

# **Northern Mountains Conservation Project (NMCP)**

## **ANNUAL TECHNICAL PROGRESS REPORT (JULY 2000-JUNE 2001)**

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## Abbreviations

BSP	Biodiversity Support Program
CC	Conservation Committee
CFUG	Community Forest Users' Group
DADTAG	Dolpo Association for Development, Tourism and Generation
DDC	District Development Committee
DESERT	Dolpo Educational, Social, Environmental Reserve Team
DHR	Dhorpatan Hunting Reserve
DNPWC	Department of National Parks and Wildlife Conservation
DPP	District Partnership Program
EE	Environmental Education
EFEA	Environment and Forest Enterprise Activities
HH	Household
HMG/N	His Majesty's Government of Nepal
IUCN	The World Conservation Union
MFSC	Ministry of Forest and Soil Conservation
mgt.	management
NFE	Non-formal Education
no.	Number
NMCP	Northern Mountains Conservation Project
NTFP	Non-timber Forest Product
NGO	Non-government Organization
PPI	People and Plants Initiative
Qty	Quantity
SN	Serial Number
SPNP	Shey Phoksundo National Park
THCC	Traditional Health Care Centre
USAID	United States Agency for International Development
VDC	Village Development Committee
WWF	World Wildlife Fund
ha	Hectare

## Contents

Abbreviations	ii
Contents	iii
Executive Summary	v
1. Introduction	1
2. Project Objectives	1
3. Progress	2
3.1 <i>Community Natural Resource Management</i>	2
3.1.1. Buffer zone Users' Committees Formation	2
3.1.2. Community Forest Users' Groups Formation and Support	2
3.1.3. Community Nurseries and Plantations	3
3.1.4. Cultivation of Medicinal Plants	3
3.1.5. Formation of Rangeland Management Committees	4
3.2 <i>Increasing Women's Participation</i>	4
3.2.1. Literacy Classes	4
3.2.2. Stipend to Girl Students	4
3.2.3. Saving and Credit Activities	5
3.2.4. Tripura Herbal Processing Company	5
3.2.5. Accounts and Record-Keeping Training for Women's Groups and Eco Clubs	6
3.2.6. Income Generation	6
3.2.7. Monitoring and Support of Women's Groups in DHR	6
3.3 <i>Environmental Awareness Program</i>	6
3.3.1. Study Tour for Eco Club Members	6
3.3.2. Environmental Activities at Shey Festival	6
3.3.3. Rubbish Pit Construction	6
3.3.4. Toilet Construction	7
3.3.5. Training for Eco Club Teachers	7
3.3.6. Environmental Education in DHR	7
3.4 <i>Ecotourism Development</i>	7
3.4.1. Alternative Energy	7
3.4.2. Distribution of Trekkers' Code	7
3.4.3. Development and Maintenance of Camp Sites	8
3.4.4. Agroforestry	8
3.5 <i>Applied Research (People and Plants Initiative Activities)</i>	
3.5.1. Monitoring the Populations of Selected Medicinal Plants	8
3.5.2. Improving Local Health Care	8
3.6 <i>Protected Area Planning</i>	9
3.6.1. Snow Leopard Conservation Committees	9
3.6.2. Snow Leopard Conservation Committee Meetings	9
3.6.3. Monitoring of Snow Leopard	9
3.6.4. Buffer Zone Training for Park and Reserve Staff	9
3.6.5. Development of DHR Regulations	9
3.7 <i>Other Activities</i>	10
3.7.1. Field Observation of Project Progress	10
3.7.2. Sustainable Tourism Plan	10
3.7.3. Field Visit of World Heritage Team	10

3.7.4.	Karuna Management Workshop	10
3.7.5	Project Proposal Extension	10
4.	Constraints and Recommendations	10
5.	Conclusion	11

## Executive Summary

Increasing pressure on forest and pasture resources from livestock and trade in non-timber forest products, inadequate data for monitoring endangered species, unsustainable use of natural resources, and limited park staff continue to pose problems for conservation of biodiversity and sustainable use of resources in Shey Phoksundo National Park (SPNP) and Dhorpatan Hunting Reserve (DHR).

The goal of Northern Mountains Conservation Project (NMCP) is to conserve biodiversity in SPNP and DHR, to facilitate local management of natural resources and to improve living conditions while safeguarding the region's unique natural heritage. While activities in SPNP and its buffer zone are continuing smoothly despite increasing Maoist activities, activities in DHR were discontinued in October 1998 due to concerns about the safety of the staff. However, selected activities were resumed in DHR in July 2000 through the direct supervision of the reserve warden.

This annual technical progress report contains the achievements of the project for the period July 2000 to June 2001. The major achievements have been the formation of buffer zone users' committees and a buffer zone council in SPNP; preparation of the operational plans of six CFUGs; continuation of community plantations and nurseries; trial cultivation of medicinal plants; formation of two rangeland management committees; successful completion of literacy classes; stipends to girl students; increased saving and credit activities of sisters' groups; social and cultural mobilization by the sisters' groups; monitoring of women's groups in DHR; study tour for eco club members; environmental activities by the eco clubs during the Shey Festival; construction of community garbage pits; training of eco club teachers; installation of solar light systems and improved cooking stoves; development and maintenance of camp sites; income generation from agroforestry sites; monitoring of medicinal plants, local health care development; increased local awareness about snow leopard conservation; monitoring of snow leopard transects; orientation on buffer zone management for park staff; and the development of DHR Regulations.

During this reporting period, a proposal for extension of the project from October 2001 to September 2002 has been submitted to the United States Agency for International Development (USAID) to enable the completion of some activities and handing over of others to the buffer zone user committees and other community-based organizations. A team of experts from the World Heritage Commission visited the field to evaluate HMG/N's proposal to enlist SPNP as a world heritage site. Tourism experts from SNV and WWF carried out an assessment of the tourism facilities in Dolpa and prepared and submitted to the Department of National Parks and Wildlife Conservation (DNPWC) a tourism plan for SPNP, buffer zone and Tourist Access Routes. An evaluation of the People and Plants project in SPNP was carried out and the project has been extended for another four years. Community-based organizations and local NGOs play a major role in implementation of activities so as to facilitate a smooth transition at the end of the proposed extension in September 2002.

While constraints faced by the project were mostly caused by external factors such as political unrest and communications lapse, these are temporary and have not affected the activities of the project during this reporting period. Most recently, the prospect of dialogue between Maoists and the government brings hope of solutions to the present conflict.

## 1. INTRODUCTION

Shey Phoksundo National Park (SPNP), spread over 3,555 sq. km in remote Dolpa and Mugu districts, is Nepal's largest national park. Diverse animals and plants thrive amid the region's unique trans-Himalayan ecology and stark natural beauty. Growing threats to its wildlife, such as the snow leopard, prompted His Majesty's Government of Nepal (HMG/N) to declare the area a national park in 1984. It was closed to tourists until 1989 when its southern portion was opened. The northern section was opened on a restricted basis in 1992. Today, about 3,200 people live inside the park and 10,000 in its buffer zone of 1,349 sq. km declared by HMG/N in October 1998. SPNP has also been proposed as a World Heritage Site for its unique cultural and natural features.

Dhorpatan (DHR) covers 1,325 sq. km area of Baglung, Myagdi and Rukum districts in western Nepal. It is Nepal's only hunting reserve. Declared as a protected area in 1984, Dhorpatan is famous for blue sheep, ghoral, serow, Himalayan thar, barking deer and wild boar. Other famed species include lynx, red panda, musk deer and wolves. In the summer, about 1,300 households use Dhorpatan valley's grasslands to graze their livestock.

The communities in Shey and Dhorpatan combine agriculture, pastoralism and trade for their livelihood and depend heavily on the forests and pasture resources for their energy, fodder and timber needs. An increasing pressure on forest and pasture resources from livestock and trade in non-timber forest products, inadequate data for endangered species, unsustainable use of natural resources, and limited park staff continue to pose problems for conservation of biodiversity and sustainable use of resources. Although a growing number of tourists visit these areas, local communities have not benefited from tourism revenues. The five-year integrated conservation and development project (1996-2001) funded by USAID and WWF in SPNP and DHR aims to facilitate local management of natural resources and improve living conditions while safeguarding the region's unique natural heritage.

## 2. PROJECT OBJECTIVES

The goal of the Northern Mountains Conservation Project (NMCP) is to conserve biodiversity in SPNP and DHR by (i) strengthening the capabilities of local user groups, NGOs and Department of National Parks and Wildlife Conservation staff to carry out development and conservation initiatives in the protected areas and buffer zones, and (ii) promoting sustainable economic growth that increases local incomes.

The main purpose of this project is to facilitate local management of natural resources and to improve living conditions while safeguarding the region's unique natural heritage. The specific objectives of the project are:

### *Community Natural Resource Management:*

- \* to train local groups in controlling and managing natural resources
- \* to increase production of fodder, fuel wood, timber and grass
- \* to increase women's participation in development
- \* to educate the people about nature conservation
- \* to help the people manage their natural resources better

### *Micro-enterprise Development:*

- \* to develop nature-based small businesses to raise rural incomes
- \* to increase earnings through value-added processing of forest and livestock products
- \* to promote quality tourism that helps local economy

### *Protected Area Planning And Management:*

- \* to manage protected areas and buffer zones effectively through local people's participation
- \* to train government personnel in buffer zone management
- \* to provide necessary equipment to park/reserve for effective management
- \* to gather relevant information on plants, animals and the socio-economic condition of the local communities
- \* to help implement the government's buffer zone regulations

### 3. PROGRESS

In SPNP, despite increasing Maoist activities in the lower part of the district, considerable progress has been made in mobilizing communities in conservation through formation and support of various community-based organizations, promoting community-based natural resources management, increasing women's participation, promoting alternative energy for ecotourism, raising environmental awareness through eco-clubs, improving monitoring of endangered species and supporting the park in the implementation of the buffer zone regulations.

In DHR, following an assessment of the situation and the local people's views and interests, a one year follow-up program to continue, consolidate and strengthen the programs carried out by the project until its withdrawal in October 1998 was implemented through the direct supervision of the reserve warden from July 2000 to June 2001. Project equipment was handed over to the warden by the former project field officer and a two-roomed office was set up in the premises of the reserve headquarters and a solar light system installed. A bank account has also been opened for the project in Baglung. In order to assess the existing condition of the community-based organizations established by the project, all the four VDCs in the project area were visited and a baseline survey conducted by the DHR staff.

The major achievements of the project during this reporting period are as follows:

#### 3.1 Community Natural Resource Management

##### 3.1.1. Buffer Zone Users' Committees Formation

During this reporting period, two buffer zone users' committees have been formed in remote Dolphu and Kimri VDCs of Mugu district with the cooperation of Rara National Park. The project is trying to have a working relation with these committees through Rara National Park. There are now a total of 17 BZUCs in SPNP, 15 in nine VDCs of Dolpa and two in the VDCs of Mugu district that fall within the buffer zone of SPNP. The operational plan of the buffer zone council will be finalized in the next reporting period.

##### 3.1.2 Community Forest Users' Groups Formation and Support

Detailed socio-economic and forest inventory surveys have been completed for the forest operational plans of six community forestry users' groups (CFUGs) in SPNP and its buffer zone. Conflicts among villages regarding boundaries, use rights, ownership and the selection of executive members took months to be resolved. Such problems are not immediately apparent but tend to arise when work actually begins. The District Development Council (DDC) and local political and community leaders actively contributed to resolving these conflicts. With the completion of the social and technical aspects, the operations plans have been prepared and submitted to the park authority. These operational plans follow the model developed by Biodiversity Support Program (BSP) for the project areas of Environment and Forest Enterprise Activities (EFEA). Due to policy matters, the hand-over of these forest areas to concerned communities will be completed in the next reporting period.

Details of the six CFUGs are given in the following table.

**Table 1: Community forest users' groups in the buffer zone of SPNP**

SN	CFUG Name and Address	Area (ha.)	No. of HHs	F	M	Total Population
1	Bikram Shahi Maharaj, Tripurakot VDC- 1, 2 & 9	226.8	132	309	335	644
2	Dudhkundali, Rimi VDC, Majhgaon	1326	134	283	264	547
3	Samling, Rimi VDC, Chaunrikot	925	28	90	100	190
4	Sunoulo Rani Mahila, Kaigaon VDC, Kaigaon	54	48	135	135	270
5	Maluwa Himal, Kaigaon VDC, Thapagaon	465.2	55	177	160	337
6	Himali, Kaigaon VDC, Hurikot	573.2	44	111	125	236

In DHR, the warden conducted a series of meetings and discussions with the District Forest Office (DFO) of Baglung and Myagdi districts for the formation of CFUGs and preparation of operational plans. Upon the project's request, the DFOs of Baglung and Myagdi have submitted the necessary documents for the formation of two CFUGs with operational plans in Burtibang and Takam.

Training was provided to eight members of CFUGs and women's groups on June 9-22, 2001 to raise awareness about community development and natural resource management.

### 3.1.3 Community Nurseries and Plantations

The community plantations started at Patihalna and Hathimunta in Ruma in 1997 have been bio-fenced with **ketuki** (agave) plants. Such fencing will be replicated in other sites whenever feasible as it is inexpensive, durable, and environmentally suitable. The plantation started in 1998 by the Ralli Sisters' Group has 80 percent of the seedlings in good condition. There are a total of 1,150 plants in the plantations managed by Samaj Sudhar Eco Club in Ralli, Suryodaya Eco Club in Madhu, and Sisters' Group in Madhu. In Saldang VDC in Upper Dolpo, 70 out of 100 plants (*Salix sp.*) have survived at Namdo plantation, while 40 out of the 50 plants have survived at Kirathang. Both these plantation sites have stone fences.

Trimuli Sisters' Group of Kaigaon VDC has fenced their nursery and prepared the beds for the seeds. Out of the 230 seedlings (*Salix sp.*) planted in May 2000, 198 are thriving. With this success, the group is planning to plant more seedlings in other areas. All the nurseries plan to plant more seedlings during the monsoon.

Table 2 contains details of the community nurseries.

**Table 2: Community nurseries**

SN	CFUG / Place	No. of Seedlings	Types of Seedlings	Remarks
1	Himali CFUG, Ralli, Tripurakot VDC	1,280	Bakaino, Ipil	Seedlings distributed in Ralli, Madhu, DBS, Suligad, Galli
2	Bandevi CFUG, Ruma, Tripurakot VDC	1,200	Salla, Bakaino, Dalechuk, Ipil, Loti	Ready for plantation
3	Manathan Nursery Mgmt. Com. Pahada VDC	2,154	Salla, Loti, Bakaino, Dalechuk, Ipil	Ready for plantation
4	Buddh Nursery, Rassi, Tripurakot VDC	376	Salla, Khote salla, Bakaino, Ipil	Ready for plantation
5	Nursery, Dho VDC	1,500	Salix, poplar	Trial started this year
6	Nursery, Saldang VDC	300	Salix, poplar	Trial started this year

Eco clubs are also managing small nurseries in their school compound. The objective is to promote a 'green' campaign among students and provide them with hands on skills in plantation and nursery management. Table 3 has the details about the nurseries managed by eco clubs.

**Table 3: Eco club nurseries**

SN	Eco club / Place	No. of Seedlings	Types of seedlings
1	Jyoti Primary School, Ruma, Tripurakot- 5, 6	215	Salla, Khote salla, Bakaino
2	Saraswoti High School, Dunai	60	Salla
3	Dunai Boarding School, Dunai	109	Ipil-Ipil

A nursery at the Crystal Mountain School in Dho at an altitude of 4,200 metres in the trans-Himalayan vegetation zone has been attempted. Seeds of high altitude pines did not germinate. If the trial plantation of *Salix spp.* of the last summer is successful, more seedlings will be planted in that area.

### 3.14 Cultivation of Medicinal Plants

Selected medicinal plants such as **bhutte** (*Nardostachys grandiflora*), **atis** (*Delphinium himalayi*) **katuko** (*Picrorhiza scrophulariiflora*), **nirbisi** (*Parnassia nubicola*), **hathijara** (*Dactylorhiza hatagirea*) and **samayo** (*Valeriana wallichii*) have been planted in Ruma, Toizam and Pungmo. Comparisons between naturally growing and cultivated plants on growth, viability and yield are ongoing. A community monitoring system has been designed to record growth and death for each plant species, as well as general conditions such as bearing of fruits and flowers, and yield after harvesting. Monitoring is ongoing and takes place twice a month.

### 3.1.5 Formation of Rangeland Management Committees

In addition to two rangeland management committees in Phoksundo and Kaigaon VDC, two committees have been formed in Dolphu and Kimri VDCs of Mugu district with the technical assistance of Rara National Park. These two VDCs are in the buffer zone of Shey Phoksundo National Park. The purpose of forming these committees is to promote rotational grazing system to reduce the pressure upon the natural resources of the rangeland.

## 3.2. Increasing Women's Participation

### 3.2.1. Literacy Classes

In close coordination with the District Education Office and the Non-Formal Education Centre of the Ministry of Education, ten basic literacy classes have been successfully completed. The books required for these literacy classes were provided free of cost by the Non-Formal Education Centre. The project staff and facilitators conducted the final test in which out of 152 candidates who took the test, 140 passed. (See Table 4.) Among the successful candidates, about 60 percent could easily read and write while 40 percent were weak in writing and mathematics.

The literacy classes were held in the remotest villages where almost all the women are illiterate and do not understand Nepali. Since the textbooks are in Nepali and most facilitators cannot always fully explain the subject matter in the local dialect, the women face problems in understanding the lessons.

**Table 4: Details of literacy classes**

SN	Village	Name of facilitator	Total enrolled	Exam attended	Total passed
1	Karang, Saldang VDC	Mr. Lakpa Gurung	20	17	16
2	Saldang, Saldang VDC	Mr. Gore B. Gurung	20	18	17
3	Namdo, Saldang VDC	Mr. Sunla Rokaya	17	15	12
4	Rapa, Saldang VDC	Ms. T. K. Rokaya	15	13	11
5	Vijer, Vijer VDC	Mr. Kyalsa Baiji	11	11	7
6	Dho, Dho VDC	Mr. Rudra Gurung	28	22	21
7	Shipcho, Dho VDC	Mr. Min B.K.	16	13	13
8	Dho VDC – Takkyu	Mr. Palzang Gurung	30	23	23
9	Rainchi, Phoksundo VDC	Mr. Suka Gurung	13	9	9
10	Raktang, Raha VDC	Ms. Devi Karki	12	11	11
	<b>Total</b>		<b>182</b>	<b>152</b>	<b>140</b>

Out of the ten literacy classes started in April 2001, nine are still being continued. One class was discontinued because the facilitator left the district. Among the nine classes, seven are conducted in Dolpa (Tripurakot, Kaigaon, and Raha VDCs) and two in Mugu (Dolphu and Kimri VDCs). In Dolphu and Kimri, the classes are supervised and coordinated by Rara National Park.

### 3.2.2. Stipend to Girl Students

In Dunai Boarding School, four girl students from the poorest families of Phoksundo VDC and one from a poor blacksmith's family of Tripurakot VDC are receiving stipends. The girl from Tripurakot who initially was not willing to stay at the school has now done very well in her examination. However, the girls from Phoksundo did not appear for their final examination because after the Maoist attack in Dunai in September 2000, they feared a second attack and returned home without consulting the school. After talks with their parents and the school authority, the girls were allowed to sit for a re-examination in April 2001.

Crystal Mountain Boarding School and Shelri Himal Boarding School are provided with grants to cover the cost of school uniform and books of all the students of grade I and V. These two schools do not charge the students any fees. Upon discussions with communities and school authorities regarding stipends, it was decided that since all the students are poor and cannot afford the additional costs of attending school, they would be provided uniform and books to encourage them to attend school regularly (See Table 5).

**Table 5: Students receiving stipends**

SN	Name of School	Boy	Girl	Total	Remarks
1	Taprizza Boarding School, Phoksundo	3	2	5	Grade II
2	Dunai Boarding School, Dunai	-	5	5	Grade V
3	Crystal Mountain Boarding School, Dho	6	1	7	Grade V
4	Shelri Himal Boarding School, Saldang	12	13	25	Grade I
	<b>Total</b>	<b>21</b>	<b>21</b>	<b>42</b>	

In DHR, ten girls from local schools received scholarships from the project during this reporting period. The scholarship included school fees and books and other educational materials. The recipients were girls from poor families and backward castes who were selected by a committee comprising of the VDC chairman, school management committee chairman and the principal of the relevant school. The students were selected upon the basis of a guideline prepared to make the process a fair and transparent one.

### 3.2.3. Savings and Credit Activities

The sisters' groups in SPNP are regularly collecting fixed cash contributions from each member. The main source of savings is their regular contribution and a one-time matching fund from the project. Other sources are fines collected from local people who break social norms, donations received from outsiders, cultural shows, picnics, etc. Table 6 contains details information about the sisters' groups. Besides, they are involved in income generation, primary health care, hotel and campsite management, water mill (**ghatta**) for grinding, community plantations, nurseries, agroforestry management and social welfare.

**Table 6: Details of saving and credit activities**

SN	Group Name	Address	Cash in Bank	Loan	Total	Remarks
1	Ringmo	Phoksundo VDC	35,000	40,000	85,000	
2	Pungmo	Phoksundo VDC	15,350	52,000	67,350	
3	Ryanchi	Phoksundo VDC	0	2,100	2,100	
4	Mahila Vikas	Tripurakot VDC	46,814	-	46,814	
5	Radha	Tripurakot VDC	36,500	-	36,500	
6	Sundariganga	Tripurakot VDC	16,600	30,690	47,290	Share purchased Rs.10,000
7	Himali	Tripurakot VDC	35,961	11,000	46,961	Share purchased Rs.10,000
8	Tripura	Tripurakot VDC	5,740	43,000	48,740	Share purchased Rs.21,000
9	Dalit	Tripurakot VDC	4,500	22,100	36,600	Share purchased Rs.10,000
10	Buddha	Tripurakot VDC	27,070	23,000	40,070	Share purchased Rs.1,000
11	Mukuteshwar	Tripurakot VDC	18,680	39,500	58,180	Share purchased Rs.10,000
12	Bhagawati	Rimi VDC	8,100	52,500	60,600	
13	Kasturi Danfe	Rimi VDC	27,000	7,823	34,832	
14	Suwakoti	Rimi VDC	35,000	10,908	45,908	
15	Dhaulapura	Rimi VDC	17,900	604	18,504	
16	Anigulmo	Kaigaon VDC	31,000	11,922	42,922	
17	Bhagawati	Kaigaon VDC	18,000	25,900	43,900	
18	Trimuli	Kaigaon VDC	2,944	0	2,944	Nursery/plantation Rs.53,800
19	Chhala	Pahada VDC	1,355	34,500	35,855	
20	Laligurans	Pahada VDC	49650	6000	55,650	
21	Mahila Jagaran	Rimi VDC	8,100	52,500	60,600	

### 3.2.4 Tripura Herbal Processing Company

Tripura, Himali, Dalit, Budhha, Mukuteshwar and Sundariganga Sisters' Groups of Tripurakot VDC have bought shares in the BSP supported Tripura Herbal Processing Company, which processes locally available medicinal and aromatic plant resources. The company, which started in 1998, provides 100 percent matching fund for shares

purchased by local groups. A management committee formed of local representatives oversees the activities of this company.

### **3.2.5 Accounts and Record-Keeping Training for Sisters' Groups and Eco Clubs**

An accounts and record-keeping training was provided to the members of sisters' groups and eco clubs in Ringmo on June 15-19, 2001. Eight men and six women participated in the training. Similarly, an accounts and record-keeping training was held in Ralli for the sisters' groups on May 20-24, 2001 at which 16 women and one man participated.

### **3.2.6 Income Generation**

Sundari Ganga Women's Group of Ralli has started duck raising to generate income. Two persons are paid by the group to look after the 100 ducks, some of which are laying eggs. The ducks were brought by the project from the Terai. A swampy, unused area just below the village is very good for this purpose.

### **3.2.6 Monitoring and Support of Women's Groups**

A local NGO, DESERT, monitors the activities of the women's groups in Pahada, Kaigaon and Rimi VDC while DADTAG monitors the activities of the women's groups in Dho VDC.

DHR staff monitored eight mothers' groups previously formed by the project in Bobang, Addhikarichour, Lulang and Gurjakhani VDCs. The activities of the mothers' groups include community plantation, campsite and trail maintenance, wooden bridge construction, environmental awareness and literacy classes, cleanup campaigns and loans for income generation activities. Groups generate income through cultural programs, interest from loans, campsite fees and donations.

## **3.3. Environmental Awareness Program**

### **3.3.1. Study Tour for Eco Club Members**

A 14-day study tour was organized by the project for the members of eco clubs in December 2000. The objective was to expose them to various environmental activities carried out elsewhere in Nepal and to encourage them to adapt these in their own areas. Of the 20 members participating in the tour, there were 18 eco club members from seven eco clubs, including five girls, a teacher and a game scout from SPNP. The group has observed various activities of eco clubs and other CBOs of the Royal Bardia and Chitwan National Park, Kathmandu and Pokhara. They have acquired knowledge on various aspects of activities, exchanged ideas with members of groups and local people. The group has also participated in a cultural program in the Tharu Cultural Center, Chitwan. The group performed a traditional Dolpo cultural program for the audience. The participants are very excited and motivated to initiate more effective activities in a sustainable way.

### **3.3.2. Environmental Activities at Shey Festival**

In collaboration with Crystal Mountain and Dunai Boarding School, the project organized a 5-day environmental awareness program during the Shey Festival in August 2000. People from all over Dolpo as well as from Mustang, Mugu, Jumla, Kathmandu and even Tibet gathered for the festival held once every 12 years.

Forty-five students from eco clubs, nine teachers and an NMCP staff demonstrated garbage management techniques, environmental and cultural songs, traditional dances, dramas and display of arts. The main messages were "Save Nature, Save Culture" and "No Green, No Life." The people were very impressed with the students' effort to transmit environmental messages using the local language, traditional dance and music. The festival was a good opportunity to hold environmental activities for such a large target gathering. The management committee of the festival had taken the students' program as part of their activities and provided them the opportunity to perform during the main program of the festival. The eco club members approached high lamas during the "wang" (blessing ceremony) and offered them green cloth strips with environmental messages written in Tibetan, English and Nepali instead of the traditional "khada" (ceremonial scarf's) and urged them to work for natural and cultural conservation.

### **3.3.3 Rubbish Pit Construction**

Three rubbish pits were constructed for the community monasteries of Saldang VDC. Villagers gather at these monasteries during common festivals that last for several days. Since the monastery premises become very dirty

without garbage disposal facilities, upon the request of the respective lamas of Jhowa and Lungtok Dhargyeling monasteries, a rubbish pit was constructed for each monastery.

### **3.3.4 Toilet Construction**

The project provided support for the construction of pit latrines in Loharbada Primary School of Rimi VDC, Yangtser Monastery of Saldang and Dechen Labrang Monastery of Pungmo, Phoksundo so as to improve the hygiene and to motivate the villagers to do the same.

### **3.3.5 Training for Eco Club Teachers**

The introduction of environmental education as a new curriculum in local schools has been a first step towards a change in attitudes towards the environment and its relationship to conservation and development activities. The project organized a training program on May 20-24, 2001 for eco club teachers to raise environmental awareness and enable them to motivate students to contribute towards environmental education, conservation and development. The objectives of the training was to enable participants to provide creative alternatives to local environmental problems, impart skills to teach environmental education in schools and communities, enable students to participate in conservation activities through the formation of eco-clubs and discuss possibilities for sustaining eco clubs. The resource persons from the project and the park used lectures, group discussions, role-play and games to facilitate the sharing of knowledge and experience. The 12 participants were from 12 schools in Dunai, Kaigaun, Rimi, Thapagaon, Tripurakot, Phoksundo, Saldang and Dho. The training has enabled participants to identify and mitigate environmental and socio-economic problems through innovative programs. It also enabled participants to communicate effectively with local communities and assess their needs through participatory rural assessment techniques.

### **3.3.6 Environmental Education in DHR**

The warden monitored the eco clubs in four schools previously formed by the project in DHR. Four eco club teachers in DHR were trained to provide environmental awareness and education. A guideline and a lesson plan on environmental education have also been prepared by the project. The teachers were given an orientation in conducting environmental education classes. Environmental awareness programs such as plantations, clean up campaigns, bird watching, conservation song and art competitions were conducted during Wildlife Week on April 14-20, 2001 and on World Environment Day on June 5, 2001.

The eco clubs formed by the project are an important partner in promoting environmental education and building capacity for conservation and development activities. In the local schools a new generation of local children are learning about their environment and maximizing development objectives with minimal negative impact upon the environment.

## **3.4 Eco-tourism Development**

### **3.4.1 Alternative Energy**

NMCP has supplied 55 solar lighting systems in Phoksundo and Saldang VDC. In Phoksundo VDC, more than 63 households, shops and hotels have received solar lights. Most families have received a solar set with three lights on a sharing basis between two families. With funds raised by WWF-France at a screening of the Oscar-nominated film 'Caravan,' 25 families from the village of Thinley Lhundup Lama, the main actor of the film, received solar light systems. There is increased pressure upon the project to supply solar light systems in the area as kerosene is expensive and not easily available. The solar lights have become popular because they are easy to maintain, smoke free and economically beneficial. With the promotion of solar light systems in the area, the project aims to reduce the cutting of green trees for lighting. In addition, a total of 50 improved stoves have been provided to households in Ringmo and Pungmo villages of Phoksundo VDC as a means to reduce fuel wood consumption and improve health status through the reduction of smoke in the houses.

### **3.4.2 Distribution of Trekkers' Code**

Seventy copies of printed and laminated A3 size information cards for tourists including trekkers' code were installed at hotels and other significant sites along the trekking route from Jufal to Phoksundo Lake. This contains general park rules, local values and dos and don'ts.

### 3.4.3 Development and Maintenance of Campsites

Four women's groups in Dho VDC are constructing a campsite at the base camp of Numala Pass with support from the project.

In DHR, four campsites have been constructed in Dhorpatan, Chhenturg, Lamsung and Gurjakhani. The women's groups maintain the campsites in Gurjakhani and Lamsung and charge a small fee to campers. They have repaired the walls, kitchen sheds and toilets of the campsites.

### 3.4.4 Agroforestry

Of the seven agroforestry nurseries in SPNP, five are managed by sisters' groups and two by individuals. The project has provided seeds and technical support to the sisters' groups who have managed community land for nurseries and vegetable farming. The nurseries have supplied seedlings of various vegetables for collective as well as private vegetable farming. Income from the sale of the collective farming will be saved in the regular collective savings fund. Table 7 illustrates the number of seedlings planted and the income generated from the sale of vegetables.

**Table 7: Nurseries managed by the sisters' groups**

SN	Place	No. of seedlings	Types of seedlings	Income
1	Sundariganga Women's Nursery, Ralli, Tripurakot- 3	12,280	11 varieties of vegetables with 450 chest-nut	Rs.1,285
2	Mukuteshwor Women's Nursery, Karelikandha, Tripurakot- 9	3,800	11 varieties of vegetables	Rs.835
3	Laligurans Women's Nursery, Khaliban, Pahada – 9	5,600	11 varieties of vegetables, salla, thingre salla, bakaino, ipil	Rs.545
4	Majhgaon Women's Nursery	3,400	11 varieties of vegetables salla, bakaino, ipil	
5	Jhankot Nursery, Jhyankot, Pahada-7	6,700	11 varieties of vegetables with 450 chest-nut	
6	Manamal Budha, Private	476	8 varieties of vegetables	Rs.900
7	Sarad Lama, Private	2,600	8 varieties of vegetables	
	<b>Total</b>	<b>34,856</b>		<b>Rs.3,565</b>

In DHR, the project has coordinated with the District Agriculture Office and purchased 1000 seedlings of apple, pear, peach, plum, walnut and apricot for distribution among the 110 farmers of Bobang, Adhikarichaur and Lulang VDCs at a 75% subsidy. Two resource persons from the District Agriculture Office organized a three-day training on March 15-17, 2001 for 20 farmers of Bobang, Adhikarichaur and Lulang VDCs. The training aimed at improving the knowledge and skills of farmers in apple farming to generate additional income.

## 3.5. Applied Research (People and Plant Initiative Activities)

### 3.5.1 Monitoring the Populations of Selected Medicinal Plants

**Jatamansi** (*Nardostachys grandiflora*) and **kutki** (*Neopicrorhiza scrophulariiflora*) were selected for monitoring of their populations, harvesting and regeneration patterns. These species were selected for the research due to their over harvesting for trade and also due to their importance in local healthcare. The local people and park staff are being trained in ethnobotanical field methods as an effort toward building the capacity of people involved in the management of plant resources. The applied research component of the project under the People and Plants Initiative will be continued for four years based on an evaluation carried out in September 2000.

### 3.5.2 Improving Local Health Care

The People and Plants Initiative Project is supporting traditional amchis (doctors) and women to improve local health care in SPNP and its buffer zone through training. A traditional health care centre has been established in Phoksundo VDC in June 2000. A follow-up primary health care training for 39 women in Ringmo, Pungmo and Rainchi was conducted on April 27-May 5, 2001. The content of the training included immunization, water, hygiene, sanitation, and nutrition.

## **3.6 Protected Area Planning**

### **3.6.1 Snow Leopard Conservation Committees**

Five snow leopard conservation committees have been formed by the project in prime habitat areas of Saldang and Vijer VDCs. They are in Vijer, Karang, Saldang, Namdo and Komang villages. Each committee has seven to eleven members of local people including women, livestock herders and local leaders. Each committee keeps records of the number of animals killed by snow leopard in their areas and meets every three months. The project has provided a format to record the details of the losses to include the number, age and type of animals killed each year, the place and time and the name of owner. This data gives information on how many animals are killed each year by the snow leopard, prime areas for preying, as well as the time and season that preying usually occurs in. This information can be used to minimize livestock losses.

This committee also educates the communities on the importance of the snow leopard in the high mountain ecosystem and tries to stop retaliatory killings. In November 2000, a committee member prevented the retaliatory killing of a snow leopard and her cubs. In situations where high losses are involved, the committee members are finding it difficult to stop the retaliatory killings. To mitigate such losses, the committee members feel that a fund should be set up to provide relief to the owners.

### **3.6.2 Snow Leopard Conservation Committee Meetings**

In June 2001, meetings were held with the snow leopard conservation committees of Vijer, Namdo and Saldang villages to discuss and document snow leopard conservation issues and the means of resolve them. Altogether, 85 villagers including committee members, schoolteachers, monks and local people participated in the meetings. The villagers informed that poaching had not taken place in their area during this year and they would report it to the national park authorities if it should take place in the future. They mentioned that both sightings and predation had decreased this year. The villagers requested educational materials and programs to increase conservation awareness on the snow leopard. They wanted knowledge on legal matters related to snow leopard conservation. The project has provided NRs.200,000 to the committees for snow leopard conservation. The committees will decide on their own how the money shall be used and inactive committees will not be awarded funds.

### **3.6.3 Monitoring of Snow Leopard**

The Project Manager, Mr. Dhana Rai, of NMCP with a team of people carried out the monitoring of 6 snow leopard transects in the SPNP. The team included ranger, Mr. Ram Prasad Bagali, game scout and a local person, Mr. Sitar Baiji of Ringmo village who had received the SLIMS training. They covered 4.3 kilometres using Geographic Positioning Systems (GPS) co-ordinates to locate the transects. The team also recorded blue sheep sightings. The two years monitoring records are presently with the NMCP office in Ringmo village.

### **3.6.4 Buffer Zone Training for Park Staff**

Project and senior park staff provided training on buffer zone management to 13 park staff from June 9-11, 2001. The training aimed at explaining the concept of the buffer zone and its rules, regulations and implementation as well as clarifying the role of the park and the project.

In DHR, an orientation on the concept, rules, regulation and implementation of the buffer zone was provided to mid-level staff. This training is useful for park staff involved in community development and natural resources management in the buffer zone. A study tour to Royal Chitwan National Park and its buffer zone was organized for six staff of DHR on May 13-25, 2001.

### **3.6.5 Preparation of the DHR Regulations**

DHR is the only hunting reserve in Nepal. It aims to conserve biodiversity through sport hunting without discouraging sustainable resource use by local people. However, DHR does not have a separate regulation other than the one used by the mountain national parks. The project has conducted a buffer zone boundary survey and prepared a draft Regulation after consultations with the local people and concerned authorities. The comments were incorporated in the draft Regulations and submitted to the Ministry of Forest and Soil Conservation (MFSC) for gazettment.

## **3.7 Other Activities**

### **3.7.1 Field Observation of Project Progress**

A team of high-level officials from the USAID, DNPWC and WWF Nepal Program visited Dolpa from August 22-September 3, 2000. The team was briefed on the progress of the project and observed activities such as the water mill, camp sites, saving and credit schemes, alternative energy activities (solar and improved stove), hotel management, forest management etc. The team also visited villages and monasteries and interacted with lamas, village heads, and members of sisters' groups and eco clubs. At the Shey festival, the team had the opportunity to observe environmental activities organized by the project through the eco clubs and interact with high lamas, local leaders, women and youth on various aspects of the project.

### **3.7.2 Sustainable Tourism Plan**

In August 2000, a team of tourism experts from the DNPWC, SNV and WWF Nepal Program visited the field to assess ecotourism development opportunities in SPNP and its buffer zone and tourist access routes. The team met with DDC and VDC representatives and other stakeholders (hotel owners, lamas, amchis) to draft a sustainable tourism plan for the area. The draft tourism plan was presented on February 6, 2001 at a meeting of representatives from the DNPWC, Ministry of Tourism and Civil Aviation, Dolpa DDC, local NGOs, SNV and WWF. The Asian Development Bank (ADB) is expected to fund the implementation of the tourism plan.

### **3.7.3 Field Visit of World Heritage Team**

In September 2000, a team of experts from the World Heritage Commission visited Shey Phoksundo National Park in relation to HMG/N's proposal to enlist the Shey Phoksundo National Park as world heritage. The team was comprised of natural and cultural experts from IUCN, representatives from the MFSC, DNPWC, USAID, SPNP and NMCP. The team observed various natural and cultural sites and interacted with the local people, including lamas and others. They also observed and inquired about the ethnobotanical (PPI) activities, especially medicinal plants and the traditional Tibetan amchi system of medicine practiced in the area. WWF has not received a report of this evaluation.

### **3.7.4 Management Training Workshop**

The Project Manager of NMCP participated in the third workshop on management provided by Karuna Management on August 7-9, 2000 in Kathmandu. This workshop was built on learning from previous workshops and groups committed to 'breakthrough' projects for improving efficiency.

### **3.7.5 Project Extension Proposal**

A proposal for extension of the project from October 2001 to September 2002 was revised and submitted to USAID in May 2001. This extension will enable the strengthening of community-based organizations and handing over of project activities. During this period, further funding will also be sought for continuing and replicating successful activities in other areas of the park and buffer zone where the project has not been as active.

## **4. PROBLEMS AND RECOMMENDATIONS**

### **4.1 Maoist Activities**

This period saw much political instability with increased Maoist activity both at the national and local level. After their successful attack on the police at the district headquarters in Dunai on September 27, 2000, the Maoist activities in the VDCs of lower Dolpa increased considerably. The governmental security forces are concentrated at Dunai while the rest of the villages in the vicinity are under Maoist influence. So far, the villagers say that the Maoist view project activities positively since they are transparent and have the full support of local communities. Future activities will be conducted through the buffer zone users committees and other community-based organizations. The project will also focus on activities in Upper Dolpo where fewer activities have been implemented due to limited staff.

### **4.2. Banking**

The only bank in Dunai closed after the Maoist attack in September 2000 and reopened only in December 2000. It took weeks to restore and update lost documents. The project had to transfer cash from Kathmandu to carry out the activities in the field. Program implementation is affected by periodic shortage of cash in the bank caused by traders who withdraw

large sums of money during the harvesting of high-value medicinal plants for trade. The project will ensure that financial transactions are carried out keeping these limitations in mind.

### **4.3 Monitoring and Reporting**

WWF staff were not able to make the seasonal monitoring visit in June 2001 owing to the national tragedy that claimed the lives of the royal family on June 1 and the ensuing atmosphere of uncertainty and unrest in the country. This period was also marked by increasing violence by Maoists against police and targeted NGOs. As a result, a first hand experience could not be gained during the period January 2001-June 2001. Moreover, the half-yearly report for the period January 2001 to June 2001 could not be received from the field to meet the reporting date due to bad weather and other reasons. Therefore, certain activities achieved in the field could not be reported. A monitoring visit is planned for August 2001 and any information about the project that is lacking in this report will be covered in the next reporting period.

## **5. CONCLUSION**

The formation of buffer zone users' committees, CFUGs and other community-based organizations empower local communities to play an active part in the management of natural resources. The plantations and nurseries managed by the CFUGs, women's groups and eco clubs are an important demonstration of community participation and support for resource management.

Women's participation in integrated conservation and development has increased with the formation and capacity building of local sisters' and women's groups. Participation in income generation activities, literacy and primary health care will empower women to play a major role in community natural resource management.

Raising environmental awareness is not limited to the eco clubs within schools. Activities such as nursery management, cleanup campaigns, and awareness programs during festivals and special occasions have been very successful in spreading environmental messages and raising awareness among the general public. The eco clubs play an important role in sustaining the environmental awareness programs after the project period.

Eco tourism has great potential in Dolpa district given its rich culture and rugged Trans-Himalayan terrain. Given the prospects for eco tourism development and improved local livelihoods, the project has promoted solar light systems taking advantage of a subsidy program offered by HMG/N. Training in hotel management has been provided and a tourism plan has been submitted to the government.

Supporting NMCP's activities are the applied ethnobotanical activities of the People and Plants Project, which will continue for another four years. The two projects have supported one another and heightened the presence and overall impact upon community natural resource management and development in SPNP and its buffer zone.