

World Ecology Week Programme for Kids at Chandigarh

Under the 2nd RSG project, Dr. Sahoo organized one "Learn Bat and Draw Bat" programme for the kids and elementary teachers in the Seventh-Day Adventist, SDA school at Chandigarh on 7th Novemebr 2006 to celebrate World Ecology Week. The programme was conducted by Dr. Santosh Kumar Sahoo and Aruna Negi. Fifty-five kids of LKG and UKG elementary grades and five teachers participated in the programme.

Dr. Sahoo gave a short introduction about the daily life wildlife and their ecology through an interactive play method. Kids learnt about butterflies and primates wearing masks and rakhies of different forms of daily life wildlife. The participating kids were given educational materials (daily life wildlife rakhies and butterfly, bat and primate masks) of the ZOO Outreach Organisation. Kids performed butterfly action and monkey screeching actions and made fun of these actions. Some of the kids eagerly showed interest to perform these actions. The purpose of this fun was to teach how different forms of wildlife live in harmony in the ecology and how we all should respect each form of wildlife by not damaging their habitat.

In the second part of the programme, the kids participated in the BAcTivities in which they were asked to draw numbers printed on BAcTivity sheet. The kids were divided into two groups – i) fruit bat group and ii) insect bat group. The first group joined numbers to get an image of a fruit bat and its food while the second group joined numbers to get an image of insect bat and its insect food. Teachers helped the kids in drawing activities. After the kids drew the lines, they were asked to identify the resulting bat image and the type of its food. Some of the kids identified the image correctly and received bat rakhi as a token prize.

At the end of the programme, the kids tied bat rakhi to each other and pledged to learn about bats and save bat habitats near their homes. The bat educational packets of the ZOO Outreach Organization were given freely to the teachers who showed interest to learn more about the bats and

work for the bat habitat conservation activity of the Conservation Himalayas by joining the Shimla Bat Club.

Future Activity Plans

The 1st and 2nd RSG projects were successfully completed with the mission to take the wildlife conservation message to the remote communities who live close to the poaching and fire sensitive wildlife sanctuary and national park areas in Uttrakhand and Himachal Himalayan region. The main goal of this mission was to sensitise a wider section of the communities including K-12 students about the growing trends of wildlife depredation and natural habitat loss in the northwestern Himalayas through conservation education campaign and to create a grassroots level wild protection groups (WPG) comprising of the volunteered to save the local natural resources through Awareness, Alertness and Action (AAA). This triple-A concept of conservation was adopted by the wild protection groups formed in Uttarakhand state at Thalkedar, Sandev and Rora *Van Panchayats* in Pithoragarh district at Paharpani in Nainital district and in Himachal Pradesh state at Sagnam village in Lahaul and Spiti district.

With this ground achievement out of the RSG-supported project, planning is being made for a comprehensive integrated Himalayan Biodiversity Conservation Education mission activity in all the National Park (NP) and Wildlife Sanctuary (WLS) areas in Uttarakhand and Himachal Pradesh in coordination with the forest department of the respective local governments, local NGOs and local *Panchayats*. The current work on W*ildlife Conservation Education and Community Outreach in the North-Western Himalayan Region, India* is an ongoing mission with the following list of activities planned to be undertaken in future.

- To conduct extension activities of the wildlife conservation outreach in all the NP and WLS areas in Uttarakhand and Himachal Himalayan region;

- To make efforts in developing innovative plans to link the Himalayan Biodiversity Conservation Education Campaign with the livelihood improvement status of the local communities living inside and along the fringes of the NPs and WLS in Uttarakhand and Himachal Pradesh;

- To form an Integrated Himalayan Biodiversity Conservation Education Forum (IHBCEF) which will comprise of selected number of *Van Panchayat Sarpanchas*, School Teachers, Students, Local NGO Leaders, Range Officers (ROs), Foresters and Forest Guards from the wildlife crime sensitive areas in HP and Uttarakhand Himalayan region;

- To establish a networking of the village communities, students, teachers, bureaucrats, NGOs, policy makers, forest officials, wildlife biologists, nature lovers, media and other peoples group with a view to bring them in close interaction with each other on key issues of Human-wildlife conflicts, threats to the Himalayan biodiversity, wildlife conservation and habitat management;

- To prepare a base for the establishment of one Himalayan Wildlife Education and Research Centre mainly to promote i) scientific research on the diverse Himalayan wildlife and integrated wildlife conservation awareness campaign in the Himalayan region;

- To provide wildlife conservation stewardship trainings to the Wild Protection Group (WPG) members and empower them with adequate information as to how they should participate in the local level decision making process for the biodiversity conservation;

- To form Habitat Protection Squad (HPS) at the local level with the membership only for K-12 students living in areas close to NPs in Uttarakhand and Himachal Himalayan region;

- To develop a comprehensive action plan for the community-based Biodiversity Conservation in Himachal Pradesh and Utarakhand.

It would be my effort to go along with my ongoing Himalayan wildlife conservation awareness campaign mission with a hope that the Rufford Foundation will further strengthen my efforts to protect and preserve the precious wildlife and wild habitats in the northwester Himalayan region.

Newspaper reports on the RSG project-related activities in Uttarakhand

8 दैनिक जागरण नैनीताल

वन्य प्राणियों की सुरक्षा पर चर्चा, रैलियां निकाली गयीं

अमर उजाला अल्मोड़ा न्यूज

बाघ ने तीन लोगों को किया जखमी

नैनीताल/हल्द्वानी

अमर उजाला

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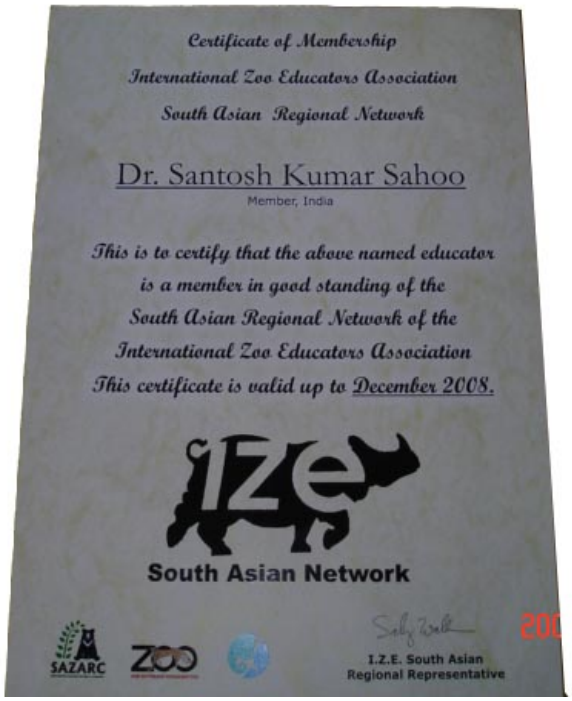
Training Certificates



2nd RSG Project Activities (Phase 1) in the Himachal Himalayan Region, India

Sl. No	Programs	Program Site	No of Target groups	Institution	Date
1	WPTC* Camp	Manali Dist. Kullu	Students Gr. 1 75 Gr. 2 80	St. Willingdon School GPS	21/06/2006 21/06/2006
2	WOEP Camp	Kellong Dist. Lahul & Spiti	Students Gr. 1 100	GSSS	23/06/2006
3	WOEP Camp	Kaza Dist. Lahul & Spiti	Students Gr. 1 160 Gr. 2 90	JNVS GSSS + GPS	26/06/2006 27/06/2006
4	WEP Camp	Pin Valley Sagnam, Kaza Dist. Lahaul & Spiti	Students Gr. 1 55 5 nature walkers	GHS +GPS	29/06/2006
5	Wildlife Field Education	Pin Valley National Park, Kaza Dist. Lahul & Spiti	Foreigners 6	PVNP	30/06/2006

WPTC= Wild Protection Training Camp
WOEP = Wild Outreach Education Programme
WEP= Wild Education Programme
Gr. = Group

2nd RSG Project Activities (phase 1) in the Uttarakhand Himalayan Region

Sl. No	Programs	Program Site	No of Target groups	Institution	Date
1	WPET Camp	Almora Dist. Almora	Students: 115 Teachers: 5	Holy Angels Public School	08 /08/2006
2	Tiger Conservation Education Program	Deer Park Conference Hall, NDT, Almora	Students: 100/ Teachers: 5 / Forest Dept Staff: 4	Forest Dept. & C Himalayas	10 /08/2006
3	Himalayan Environment Protection Rally	Almora City	Students / Teachers / NGOs and Forest Dept. (Total : 200 students)	HAPS / Forest Dept. & C Himalayas	11 /08/2006
4	Community education programme	Rora Village, Pithoragarh	Forest guards/community /forest officials (45 including 20 females)	In collaboration with Pithoragarh Forest dept.	12/08/2006
5	Tree Plantation Mission	Rora Gaon, Pithoragarh	Community and forest guards (29 including 20 females)	In collaboration with Pithoragarh Forest dept.	12/08/2006
6	Community education Program	Galati at Dharchula, Pithoragarh 1600m.a.s.l	Community/ forest guards from Gulati and Ramlati Village (30 participants including one female)	Range officer / Range office at Dharchula	14/08/2006
7	Community education Program	Askot 1600m.a.s.l	(45 participants including 20 children)	*Van Panchayat* Askot	16/08/2006

2nd RSG project (phase 2) activity schedule in Uttarakhand, Himachal Pradesh, Chandigarh, India

Sl. No	Program Type	Location	Participants	Date
1	**Wild Protection Awareness Outreach**	Panua Naula, Almora Tallital, Nainital- Programme 1 Programme 2 Lodhia, Almora Bhawali, Nainital	350 students GIC 20 villagers plus 10 forest staff 250 students GGIC 45 students GPS 43 students plus 2 teachers GHS 35 students plus 2 teachers GHS	04 / 10 / 2006 World Animal Day 16 / 11 / 2006 16 / 10 / 2006 05 / 10 / 2006 World Habitat Day 15 / 11 / 2006
2	**Wildlife Anti-Poaching Awareness Camp for the Communities**	Kishanpur forest range, Haldwani, Nainital.	37 Villagers 5 Children	02 / 10 / 2006
3	**Outreach Anti-Poaching Awareness for school children**	Didihat, Pithoragarh	220 students Govt. Inter College (GIC)	09 / 10 / 2006
4	**Bear Anti-Poaching Outreach Camp for Communities**	Thalkedar, Pithoragarh Bhagarhtola (1885m) Dhauladar Van Panchayat, Almora	35 villagers 2 forest guards 1 forest ranger 15 *Sarpanchas* 1 Range Officer 3 forest guards	17/ 01 / 2007 04 / 10 / 2006 World Animal Day
5	**Community Conservation Awareness Camp on Human-Wildlife Conflict**	Jakshoda, Almora 1665m	30 students, 8 community members, 10 forest guards, 2 range officers, two teachers	06 / 10 / 2006
6	**Bear Protection Camp**	Forestry Training Academy at Haldwani, Nainital	25 forest officers 10 foresters 20 rangers 1 forest official	01 / 10 / 2006

Annexure 3 contd……..

7	**Forest Fire Control Training Camp**	Charchulli, Almora	25 *Sarpanchas* 6 forest guards 1 SDO, Almora Forest Division (Civil)	22 / 01 / 2007
8	**Anti-Poaching Appraisal Programme**	Kanarichhina, Almora	60 *Sarpanchas* 1 SDO, Almora Forest Division (civil)	20 / 01 / 2007
9	**Himalayan Musk Deer Awareness Campaign**	Galati, Dharchula, Pithoragarh	25 community members, 5 youths and 5 children	05 / 04 / 2007
10	**Save Vulture Awareness Outreach Programme**	Munsyari (2290m), Pithoragarh	Ashram Padhati Higher Secondary School 24students 2 teachers, 2 foresters plus 1 dy range officer	12 / 10 / 2006
11	**'Know Primate - Save Primates' Awareness programme**	Didihat, Pithoragarh	105 students, Govt.Girls Inter College, GGIC 2 lady teachers 3 forest officials	09 / 10 / 2006
12	**'Save Tiger' Training Workshop**	Forestry Training Academy, Haldwani, Nainital	25 foresters 20 rangers 1 forest official	30 / 09 / 2006
13	**Monkey Menace Awareness Camp**	Dharampur, Solan Himachal Pradesh	35 students 1 lady teacher	28 / 07 / 2007
14	**Zoo Education Patrol**	M.C. Zoological Park, Chhatbir Zoo, Chandigarh	55 students of the SDA church elementary school at sector 41-B, Chandigarh 6 lady teachers 3 MC Zoo staff	03 / 11 / 2006
15	**World Ecology Week Programme**	SDA church elementary school at sector 41-B, Chandigarh	55 students of the SDA church elementary school at sector 41 B, Chandigarh 4 lady teachers	07 / 11 / 2006